

TC ABSTRACT

I. Basic Project Data

▪ Country/Region:	Regional
▪ TC Name:	Investment strategies for Rural Broadband connectivity
▪ TC Number:	RG-T2993
▪ Team Leader/Members:	Antonio García Zaballos (IFD/CMF) Team Leader; Enrique Iglesias Rodríguez (IFD/CMF); Irasema Infante Barbosa (CID/CID); Suk Nam (IFD/CMF); Javier Jimenez (LEG/SGO); y Cecilia Bernedo (IFD/CMF).
▪ Taxonomy:	Research and Dissemination (R&D)
▪ Date of TC Abstract Authorization:	March 7, 2018
▪ Beneficiary:	Regional LAC
▪ Executing Agency:	Inter-American Development Bank
▪ Donors providing funding:	Knowledge Partnership Korea Fund for Technology and Innovation (KPK)
▪ IDB funding requested:	US\$800,000.00
▪ Local counterpart funding:	None
▪ Disbursement period:	36 months (execution period: 32 months)
▪ Types of consultants:	Firms and individuals
▪ Prepared by Unit:	Connectivity, Markets and Finance (IFD/CMF)
▪ Unit of Disbursement Responsibility:	Institutions for Development (IFD)
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	(i) strengthen the capacity of the state; (ii) provide inclusive infrastructure services; (iii) establish smart institutional frameworks; and (iv) improve regional infrastructure

II. Objective and Justification of the TC

- 2.1 The objective of this Technical Cooperation (TC) is to create awareness on how Public Private Partnerships (PPP) could contribute to the extension of broadband connectivity in rural areas and which PPP models could be used to contribute to the universality of digital services regardless the sociodemographic and economic conditions. Specifically, the TC will support LAC countries in: (i) increasing the awareness on how PPP could contribute to take broadband services in rural areas not covered by the private sector; (ii) creating guidelines for the introduction of PPP in the field of ICT; (iii) developing master plans for PPP in rural areas; and (iv) defining mechanism to reinforce the cooperation between the public and the private stakeholders.
- 2.2 According to the IDB, broadband infrastructure is an enabler of development. It is estimated that in the case of the LAC region, for a 10% growth in the penetration rate of broadband services the GDP will be increased by 3.19%; the productivity by 2.61% and more than 67,000 jobs can be created.¹
- 2.3 However, despite recent efforts, LAC countries are suffering from an increasing digital divide in rural areas.² Due to the low population density and low economies of scale, there is a big challenge to extend broadband access, adoption and use to rural areas. In this context, PPP models can provide potentially effective solution to this dilemma, by a way of combining public and private investment. PPPs have been used worldwide to build, finance and manage public infrastructures. Although PPP have also been used to develop broadband networks (infrastructure and services), in the case of the LAC region, there is very limited experience and thus it is needed to create awareness about in the region on

¹ García-Zaballos, A./López-Rivas, R.: Governmental control on socio-economic impact of broadband in LAC countries. IDB, 2012.

² To overcome this gap different models such as white spaces, use of universal services, creation of strategic partnerships among different private companies and modifications to the regulatory frameworks (infrastructure sharing) have proven to be successful in countries like USA, Perú, México or the European Union.

the benefits that the different models could bring to achieve the universality of broadband services and to reduce the digital divide between urban and rural areas.

- 2.4 **Strategic alignment.** The TC is aligned with the priorities identified in the IDBs updated institutional strategy 2010-2020 (AB-3008). Specifically, it is aligned with the following strategic policy objectives: (i) strengthen the capacity of the state; (ii) provide inclusive infrastructure services; (iii) establish smart institutional frameworks; and (iv) improve regional infrastructure. Additionally, this TC is expected to contribute to the following Corporate Results Framework (CRF) indicators: (i) telecommunications Infrastructure, contributions directed to develop extension and quality of telecoms infrastructure, including infrastructure; and (ii) public policy in telecommunications; contributions directed to increase the level playing-field competition and the transparency of the regulatory policy and reforms within the telecom sector.

III. Description of Activities/Components and Budget

- 3.2 **Component I: Review of international best practices and development of guidelines for PPPs in the LAC.** This component will focus on knowledge sharing based on international best practices and experiences brought from worldwide experts and different stakeholders (operators, civil society and academia). In particular this component will identify specific lessons learned on aspects such as: (i) identification of different models of PPP depending on the digital infrastructure (last mile, backhaul, backbone) and the technology that is intended to finance (data center, satellite, submarine cable, fiber, etc.); (ii) governance model and technical aspects to be considered in an Request for Proposals (RFP), (iii) key indicators on success and performance; and (iv) recommendations on key aspects to facilitate the digital infrastructure deployment such as passive and active infrastructure sharing, “dig once” policies, and the efficient use of radiofrequency spectrum. The output of this component will contribute to the design of financial models of future operations of the bank.
- 3.3 **Component II: Analysis of state of the art of PPPs on digital infrastructure in leading countries and design of master plans on PPP for rural broadband in selected countries.** The goal of this component is to assess the initial conditions for the successful implementation of PPP in rural areas in at least two countries and support supporting the design and implementation of master plans³. The activities that will be financed with this component will be the following ones:

a) Cross-border and national fiber-optic network business models

- i. Preparation of a select portfolio of innovative cross-border and national fiber-optic network business models and innovative models looking at the interplay between infrastructure and digital service and application development.
- ii. Comparison and evaluation of evaluate the models and development outcomes of the investments, based on specific country contexts, market conditions (competitive or monopolistic), and institutional, legal and regulatory environment.

b) Business models and technologies for extending Internet access in middle mile and last mile locations

- i. Preparation of a select portfolio of innovative business models and alternative technologies that are extending Internet access in rural and last mile locations globally.

³The selection of the countries will be based on the existing level of rurality, the level playing field competition and the penetration rate. The selected countries will be chosen taking into account international indicators from the World Economic Forum (Global competitiveness Report), the International Telecommunications Union (Global ICT Development Index) and digilac platform from the Interamerican Development Bank.

- ii. Comparison and evaluation of the business models and technologies based on the results/development outcomes, specific market conditions, enabling environment, and other criteria that help to push the market frontier.
 - c) **Landscape overview of relevant and emerging global trends on spectrum policy and planning.** Overview of relevant developments in spectrum licensing regimes; technical standards and rules; spectrum allocation and assignment; spectrum licensing and unlicensed spectrum; spectrum refarming; digital dividend; spectrum sharing, among others. 3-4 innovative country case studies.
 - d) **Recommendations and Guideline/Menu of options.** Based on the findings of items a) and b), a set of recommendations and alternatives will be developed that will serve as a tool to have a better understanding of options for extending broadband networks and for extending rural access.
- 3.4 **Component III: Support to the implementation.** Institutional capacity building in selected countries and partnership development including a study tour⁴. Specifically, this component will finance three activities: (i) Development of training courses on PPPs to facilitate the deployment of digital infrastructure in rural areas; (ii) study tour to Korea to get a better understanding on alternative models; and (iii) regional conference and networking events to discuss the different financial and institutional models related to digital infrastructure.
- 3.5 **Expected results.** As a result of the activities described above, the Bank is expected to have a report which will include: (i) an evaluation of success experiences, failures, and lessons learned from diverse business models that have been implemented in the buildout and operation of international and national fiber optic networks in diverse country contexts; (ii) identification and evaluation of innovative business models (e.g. rural Internet Service Provider (ISP), micro-telco, community of the Global System for Mobile Communication (GSM)) and alternative technologies (e.g. mobile networks, satellite, microwave, balloons, drones) that are helping to extend middle mile and last mile access in previously un- or under-served communities in diverse country contexts; (iii) review of relevant developments on spectrum policy and management; and (iv) guidelines or menu of options that would help guide developing countries on alternative business models for rolling out fiber-optic network deployment and extending rural access.
- 3.6 The total cost of this TC will be of US\$800,000.00, which will be financed by the Knowledge Partnership Korea Fund for Technology and Innovation (KPK). There will be no local counterpart funding.

Indicative Budget (in US\$)

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Component I: Review of international best practices and development of guidelines for PPPs in the LAC	150,000.00	0.00	150,000.00
Component II: Analysis of the state of the art of PPPs in leading countries and design of master plans on PPP for rural broadband in selected countries	400,000.00	0.00	400,000.00
Component III: Support to the implementation	250,000.00	0.00	250,000.00
Total	800,000.00	0.00	800,000.00

⁴ When the implementation of the activities requires the involvement of a particular country a non-objection letter will be required.

IV. Executing Agency and Execution Structure

- 4.1 The executing agency will be the Bank through Connectivity, Markets and Finance (IFD/CMF). The justification for this execution structure is: (i) The Bank has the technical experience to coordinate and executive the different activities included in the technical cooperation; and (ii) the technical cooperation will need extensive partnership with international organizations, academic institutions and private firms.
- 4.2 **Procurement.** The Bank will contract individual consultants, consulting firms and other services in accordance with current Bank procurement policies and procedures. Specifically, Section AM-650 of the Administrative Manual “Complementary Workforce” will be applied in the case of individual consultants, the Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work (GN-2765-1) and its Operational Guidelines (OP-1155-4) for hiring consulting services of intellectual nature and the Corporate Procurement Policy (GN-2303-20) for other services.

V. Major Issues

- 5.1 This project entails risks that could potentially affect the impact and quality of the developed products: (i) institutional risks: how to involve the beneficiary countries and effectively collect and address each country’s demands and interests, and accurately reflect them into the developed products; (ii) data availability: how to ensure that the data to develop the studies in Components I and II is available. The first risk will be mitigated by involving high level representatives from the countries and following a country centric approach in developing and designing the products. To mitigate the second risk, the project team will take advantage of local partnerships and/or specialized data gathering firms.

VI. Exceptions to the Bank Policy

- 6.1 None.

VI. Environmental and Social Strategy

- 6.1 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 Compliance Policy (OP-703) (See: [Safeguard Policy Filter Report](#) and [Safeguard Screening Form](#)).

REQUIRED ANNEXES:

- Annex I: [Results Matrix](#)
- Annex II: [Terms of Reference](#)
- Annex III: [Procurement Plan](#)

INVESTMENT STRATEGIES FOR RURAL BROADBAND CONNECTIVITY

RG-T2993

CERTIFICATION

I hereby certify that this operation was approved for financing under **Knowledge Partnership Korea Fund for Technology and Innovation (KPK)** through a communication dated March 7, 2018 and signed by Byoung Kim (ORP/GCM). Also, I certify that resources from said fund are available for up to **US\$800,000** in order to finance the activities described and budgeted in this document. This certification reserves resource for the referenced project for a period of four (4) calendar months counted from the date of eligibility from the funding source. If the project is not approved by the IDB within that period, the reserve of resources will be cancelled, except in the case a new certification is granted. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this operation. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, represent a risk that will not be absorbed by the Fund.

CERTIFIED BY:	<u>Original Signed</u>	<u>04/05/2018</u>
	Sonia M. Rivera	Date
	Division Chief	
	Grants and Co-Financing Management Unit	
	ORP/GCM	

APPROVED BY:	<u>Original Signed</u>	<u>04/16/2018</u>
	Ana Maria Rodriguez-Ortiz	Date
	Sector Manager	
	Institutions for Development Sector	
	IFD/IFD	