

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: PIDA34372

Project Name	Caribbean Regional Communications Infrastructure Program (CARCIP) (P155235)
Region	LATIN AMERICA AND CARIBBEAN
Country	Nicaragua
Sector(s)	Information technology (65%), Telecommunications (35%)
Theme(s)	Regional integration (50%), Technology diffusion (50%)
Lending Instrument	Investment Project Financing
Project ID	P155235
Borrower(s)	Ministerio de Hacienda y Credito Publico
Implementing Agency	TELCOR
Environmental Category	B-Partial Assessment
Date PID Prepared/Updated	08-Jun-2016
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Appraisal Review Decision (from Decision Note)	

I. Project Context

Country Context

Poverty reduction has accelerated in Nicaragua in the last six years in both urban and rural areas, although challenges remain. Between 2009 and 2014 there was a significant reduction in poverty of nearly 13 percentage points, with the national poverty rate standing at 29.6 percent, while extreme poverty fell from 14.6 percent to 8.3 percent. However, urban-rural disparities remain stark, with urban poverty at 2.4 percent compared to rural poverty at 16.3 percent. Challenges remain in terms of reducing poverty given that most of the poor live in rural areas, and many in remote communities where access to basic services is still constrained by very limited infrastructure. Moreover, social and basic service indicators in the rural Atlantic coast region are significantly lower than in the rest of the country, disproportionately impacting indigenous and Afro-descendant populations.

Sound macroeconomic policies have allowed for moderate and steady economic growth, but increasing productivity is critical to accelerate growth and further reduce poverty and boost shared prosperity. Nicaragua has maintained disciplined macroeconomic management resulting in both good economic performance, with growth averaging 4.8 percent since 2010, and in Foreign Direct Investment (FDI) expansion. Nonetheless, although FDI levels have improved since 2010 they are

still below the Latin America and the Caribbean (LAC) average. Given Nicaragua's low levels of per capita income, higher growth rates are necessary to further reduce poverty and boost shared prosperity. A key challenge constraining the ability of the country to move to a higher growth equilibrium is aggregate productivity, which has been declining over the last ten years.

Small size, export-driven growth and susceptibility to natural hazards are common challenges for Nicaragua and other Caribbean and Central American countries. The gross national income per capita of Caribbean and Central American countries is lower than the LAC average. Poverty reduction is largely constrained by their small size, which limits their competitiveness, and by their susceptibility to natural hazards. These countries have been traditionally characterized by weak capacity in both public and the private reducing their integration into world markets. The consequent limited access to external capital and know-how have profoundly affected their economies and contributed to slower growth and poverty reduction. With a growth model that relies on the export of commodities, these countries remain vulnerable to external shocks. Furthermore, countries in the Caribbean and Central America are vulnerable to the impacts of climate change and natural disasters, such as hurricanes, cyclones, droughts, and volcanic eruptions that typically affect an entire population and economy. The impact on the Government's finances can be overwhelming, reducing the availability of resources for much needed investments in infrastructure and human capital.

Given these challenges, some of these countries, including Nicaragua, are seeking to foster poverty reduction and sustainable growth through greater regional integration. To promote trade, investment and regional integration in the Caribbean and Central America, a number of organizations were formed, including the Association of Caribbean States (ACS), the Caribbean Community and Common Market (CARICOM), and the Secretariat for Central American Economic Integration (SIECA). In 2007, CARICOM and SIECA signed a Plan of Action, outlining a number of priority areas for cooperation, including development of skilled labor and greater usage of information and communications technologies (ICT). These agreements have helped to increase Nicaragua's trade with CARICOM countries from US\$12.08 million in 2011 to US\$17.5 million in 2013. In 2014, the ACS identified the development of trans-border technologies as key for increasing competitiveness in the sub-region. To this end, it set objectives of developing and promoting the Information Technology/Information Technology-Enabled Services (IT/ITES) industry, and increasing productivity, growth and innovation in productive sectors through ICTs.

Nicaragua's National Human Development Plan 2012-2016 seeks to expand social programs and promote inclusive growth by enhancing competitiveness. The Plan highlights science, technology, innovation, entrepreneurship and regional economic integration as key elements to catalyze a productive transformation of the country, with an emphasis on increasing economic growth through employment. In particular, it underlines the need to develop and integrate the Caribbean Coast better with the rest of the country, including through expansion of basic infrastructure (transport, telecommunications, and electricity). The Plan also includes regional economic integration as one of its key priorities, and advocates for greater participation of Nicaragua in the CARICOM as an observer, and in all ACS activities to enable ACS countries to compete more effectively in the international market.

Sectoral and institutional Context

Challenges to the creation of a strong regional IT/ITES industry include lack of skilled labor and

under-developed infrastructure and policies. The United Nations E-government Index measures availability and use of online services, broadband connectivity, skilled labor and human capital, among other things. Most of the Caribbean and Central American countries rank low on this Index, averaging 0.43, far below developed countries such as the Republic of Korea (0.94) or the United States (0.87). In particular, lack of skilled labor is a key bottleneck. Moreover, the sub-region, including Nicaragua, lag behind not only in broadband infrastructure, but also in demand-side policies stimulating a productive use of broadband and ICT services.

To try to address these common ICT sector challenges, the World Bank approved the Caribbean Regional Communications Infrastructure Program (CARCIP) in 2012. The Program seeks to address common challenges, including limited broadband connectivity, particularly in marginalized areas, high broadband prices, immature digital economy, low digital literacy, and shortage of skilled labor. It also recognizes that the sub-region has great potential to collectively overcome these common challenges and increase the attractiveness for investment in the IT/ITES sector by increasing the overall size of the market. As such, CARCIP serves as an umbrella for a Series of Projects in participating countries with the objective of building strong regional broadband networks and developing a regional IT/ITES industry. To date, Saint Vincent and the Grenadines, Saint Lucia, and Grenada have joined the Program, financed through a regional IDA, the CARCIP First Phase Project (P114963). Although the Program originally focused on attracting CARICOM countries, implementation experience of CARCIP First Phase Project pointed at the need for participation of more countries that share the same challenges, such as Nicaragua, to ensure more effective regional integration.

Twenty-five years after the telecommunications reform, the sector faces new challenges that need to be addressed. During the 1990s the sector was liberalized, privatizing the incumbent and creating TELCOR (Telecomunicaciones y Correos de Nicaragua) to promote competition in the sector. Currently, there is limited competition in the sector, resulting in a limited coverage and relatively high prices, especially for broadband in low-income areas. In fact, Nicaragua has very low penetration compared to the LAC average, with fixed broadband subscriptions at 2.5 per 100 subscribers in Nicaragua compared to 9.7 per 100 subscribers on average in LAC. Additionally, the second most critical barrier to effectively utilizing ICT to promote economic growth in Nicaragua is ICT affordability. High prices for fixed broadband are due to high concentration of the market, with a focus of services in Managua and larger locations, and low penetration in rural areas due to lack of supply.

TELCOR is already implementing an infrastructure telecom project covering the Pacific and Central Regions of Nicaragua, which includes regulatory reforms. As a result of the National Broadband Plan, the IADB and the Korean Eximbank are providing US\$50 million to Nicaragua to carry out the National Broadband Project. This project aims to increase broadband penetration in the Pacific and Central Regions of Nicaragua by the expansion of the National Electricity Transmission Company (s, Empresa Nacional de Transmisión Eléctrica (ENATREL), s long distance fiber optic network to many communities locations in these Regions. This project also includes a component to improve the legal and regulatory framework to increase competition in the Sector. It will review the legal and regulatory framework and assist TELCOR to make changes to promote competition, reduce interconnection fees by the use of "peering" in Managua Internet Network Access Point (NAP). The CARCIP Nicaragua Project is coordinated with the IADB project, because CARCIP Nicaragua is only providing services in the Caribbean Coast Region, while the IADB/Ex Im Project is providing services in the Pacific and Central Regions of

Nicaragua.

Given Nicaragua's immature digital economy, lack of skilled labor, and business environment that is not yet able to foster innovation, CARCIP can help the country develop its IT/ITES industry. In addition to the challenges in the telecommunications sector, the private sector reports limited skills among ICT specialists, and universities in Nicaragua have not been able to respond to the needs of a constantly evolving industry. Seven of the ten main universities in the country offer IT studies, with only 6,093 students or around 7 percent of total enrollment. Moreover, there is a big gender gap given that women represent only 36 percent of students enrolled in IT university programs. A third barrier is the country's under-developed business and innovation environment, as evidenced by Nicaragua's ranking on the Global Innovation Sub-Index of 130 out of 141 countries. This low rank highlights the country's weaknesses in human resources, research, and knowledge and technology outputs. As with other Caribbean countries, availability of the latest technologies is low in Nicaragua, and although labor may be low-cost compared to other countries, it is not adequately skilled for the IT/ITES industry. Finally, Nicaragua's digital economy is immature resulting in a low economic impact of ICTs on new services and products. In particular, digital adoption by Small and Medium Enterprises (SME) is low (only 15 percent of all SMEs in the country use the Internet for business purposes, although 71.5 percent of SMEs report having computers).

Moreover, rapid job creation is a key Government priority, particularly in the Caribbean Coast, which can be supported by the IT/ITES industry. Nicaragua's IT/ITES industry is growing, and exports are expected to grow from US\$86 million in 2014 to US\$98 million in 2015, largely generated by Business Processing Outsourcing (BPO), as well as Information Technology Outsourcing (ITO) and Knowledge Processing Outsourcing (KPO). Thus the IT/ITES industry can be a key driver for growth and job creation. In 2014, the IT/ITES industry created 6,300 jobs (95 percent BPO, 5 percent ITO and KPO), albeit few compared to the 10 million jobs generated by the sector in India. ProNicaragua, a Nicaraguan agency for investment and export promotion, is currently focused on attracting mainly BPO jobs, since these jobs require less training time and expertise.

However, Nicaragua by itself cannot become a global provider of IT/ITES services, and global positioning requires working regionally. As is the case of other ACS countries, Nicaragua seeks to be identified as an IT/ITES services export player. However, local software providers are scarce (only 65 providers according to the Ministry of Development, Industry, and Trade), small in size (the largest has only 40 employees), and are concentrated in Managua (due to availability of labor and service suppliers). Given the small size of ACS countries and Nicaragua, building a solid base of skilled labor at the regional level is critical for the sub-region to attract investment. Although the CARCIP First Phase Project included a skills development component, the participating countries have not been able to train as many people as originally planned due to lack of training providers and the high cost of the available training. A regional approach is thus needed to bundle demand, as has been acknowledged by the Caribbean Telecommunications Union (CTU) in the MoU signed with TELCOR in March 15th, 2016 stating the need to establish mechanisms that can help CARCIP countries to have access to training and certifications relevant for the IT/ITES. The proposed CARCIP Nicaragua Project will take an innovative approach to enable participating countries to access an increased pool of high-quality training providers at lower prices.

II. Proposed Development Objectives

Increase access to regional broadband networks and advance the development of an IT and IT enabled services (IT-ITES) industry in Nicaragua and the Caribbean Region.

III. Project Description

Component Name

Component 1: Regional Connectivity Infrastructure

Comments (optional)

Component Name

Component 2: ICT-enabled Innovation

Comments (optional)

Component Name

Component 3: Implementation Support

Comments (optional)

IV. Financing (in USD Million)

Total Project Cost:	22.20	Total Bank Financing:	19.60
Financing Gap:	0.00		
For Loans/Credits/Others			Amount
BORROWER/RECIPIENT			2.60
International Development Association (IDA)			19.60
Total			22.20

V. Implementation

The proposed Project will be implemented by TELCOR under a Subsidiary Agreement with MoF, using the institutional capacity it developed during the implementation of the Nicaragua Rural Telecom Project (P089989). The proposed Project will use the PCU that was created in TELCOR for the implementation of the Nicaragua Rural Telecom Project, and still continues to exist. The PCU will coordinate the technical, logistical, implementation and M&E aspects of the Project, including safeguards, and ensure involvement of relevant stakeholders and beneficiaries in Nicaragua and in the Caribbean. The PCU will comprise 10 dedicated staff, including a Project Coordinator, technical specialists for telecoms infrastructure, IT/ITES skills specialist, innovation specialist, business environment specialist, and qualified procurement and financial management staff. The Project Coordinator will report directly to the Director General of TELCOR. The Coordinator, the infrastructure specialist, an accountant, and a procurement specialist from the previous World Bank-financed project have been retained by TELCOR pending the effectiveness of the proposed Project. The remaining staff are being hired competitively and will be on board before credit effectiveness or within 2 months of it. In case of insufficient capacity for collecting data, TELCOR will strengthen it by recruiting or designating a person responsible for M&E, based on the capacity assessment immediately after effectiveness. In addition, TELCOR will support the PCU

with project implementation as needed, since TELCOR has built in house expertise in several relevant areas, such as social and environmental safeguards. The Project will be implemented in accordance with a Project Operational Manual, submitted to the World Bank prior to negotiations, and adopted by TELCOR prior to effectiveness.

Component 2.A activities related to IT/ITES export promotion and FDI attraction will be implemented by TELCOR in partnership, through a Memorandum of Understanding (MOU), with ProNicaragua, the Government's investment and export promotion agency. ProNicaragua will carry out promotional events, but all contracting and payments for such activities will be handled by TELCOR.

Finally, TELCOR has signed an MOU with the CTU; this will facilitate integrating the regional aspect to implementing Component 2. The MoU specifies the participation of Nicaragua in regional activities organized by the CTU, including dialogue between countries on relevant policies and strategies; regional harmonization of policies and frameworks; establishment of mechanisms for countries to obtain cost-effective training and certifications for the IT/ITES industry; development of standard tools and execution of joint studies and assessments; and conduct of research, conferences, symposia, seminars, and workshops. At the August 2015 Meeting of the CARCIP Steering Committee, held in Trinidad and Tobago, current CARCIP countries expressed their willingness for Nicaragua to join, and the MOU was signed in 2016.

VI. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	x	
Natural Habitats OP/BP 4.04	x	
Forests OP/BP 4.36		x
Pest Management OP 4.09		x
Physical Cultural Resources OP/BP 4.11	x	
Indigenous Peoples OP/BP 4.10	x	
Involuntary Resettlement OP/BP 4.12	x	
Safety of Dams OP/BP 4.37		x
Projects on International Waterways OP/BP 7.50		x
Projects in Disputed Areas OP/BP 7.60		x

Comments (optional)

VII. Contact point

World Bank

Contact: Doyle Gallegos
 Title: Lead ICT Policy Specialist
 Tel: 458-5912
 Email: dgallegos@worldbank.org

Contact: Arturo Muent Kunigami
 Title: Senior ICT Policy Specialist
 Tel: 458-4910

Email: amuentekunigami@worldbank.org

Contact: Elena Gasol Ramos
Title: Senior ICT Policy Specialist
Tel: 458-2919
Email: egasolramos@worldbank.org

Borrower/Client/Recipient

Name: Ministerio de Hacienda y Credito Publico
Contact: Ivan Acosta Montalvan
Title: Minister
Tel: 505-2222-7061
Email: ivan.acosta@mhcp.gob.ni

Implementing Agencies

Name: TELCOR
Contact: Orlando José Castillo
Title: Executive President
Tel: 50522227350
Email: ocastillo@telcor.gob.ni

VIII. For more information contact:

The InfoShop
The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 458-4500
Fax: (202) 522-1500
Web: <http://www.worldbank.org/infoshop>