

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

NICARAGUA

BROADBAND PROGRAM

(NI-L1090)

PROJECT PROFILE

The project team consisting of prepared this document: Antonio García Zaballos, Team Leader; Diego Herrera, Alternate Team Leader; Félix González, and Enrique Iglesias (IFD/CMF); Santiago Alejandro Castillo (FMP/CNI); Jorge Osmín Mondragón Mendoza (FMP/CNI); Taos Aliouat (LEG/SGO); Fabiola Mercado (VPS/ESG); Javier Luque (EDU/CHO); TBD (SCL/SPH); and Cecilia Bernedo (IFD/CMF).

Under the Access to Information Policy, this document is subject to Public Disclosure.

PROJECT PROFILE

I. BASIC DATA

Project Name:	Broadband Program	
Project Number:	NI-L1090	
Project Team:	Antonio García Zaballos, Team Leader; Diego Herrera, Alternate Team Leader; Félix González, and Enrique Iglesias (IFD/CMF); Santiago Alejandro Castillo (FMP/CNI); Jorge Osmín Mondragón Mendoza (FMP/CNI); Taos Aliouat (LEG/SGO); Fabiola Mercado (VPS/ESG); Javier Luque (EDU/CHO); TBD (SCL/SPH); and Cecilia Bernedo (IFD/CMF).	
Borrower:	Republic of Nicaragua	
Executing Agency:	<i>Instituto Nicaragüense de Telecomunicaciones y Correos (TELCOR) and Empresa Nacional de Transmisión Eléctrica (ENATREL)</i> ¹	
Financial Plan²:	IDB: Ordinary Capital (OC)	US\$15,000,000
	IDB: Fund for Special Operations (FSO)	US\$10,000,000
	IDB Co-Financing: (Government of Korea – KEXIM Bank)	<u>US\$25,000,000</u>
	Total:	<u>US\$50,000,000</u>
Safeguards:	Classification: “B”	

II. GENERAL JUSTIFICATION AND OBJECTIVES

- 2.1 **The importance of broadband.** 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 productivity³ 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 health models⁴ and brings public administration closer to the citizen;⁵ and (ii) it has an important impact on the productive sector.⁶
- 2.2 **Prioritization of broadband in Nicaragua.** 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

¹ ENATREL will execute Component I, given its prior experience. The scheme will be detailed in the Proposal for Operation Development (POD).

² Subject to ongoing negotiations and the signature of a co-financing contract and subject to the no objection from the co-financer. The project will receive co-financing (50% of the total amount) from the Government of Korea.

³ García-Zaballos, A., and R. López-Rivas. 2012. “Socioeconomic Impact of Broadband in LAC Countries.”

⁴ Global Industry Analysts, Inc. 2010.

⁵ http://www.parliamentandinternet.org.uk/uploads/Final_report.pdf.

⁶ Internet Matters: The Net’s sweeping impact on growth, jobs and prosperity. Mckensey & Company. 2011.

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 **The challenge.** Nicaragua experiences low levels of broadband penetration:⁷ (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%);⁸ (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 quality⁹ 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 **Infrastructure.** Nicaragua lacks adequate coverage of backbone and last mile networks¹⁰ (see link: [Current Status of the Infrastructure](#)). The majority of the backbone networks are concentrated in the west zone of the country connecting the main cities (Managua, Masaya, Leon, Granada). The level of last-mile development is equally low. As a reference: (i) only 2.6% of households in Nicaragua have DSL¹¹ coverage versus 12.11% in El Salvador, 13.80% in Panama and 18.30% in Costa Rica; (ii) less than 8.6% of the health centers are covered with DSL; and (iii) the coverage of mobile broadband is scarce outside the west part of the country.
- 2.5 The lack of infrastructure is explained by the fact that underserved areas of the country are not financially profitable for private investment. This is due to their low income per capita. The combined Gross Domestic Product (GDP) per capita of the two Atlantic departments¹² represents barely two thirds of the GDP in Managua.

⁷ Broadband Penetration refers to the number of users using cable (fixed) or Wireless (mobile) technologies divided by the total population.

⁸ Source: IDBA, IDB (2013), International Telecommunications Union (ITU).

⁹ 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.

¹⁰ 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.

¹¹ Coverage refers to the territory that can be served. Penetration refers to households that are connected and make use of the connectivity. DSL stands for Digital subscriber lines, the technologies used to provide fixed broadband through copper lines. This is the basic technology to provide fixed broadband.

¹² North Atlantic Autonomous Region and South Atlantic Autonomous Region of Nicaragua.

- 2.6 This lack of infrastructure leads, in turn, to a problem of BBS affordability and quality. The price of a 2 Megabits per Second (Mbps) FBB connection is US\$83.93,¹³ much higher than the average in CA (US\$51.05), LAC (US\$43.61), and the OECD countries (US\$35.19). Likewise, the price of a 1 Gigabyte (GB) MBB connection is US\$43.20,¹⁵ slightly below LAC (US\$49.03), but still higher than the averages in CA (US\$41.47) and the OECD countries (US\$22.86). These prices are far from the Willingness to Pay (WTP): according to the same survey, more than 60% of the Nicaraguans' WTP for FBB is less than US\$19 and 70% indicate that their WTP for MBB is less than US\$8. Regarding quality, the average speed of a FBB connection in Nicaragua is 0.5 Mbps.¹⁴
- 2.7 **Regulation and competition.** 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.
- 2.8 **ICT capacities.** Citizens and 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 they use it at an Internet Café; and (iii) lack of skills to develop applications, especially for public services.
- 2.9 **Strategic alignment.** This program contributes to the IDB Country Strategy with Nicaragua (2012-2017, GN-2683), which identifies “the need for actions to raise the population's income and improve access to social services in rural areas”. The program is also aligned with the IDB Public Utilities Policy (OP-708), which aims to “promote access to the telecommunications services by the entire population” and with its objectives of financial, environment and social sustainability. On the other hand, this program is associated with the financing priorities of the GCI-9 “Reducing poverty and inequality”, “Lending to Small and Vulnerable Countries” and “Supporting Regional Cooperation and Integration,” fostering the integration of low developed areas.
- 2.10 **Support of the Bank in the country.** The Bank is supporting the Region through the Broadband Special Program with more than 40 Technical Cooperations (TC) with a budget over US\$17 million. The Bank supports 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

¹³ Source: IDBA (2013), prices are adjusted by the Purchasing Power Parity (PPP).

¹⁴ As a reference, ITU considers Internet connections as Broadband for speeds above 1Mbps.

- (CEABAD¹⁵) for the Central American officials (regional project), located in Managua.
- 2.11 **Objectives.** The general objective of this program is to increase broadband penetration in Nicaragua with the ultimate goal of contributing to the economic and social development of the country. The specific objectives are to: (i) expand the infrastructure (backbone and last-mile networks); (ii) update the regulatory framework to ensure that networks can be used in fair price and quality conditions; and (iii) increase ICT capacities among citizens and public officers.
- 2.12 **Component 1. Infrastructure (US\$40 million).** This component will support the government in improving the coverage of backbone and last-mile networks. To that end, it will finance the necessary civil works and equipment to expand the reach of ENATREL's existing backbone network, maximizing the connection of municipalities currently not reached. Thanks to this support: (i) ENATREL's backbone network will be expanded to 10 unconnected municipalities¹⁶ and to 59 in route to them¹⁷; (ii) last-mile networks will connect 34.9% of the households and companies in Nicaragua, 276 health centers and 100 telecentres.
- 2.13 **Component 2. Strategic regulation (US\$1.5 million).** This component 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.
- 2.14 **Component 3. Equipment, systems and applications (US\$7.5 million).** This component will support the government in improving ICT use among citizens and public officers. To that end, it will finance: (i) equipment¹⁸ for health centers, *casas maternas* and telecentres; (ii) central systems to improve the quality of public services; and; (iii) ICT training for citizens and public officers ("train the trainers").
- 2.15 In addition to these components, the program will support the executing agency in the program's monitoring and execution with resources of up to US\$1 million.
- 2.16 **Expected results.** With this program it is expected to (i) increase connectivity of households and public institutions; (ii) update the regulatory framework to ensure that networks can be used in fair price and quality conditions; and; (iii) increase ICT capacities among citizens and public officers.

¹⁵ Center for Advanced Studies in Broadband for Development.

¹⁶ The country currently has 14 not connected to the backbone. The four that remain out of the project are not suitable to be connected to the backbone because are very remote and have low population density. The 10 municipalities are located in the following departments: RAAN, RAAS, Boaco, Chontales, Granada, Madriz and Matagalpa.

¹⁷ These 59 municipalities require a better backbone because they face a penetration problem. Their average broadband penetration is 0.52% versus the national average 2.17% (due to the situation described in ¶2.7).

¹⁸ The specific municipalities covered in this component will be defined in the POD.

III. TECHNICAL ISSUES AND SECTOR KNOWLEDGE

- 3.1 **Identified risks.** The project team has identified the following possible risks: (i) El Instituto Nicaragüense de Telecomunicaciones y Correos (TELCOR) in contract to ENATREL¹⁹ may lack enough capacity to execute this program since the Institution although has experience on executing TCs and financing programs from other institutions like the World Bank has not been directly involved in any specific loan program with the IDB—to mitigate this risk, an assessment of the institutional capacity will be conducted and, if needed, the execution will be supported with resources from this program; and (ii) the regulatory recommendations for the wholesale market are not duly implemented and there is no open and equal access to the networks—as a mitigation strategy, Component II will be executed from the beginning and the Bank will support TELCOR in the definition of a roadmap for the implementation of the recommendations, prioritizing those that are more critical.

IV. SAFEGUARDS AND FIDUCIARY SCREENING

- 4.1 It is anticipated that the planned interventions in this project will not have environmental and social impacts of high risk, as the works to be carried out will be implemented on the existing infrastructure. In accordance with the guidelines of the Environment and Safeguards Compliance Policy (OP-703), the proposed program has been classified as Category "B" (Annex II and III). The expected environmental and social impacts are short term and they are related to small scale civil construction, for which effective mitigation measures will be arranged.
- 4.2 The Environmental and Social Strategy (Annex III) for this project includes the development of an Environmental and Social Analysis (ESA), and an Environmental and Social Management Plan (ESMP) to address: (i) procedures for the environmental and social for the project; (ii) key environmental and social impacts; and (iii) proposed measures to mitigate the identified impacts. These studies will serve as a management tool to ensure compliance with local regulations and Bank's policies and safeguards.
- 4.3 **Fiduciary aspects.** Procurement and contracting of consultancies will follow policies GN-2349-9 and GN-2350-9. As a result of the fiduciary assessment, there will be a strengthening plan that will include the use of IDB standardized bidding and consultancy documents. The POD will detail the procurement process and the thresholds for the contract. The financial management will be in line with the Financial Guide OP-273-6, with specific arrangements arising from the Institutional Capacity assessment.

¹⁹ ENATREL is currently involved in the following Bank's operations: Program to Strengthen the Electricity Sector in Nicaragua (3068/BL-NI); the National Sustainable Electrification and Renewable Energy Program III (2342/BL-NI, in which it is the co-executor Agency); and the Program to Strengthen the Electricity Sector in Nicaragua – Second Loan (PR-L1089, currently under consideration for Board approval).

V. RESOURCES AND TIMETABLE

- 5.1 Distribution of POD for QRR is expected on July 14, 2015. Distribution of the Loan Proposal to OPC on October 9, 2015 and to the Board of Directors on December 2, 2015. An estimated budget of US\$100,814 will be required for preparation of the operation in 2015. The required personnel will be 1.262 FTEs (details in Annex V).

CONFIDENTIAL

¹ The information contained in this Annex is confidential and will not be disclosed. This is in accordance with the "Deliberative Information" exception referred to in paragraph 4.1 (g) of the Access to Information Policy (GN-1831-28) at the Inter-American Development Bank.



SAFEGUARD POLICY FILTER REPORT

PROJECT DETAILS	
IDB Sector	SCIENCE AND TECHNOLOGY-TELECOMMUNICATIONS INFRASTRUCTURE
Type of Operation	Other Lending or Financing Instrument
Additional Operation Details	
Investment Checklist	Generic Checklist
Team Leader	Garcia Zaballos, Antonio (ANTONIOGAR@iadb.org)
Project Title	Broad Band Connectivity Program
Project Number	NI-L1090
Safeguard Screening Assessor(s)	Mercado Jaldin, Fabiola Maria Lucia (fabiolam@IADB.ORG)
Assessment Date	2015-04-13

SAFEGUARD POLICY FILTER RESULTS		
Type of Operation	Loan Operation	
Safeguard Policy Items Identified (Yes)	Activities to be financed by the project are in a geographical area and sector exposed to natural hazards* (Type 1 Disaster Risk Scenario).	(B.01) Disaster Risk Management Policy– OP-704
	The operation itself has a potential to exacerbate hazard risk* to human life, property, the environment or the operation itself (Type 2 Disaster Risk Scenario).	(B.01) Disaster Risk Management Policy– OP-704
	The Bank will make available to the public the relevant Project documents.	(B.01) Access to Information Policy– OP-102
	The operation is in compliance with environmental, specific women's rights, gender, and indigenous laws and regulations of the country where the operation is being implemented (including national obligations established under ratified Multilateral Environmental Agreements).	(B.02)
	The operation (including associated facilities) is screened and classified according to their potential environmental impacts.	(B.03)
	An Environmental Assessment is required.	(B.05)
	Consultations with affected parties will be performed equitably and inclusively with the views of all stakeholders taken into account, including in particular: (a) equal participation of women and men, (b) socio-culturally appropriate participation of indigenous peoples	(B.06)

SAFEGUARD POLICY FILTER

NI-L1090: Broad Band Connectivity Program



	and (c) mechanisms for equitable participation by vulnerable groups.	
	The Bank will monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan agreement and project operating or credit regulations.	(B.07)
	Environmental or culturally sensitive areas, defined in the Policy as critical natural habitats or critical cultural sites in project area of influence.	(B.09)
Potential Safeguard Policy Items(?)	No potential issues identified	
Recommended Action:	<p>Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.</p> <p>The project triggered the Disaster Risk Management policy (OP-704). A Disaster Risk Assessment (DRA) may be required (see Directive A-2 of the DRM Policy OP-704) in case of high risk, a limited DRA in case of moderate risk. Next, please complete a Disaster Risk Classification along with Impact Classification.</p>	
Additional Comments:		

ASSESSOR DETAILS

Name of person who completed screening:	Mercado Jaldin, Fabiola Maria Lucia (fabiola@IADB.ORG)
Title:	
Date:	2015-04-13

COMMENTS

No Comments



SAFEGUARD SCREENING FORM

PROJECT DETAILS	
IDB Sector	SCIENCE AND TECHNOLOGY-TELECOMMUNICATIONS INFRASTRUCTURE
Type of Operation	Other Lending or Financing Instrument
Additional Operation Details	
Country	NICARAGUA
Project Status	
Investment Checklist	Generic Checklist
Team Leader	Garcia Zaballos, Antonio (ANTONIOGAR@iadb.org)
Project Title	Broad Band Connectivity Program
Project Number	NI-L1090
Safeguard Screening Assessor(s)	Mercado Jaldin, Fabiola Maria Lucia (fabiolam@IADB.ORG)
Assessment Date	2015-03-31

PROJECT CLASSIFICATION SUMMARY		
Project Category: B	Override Rating:	Override Justification:
		Comments:
Conditions/ Recommendations	<ul style="list-style-type: none"> Category "B" operations require an environmental analysis (see Environment Policy Guideline: Directive B.5 for Environmental Analysis requirements). The Project Team must send to ESR the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports. These operations will normally require an environmental and/or social impact analysis, according to, and focusing on, the specific issues identified in the screening process, and an environmental and social management plan (ESMP). However, these operations should also establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.) where necessary. 	

SUMMARY OF IMPACTS/RISKS AND POTENTIAL SOLUTIONS	
Identified Impacts/Risks	Potential Solutions
Generation of solid waste is moderate in volume, does not include hazardous materials and follows standards recognized by multilateral	Solid Waste Management: The borrower should monitor and report on waste reduction, management and disposal and may also need to develop a Waste Management Plan (which could be included in the ESMP). Effort should be placed on reducing and re-cycling solid wastes. Specifically (if applicable) in the case that national legislations have no provisions for the disposal and destruction of hazardous materials, the applicable procedures established within the Rotterdam Convention, the Stockholm Convention, the Basel Convention, the WHO



development banks.	List on Banned Pesticides, and the Pollution Prevention and Abatement Handbook (PPAH), should be taken into consideration.
Transport of hazardous materials (e.g. fuel) with minor to moderate potential to cause impacts on community health and safety.	Hazardous Materials Management: The borrower should be required develop a hazardous materials management plan; details of grievances and any independent health and safety audits undertaken during the year should also be provided. Compliance with the plan should be monitored and reported. Depending on the financial product, this information should be referenced in appropriate legal documentation (covenants, conditions of disbursement etc). Consider requirements for independent audits if there are concerns about commitment of borrower or potential outstanding community concerns.

DISASTER RISK SUMMARY

Disaster Risk Category: Low

**Disaster/
Recommendations**

- No specific disaster risk management measures are required.

ASSESSOR DETAILS

Name of person who completed screening:	Mercado Jaldin, Fabiola Maria Lucia (fabiola@IADB.ORG)
Title:	
Date:	2015-03-31

COMMENTS

No Comments

ENVIRONMENTAL AND SOCIAL STRATEGY

I. BASIC DATA

Project Name:	Broadband Program
Project Number:	NI-L1090
Project Team:	Antonio García Zaballos, Team Leader; Diego Herrera, Alternate Team Leader; Félix González, and Enrique Iglesias (IFD/CMF); Santiago Alejandro Castillo (FMP/CNI); Jorge Osmín Mondragón Mendoza (FMP/CNI); Taos Aliouat (LEG/SGO); Fabiola Mercado (VPS/ESG); Javier Luque (EDU/CHO); TBD (SCL/SPH); and Cecilia Bernedo (IFD/CMF).
Borrower:	Republic of Nicaragua
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Financial Plan²:	IDB: Ordinary Capital (OC) US\$15,000,000 IDB: Fund for Special Operations (FSO) US\$10,000,000 IDB Co-Financing: (Government of Korea – KEXIM Bank) <u>US\$25,000,000</u> Total: US\$50,000,000
Safeguards:	Classification: “B”

II. PROJECT DESCRIPTION

- 2.1** The general objective of this program is to increase broadband penetration in Nicaragua with the ultimate goal of contributing to the economic and social development of the country. The specific objectives are to: (i) expand the infrastructure (backbone and last-mile networks); (ii) update the regulatory framework to ensure that networks can be used in fair price and quality conditions; and (iii) increase ICT capacities among citizens and public officers.
- 2.2** **Component 1. Infrastructure (US\$40 million).** This component will support the government in improving the coverage of backbone and last mile networks. To that end, it will finance the necessary civil works and equipment to expand the reach of ENATREL’s existing backbone network, maximizing the connection of municipalities currently not reached. Thanks to this support: (i) ENATREL’s backbone network will be expanded to 10 unconnected municipalities³ and to 59 in

¹ ENATREL will execute component 1 given its prior experience. The scheme will be detailed in the POD.

² Subject to ongoing negotiations and the signature of a co-financing contract and subject to the no objection from the co-financer. The project will receive co-financing (50% of the total amount) from the Government of Korea.

³ The country currently has 14 not connected to the backbone. The four that remain out of the project are not suitable to be connected to the backbone because are very remote and have low population density. The 10 municipalities are located in the following departments: RAAN, RAAS, Boaco, Chontales, Granada, Madriz and Matagalpa.

- route to them⁴; (ii) last mile networks will connect 34.9% of the households and companies in Nicaragua, 276 health centers and 100 telecentres.
- 2.3 **Component 2. Strategic regulation (US\$1.5 million).** This component 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.
- 2.4 **Component 3. Equipment, systems and applications (US\$7.5 million).** This component will support the government in improving ICT use among citizens and public officers. To that end, it will finance: (i) equipment⁵ for health centers and telecentres; (ii) central systems to improve the quality of public services; and; (iii) ICT training for citizens and public officers (*train the trainers*).
- 2.5 In addition to these components, the program will support the executing agency in the program's monitoring and execution with resources of up to US\$1 million.

III. INSTITUTIONAL AND REGULATORY CONTEXT

- 3.1 The Environment Law (Act) No. 217 of the Republic of Nicaragua has the fundamental objective to protect and conserve the environment while seeking to improve environmental conditions related to the state's population and livelihood. The Ministry of Environment and Natural Resources (MARENA) establishes that all projects must be developed under applicable environmental regulations. It also establishes the need for categorization of the project according to the expected level of impact. A subsequent environmental license must be approved prior to any works by the Environmental Authorities.
- 3.2 The *Empresa Nacional de Transmisión Eléctrica* (ENATREL) through their Executive Unit will be responsible to develop the corresponding studies that will include the Environmental and Social Assessment mandated by Law. It will be also responsible for the correct project categorization and environmental license needed.
- A. Compliance with IDB Environmental and Social Safeguard policies**
- 3.3 In accordance with the Environmental and Social Safeguard Policy of the Bank (OP -703), and based on the available information this operation has been classified as Category "B". The Environmental Safeguards report triggers the following directives of IDB's OP-703 Environmental and Safeguards Policy: B.01, Bank Policies; B.02, Country Laws and Regulations; B.03, Screening and Classification; B.05, Environmental Assessment; B.06, Consultation; B.07, Supervision and Compliance; B.09, Environmental sensitive areas; and B.10, Hazardous Materials. The OP-102, Disclosure of Information Policy also applies for this Project. Based on available documentation, it is not expected that OP-710

⁴ These 59 municipalities require a better backbone because they face a penetration problem. Their average broadband penetration is 0.52% versus the national average 2.17% (due to the situation described in ¶2.7. of Project Profile).

⁵ The specific municipalities covered in this component will be defined in the POD.

on Involuntary Resettlement and OP-765 on Indigenous people will be triggered for this Project.

- 3.4 As part of the activities required by the Policy directive B.05 during the design phase and prior to the Environmental and Social Due Diligence, an Environmental and Social Assessment and Environmental and Social Management Plan will be developed. Throughout these studies environmental and social impacts will be identified. Effective mitigation measures will be proposed, and the institutional capacity of the Executing Unit will also be analyzed. All necessary actions will be carried out to obtain the environmental license for the project. In addition, the consultation process will be conducted with stakeholders and all recommendations will be taken into account to ensure a proper environmental and social management of the project.
- 3.5 Whenever more detailed information is available for specific locations and technology to be used, the proposed category in addition to their risks and impacts will also be re-evaluated.

IV. ENVIRONMENTAL AND SOCIAL SETTING

- 4.1 The Project has not yet defined the specific areas of the west zone of Nicaragua where activities and installations will take place. However, it is anticipated that the required infrastructure will be placed on existing transmission lines and existing roads.
- 4.2 Based on the limited environmental and social documentation currently available, the Project considers:
 - i. The type of technology to be used for the required works—fiber optic or laser—will determine the type of infrastructure to be used. In the case of using fiber optic, the infrastructure can be aerial placed over the existing transmission lines, or laying underground aside the existing roads. For the installation of laser network connections, ground antennas with specific characteristics of size and scope will be installed.
 - ii. The camp site and other facilities will occupy the direct area of influence of the works.
 - iii. The topography and soils of the area correspond to flat and semi-flat surfaces with some hills rising in the western part of the country. The expected activities do not represent major geographical risks, since they will be placed on existing infrastructure.
 - iv. The areas where terminals, lines and facilities will be located do not represent a direct impact to the flora, fauna and/or to protected areas. As it was mentioned, there will be no new infrastructure or new routes opened.
 - v. Due to existing traffic areas or points of roads that will be impacted during the installation activities, detailed planning of activities is anticipated to

take place during the construction phase. This will be done in order to alleviate major impacts in the traffic flow.

- vi. There is no resettlement activities anticipated for the communities. It is also expected that the project will not negatively impact on the existing economic activities.
 - vii. No excavations are planned in archaeological sites or historic areas.
- 4.3 These assertions will need to be verified by the Environmental and Social Assessment (ESA) and investigated during the due diligence process.

V. KEY POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS

- 5.1 At this stage, the Environmental and Social Assessment (ESA) has not been prepared yet. Environmental and social risks and impacts have been pre identified based on preliminary theoretical analysis. However their scale and scope need to be further defined based on environmental and social field data collection. Based on a preliminary identification, the following environmental and social impacts are expected to occur in the construction and operation phases.

A. Construction Phase

- 5.2 The proposed activities for this project will not be placed in protected areas, natural parks and indigenous territories or any other sensitive areas including those designated as Critical Natural Habitat.
- 5.3 No significant impacts are anticipated for the construction of service facilities (camps and workshops). There will not be new road openings, since the access to these facilities will be done over existing public roads. In the case of the requiring new service facilities, some impacts can be expected. These will vary depending on the type activity but it can include vegetation removal, earthmoving activities and dust generation.
- 5.4 For installation activities on transmission lines, the environmental impacts are expected to be low. The project will primarily use existing infrastructure and will be very limited in the construction of any new infrastructure.
- 5.5 For the underground cables that will be laid in trenches in parallel on the existing rights-of-way, the level of impact will be low to moderate. It is expected that the volume of land to be removed will be re-used to cover the excavated ditch. This will affect the local topography locally and temporarily. The estimated dimensions of the trenches are approximately 50cm by 50cm, and 2 inches for diameter of ducts. The majority of the excavations will be done mechanically; nonetheless if site conditions do not allow the access of machines then it will be done manually.
- 5.6 For the laser connections, new infrastructure will be required possibly in previously undisturbed areas. This type of infrastructure requires the installation

of terrestrial antennas. The size and other features are specifically designed to meet the needs of frequency and distance coverage. The estimated impact for these works is moderate, and it will consist on vegetation removal, earthmoving and dust generation.

- 5.7 For industrial solid waste that will be generated as a result of the installation works, TELCOR through its Executing Unit will include environmental clauses in their contracts with the subcontractors. This will be done with the purpose of establishing responsibility and good practices under the provisions of the Environmental Law and the competent authority for waste management.

B. Operation Phase

- 5.8 Since the activities of this project aim to improve broadband infrastructure, it is not expected that significant environmental and social risks and impacts will be generated in the operation phase.

VI. ENVIRONMENTAL AND SOCIAL DUE DILIGENCE STRATEGY

- 6.1 During the period of due diligence and as part of its analyzing activities of the project, the Bank will review the Environmental and Social Assessment (ESA) and the Environmental and Social Management Plan (ESMP). Both documents which will be prepared by an external consultant under the Bank's supervision. In addition, the Bank as part of its environmental and social due diligence, will verify the compliance with the applicable national legislation and with the environmental and social safeguards policies of the IDB. This will be carried out to confirm that the environmental and social impacts have been identified and managed properly.

- 6.2 During the due diligence phase, the team will analyze the ESA and environmental plans to verify it contains:

- i. the definition of who will be responsible and their capacities for the implementation;
- ii. the actions required for the construction and operation phase;
- iii. work schedule to determine the necessary arrangements with local authorities, and to also coordinate vehicular traffic and road safety so that the impact is minimal;
- iv. the budget for the implementation of mitigation measures;
- v. definition of monitoring and reporting activities;
- vi. It will review and evaluate the ESA and the ESMP to ensure that mitigation measures and monitoring activities have been identified, evaluated and proposed. Mitigation measures will need to address environmental aspects, such as erosion in soils, surface hydrology, provision of excavation material, etc.

- vii. Perform an assessment from environmental and social perspectives to evaluate the institutional capacity of the Executing Unit and other agencies involved.
- viii. Confirm that the Project has been disclosed and consulted with communities affected by the project activities.
- ix. Review bidding documents containing required guidelines by the Executing Unit for the construction company. This will be done to ensure their capacity to manage Environment, Social and Health Security (ESHS) plans, and to ensure that the ESMP contains the Occupational Health and Safety Plan, and the Emergency and Contingency Plan.
- x. Review of the obtained environmental license, or of the one that is in process of being obtained.
- xi. Review of mitigation measures that should be implemented, based on national legislation and the Bank's safeguards policies.

VII. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

- 7.1 The generation of environmental and social impacts in the area of influence of the project requires an Environmental and Social Management Plan (ESMP) to be implemented. This Plan will include prevention and mitigation measures to reduce negative impacts and risks that may arise as a result of the project activities.
- 7.2 The implementation of environmental and social measures proposed in the ESMP for the construction phase, will be responsibility of the Contractor.
- 7.3 The supervisory company will be responsible to register and verify the compliance of the Environmental and Social Management Plan with the applicable environmental regulations as part of the environmental license.
- 7.4 The Environmental and Social Management Plan will be implemented during the construction phase and will include the following:
 - (1) Prevention and Mitigation Program
 - Water effluent and Solid Waste Management Plan
 - Air quality, Noise, Vibration Monitoring Plan
 - Occupational Safety and Health Plan
 - Traffic and Road Safety Management Plan
 - Post Construction Infrastructure Restoration Plan
 - (2) Loss Prevention and Contingencies Program
 - (3) Environmental Monitoring Plan
 - (4) Social Affairs Management Plan
 - (5) Emergency and Contingency Plan

- 7.5 The Project will provide environmental and social supervision for the works.
- 7.6 The Bank will prepare an Environmental and Social Monitoring Report (ESMR) that will include environmental and social aspects, as well as recommendations for the project.

INDEX OF COMPLETED AND PROPOSED SECTOR WORK

Topic	Description	References and hyperlinks
Broadband	<i>IADB (2012) Bridging Gaps, Building Opportunity: Broadband as a Catalyst of Economic Growth and Social Progress in Latin America and the Caribbean</i>	http://publications.iadb.org/handle/11319/5475
	<i>IADB (2012) Tecnologías de la información y la comunicación en Nicaragua</i>	http://publications.iadb.org/handle/11319/5678
	<i>IADB (2014) Methodology for the IDBA (Broadband Development Index)</i>	http://publications.iadb.org/handle/11319/6139
	<i>IADB (2013) Propuesta para la creación del programa especial y del fondo multidonante de banda ancha.</i>	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=37694102
	<i>IADB (2013) Guías operativas del programa.</i>	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=37711260
	<i>IADB (2012) Socioeconomic Impact of Broadband.</i>	http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=37364082
	<i>IADB (2013) From Cybersecurity to Cybercrime: A Framework for Analysis and Implementation</i>	http://publications.iadb.org/handle/11319/5998?locale-attribute=en
	<i>IADB (2015) Universal Access to Broadband and Service Programs: A Comparative Study</i>	http://publications.iadb.org/handle/11319/6735
	<i>IADB (2012) Tecnologías de la información y la comunicación en Nicaragua</i>	http://publications.iadb.org/handle/11319/5678
Broadband and Education	<i>IADB (2014) El BID y la tecnología para mejorar el aprendizaje: ¿Cómo promover programas efectivos?</i>	http://publications.iadb.org/handle/11319/6550?locale-attribute=es
	<i>IADB (2012) Educación para la transformación</i>	http://publications.iadb.org/handle/11319/392?scope=123456789/1&thumbnail=false&order=desc&rpp=5&sort_by=score&page=0&query=Educaci%C3%B3n+para+la+transformaci%C3%B3n&group_by=none&etal=0

Topic	Description	References and hyperlinks
	<i>IADB (2012) Guía básica para la evaluación de proyectos: Tecnologías para la educación</i>	http://publications.iadb.org/handle/11319/5570?locale-attribute=es
	<i>IADB (2011) Tecnologías para la Educación (TEd) - Un Marco para la Acción</i>	http://publications.iadb.org/handle/11319/5390?locale-attribute=es
	<i>IADB (2012) Educación en Nicaragua: Retos y oportunidades</i>	http://publications.iadb.org/handle/11319/5529
	<i>IADB (2013) More Schooling and More Learning?: Effects of a Three-Year Conditional Cash Transfer Program in Nicaragua after 10 Years</i>	http://publications.iadb.org/handle/11319/4584
Broadband and Health	<i>IADB (1999) Productividad de la inversión en salud de los hogares en Nicaragua</i>	http://publications.iadb.org/handle/11319/6123
Broadband and Gender	<i>IADB (2001) Violencia Doméstica: Intervenciones para su prevención y tratamiento: 9: Educación popular sobre masculinidad en Nicaragua</i>	http://publications.iadb.org/handle/11319/636
	<i>IADB (2015) Documento de Marco Sectorial de Género y Diversidad</i>	http://publications.iadb.org/handle/11319/6847

CONFIDENTIAL

¹ The information contained in this Annex is confidential and will not be disclosed. This is in accordance with the "Deliberative Information" exception referred to in paragraph 4.1 (g) of the Access to Information Policy (GN-1831-28) at the Inter-American Development Bank.