

TERMS OF REFERENCE

PRE-FEASIBILITY STUDIES RELATED TO THE DEPLOYMENT: MARKET STUDY

[EL SALVADOR]

ES-T1335

<https://www.iadb.org/en/projects-search?country=§or=&status=&query=es-t1335>

1. Background and Justification

- 1.1 **Justification:** With the outbreak of COVID-19, the patterns of our entire lives are changing. The virus has transformed the world into a contactless society, where school education cannot be provided in person and meetings at work are conducted online. Recognizing the growing importance of the infrastructure, LACs are trying to upgrade the existing infrastructure and invest to connect rural areas to support the citizens with better public services on education and health sectors.
- 1.2 The current COVID-19 context highlighted the need to improve the connection of both health centers and schools for access and continuity of education and health in El Salvador. In El Salvador there are 5,400 schools of which 3,500 do not have any type of connectivity, and those who have it, suffer from constant network failures. The general objective of ES-L1145 is to increase the accessibility of their citizens to the public service.
- 1.3 El Salvador has one of the lowest mobile broadband penetrations (43%) in Latin America (65%). The main problems of this status are: (i) institutional and regulatory weakness; and (ii) low penetration both in connectivity and insufficient digitization in public services. ES-L1145 will seek to increase access to fixed and mobile Broadband for the continuity of public services, considering the following existing limitations: (i) limited level of digital infrastructure; (ii) low level of digital skills and gender gap; and (iii) limited institutional capacity to overcome the current difficulties and bring positive effects to the economy.
- 1.4 As South Korea emerged from the Korean War in the mid-1950s, they were one of the world's poorest economies. But through decades of government interventions and investments in modern technology, the country has soared to become one of the most developed countries in the region. South Korea's transformation is the result of the government's ambition to speed transformation to the digital economy, and one of the most important factors which realized this was the "Government's vision for ICT." This is great implication to all 3 countries above who are preparing the expansion of existing broadband infrastructure to overcome the pandemic crisis and supply the citizens with equal public services they deserve.
- 1.5 With the experience of overcoming the economic and pandemic difficulties, there are plenty of aspects that countries can analyze and learn from the policies and institution development of South Korea. Since El Salvador is seeking for ways to strengthen the digital skills and capabilities of the civil workers and the citizens, South Korea, as one of the top countries in 2020 UN e-government ranking, will be a great example to study.

2. Objectives

- 2.1 The general objective of this Technical Cooperation (TC) is to support feasibility studies to improve the connectivity of public institutions and households in El Salvador. Particularly, these feasibility studies aim to support the current COVID-19 crisis by exploring market (including demography), forecasting demand, identifying the best technical routes, designing the network, preparing its specifications, and developing the technical, financial, and managerial studies of the network and its utilization. The TC will support EL-L1145. The best practice of Korean governments' use of ICT will be great practice model to be analyzed.

3. Key Activities

- 3.1. **Component 1: Connectivity Research.** The objective of this component is to conduct a demand study, identify and prioritize the 2,500 public sites (mentioned in ES-L1145) to be connected.
- 3.2. The activities to be included in the research are:
- Connectivity market study of El Salvador
 - Study of the current supply in El Salvador (households, hospitals, health centers, and public institutions like schools and education centers)
 - Study of demand: estimate the demand for public services and forecast, especially considering gender gap and the demands for the measures to overcome the pandemic
 - Identification of 2,500 public sites mentioned in EL-L1145.
- 3.3. The result of the study will be considered for the preparation of ES-L1145 and the designing of the expanding network of El Salvador public infrastructure.
- 3.4. Identify the type of services that need support and label priorities to considering the consumption and the condition whether there is any urgent demand. Provide an analysis of what is demanded today.
- 3.5. Identify how the population is distributed in terms of socio-demographic and economic conditions and discern conclusions on the implications that the composition of the population density may have in terms of the infrastructure deployment of the optical fiber ring for each member country.
- 3.6. The results of these studies will serve as the basis for the preparation of EL-L1145 and the designing of the expanding network of El Salvador public infrastructures.
- 3.7. Products:
- Analysis of the current demand for telecommunications services.
 - Analysis of the current supply of telecommunications services.
 - Document explaining how the population is distributed and which are the implications in terms of demand and supply.
 - Forecast of the demand for services, based on statistical methods, assuming that the improvement of infrastructure is complete, and considering the new services that may be provided once the optical fiber ring becomes available. The identification of the prioritized 2,500 public sites and the reason behind the selection
 - The identification of the prioritized 2,500 public sites and the reason behind the selection.

4. Expected Outcome and Deliverables

4.1 The expected deliverables are described below:

- Working Plan
- Draft Report
- Final Report

5. Reporting Requirements

5.1 The IDB will be the sole owner of all the products derived from this consultancy, including the rights of reproduction, distribution, dissemination, and publication of materials in all languages.

6. Acceptance Criteria

6.1 The firm will have extensive experience in the telecommunications sector, with Senior teams' members involved in projects in LC and other developing regions specific domain of domestic and international broadband infrastructure is required, including both terrestrial and undersea cables.

7. Other Requirements

7.1 The IDB will be the sole owner of all the products derived from this consultancy, including the rights of reproduction, distribution, dissemination, and publication of materials in all languages.

8. Supervision and Reporting

8.1 Supervision and coordination of the consultant's work will be the responsibility of Antonio Garcia Zaballos (IFD/CMF), Team Leader, antoniogar@iadb.org

9. Schedule of Payments

9.1 **Payments** will be made as per following schedule, upon approval by the Team Leader responsible for this TC.

Payment Schedule	
<i>Deliverable</i>	<i>%</i>
1. Upon approval Working Plan	30%
2. Upon approval of draft report, and	30%
3. Upon approval of final report	40%
TOTAL	100%

TERMS OF REFERENCE

PRE-FEASIBILITY STUDIES RELATED TO THE DEPLOYMENT: MARKET STUDY

[EL SALVADOR]

ES-T1335

<https://www.iadb.org/en/projects-search?country=§or=&status=&query=es-t1335>

1. Background and Justification

- 1.1 **Justification:** With the outbreak of COVID-19, the patterns of our entire lives are changing. The virus has transformed the world into a contactless society, where school education cannot be provided in person and meetings at work are conducted online. Recognizing the growing importance of the infrastructure, LACs are trying to upgrade the existing infrastructure and invest to connect rural areas to support the citizens with better public services on education and health sectors.
- 1.2 The current COVID-19 context highlighted the need to improve the connection of both health centers and schools for access and continuity of education and health in El Salvador. In El Salvador there are 5,400 schools of which 3,500 do not have any type of connectivity, and those who have it, suffer from constant network failures. The general objective of ES-L1145 is to increase the accessibility of their citizens to the public service.
- 1.3 El Salvador has one of the lowest mobile broadband penetrations (43%) in Latin America (65%). The main problems of this status are: (i) institutional and regulatory weakness; and (ii) low penetration both in connectivity and insufficient digitization in general public services. ES-L1145 will seek to increase access to fixed and mobile Broadband for the continuity of public services, considering the following existing limitations: (i) limited level of digital infrastructure; (ii) low level of digital skills and gender gap; and (iii) limited institutional capacity to overcome the current difficulties and bring positive effects to the economy.
- 1.4 As South Korea emerged from the Korean War in the mid-1950s, they were one of the world's poorest economies. But through decades of government interventions and investments in modern technology, the country has soared to become one of the most developed countries in the region. South Korea's transformation is the result of the government's ambition to speed transformation to the digital economy, and one of the most important factors which realized this was the "Government's vision for ICT." This is great implication to all 3 countries above who are preparing the expansion of existing broadband infrastructure to overcome the pandemic crisis and supply the citizens with equal public services they deserve.
- 1.5 With the experience of overcoming the economic and pandemic difficulties, there are plenty of aspects that countries can analyze and learn from the policies and institution development of South Korea. Since El Salvador is seeking for ways to strengthen the digital skills and capabilities of the civil workers and the citizens, South Korea, as one of the top countries in 2020 UN e-government ranking, will be a great example to study.

2. Objectives

- 2.1 The general objective of this Technical Cooperation (TC) is to support feasibility studies to improve the connectivity of public institutions and households in El Salvador. Particularly, these feasibility studies aim to support the current COVID-19 crisis by exploring market (including demography), forecasting demand, identifying the best technical routes, designing the network, preparing its specifications, and developing the technical, financial, and managerial studies of the network and its utilization. The TC will support EL-L1145. The best practice of Korean governments' use of ICT will be great practice model to be analyzed.

3. Key Activities

- 3.1. **Component 2: Technical Research.** The objective of this component is to identify and research for appropriate technology, efficient designing of a backbone network and technical assistance in bidding process.
- 3.2. The activities to be included in the research are:
- Best practice of Korea.
 - An analysis of the technical parameters to consider in the deployment of the infrastructure.
 - The selection of appropriate technologies and the stages of the deployment plan, including the structure of the network.
 - The implementation schedule definition.
- 3.3. Based on the market study conducted in component 1, an analysis of technical parameters to consider in the deployment project will be done in component 2. The selection of appropriate technologies and the stages of the deployment plan, including the structure of the network, and implementation schedule will be the main results of this component.
- 3.4. This activity will support the case study of Korean experience on connecting rural areas. By reviewing alternative technologies like wireless GHz, MHz alternative technologies to offer high capacity and long-distance communication, the activity will review possible technologies and equipment's to be used.
- 3.5. The result of this study will be supporting technical specification for EL-L1145.
- 3.6. Products:
- a. Best practice of Korea and suggestions to El Salvador government
 - b. Assessment of the current situation of Telecommunications Infrastructure
 - c. High level design (logic node diagram, interfaces)
 - d. Estimation of the expected traffic & capacity
 - e. Estimation of network configuration & deployment method
 - f. Analysis of technological alternatives
 - g. Deployment Plan and Implementation Schedule
 - h. Environmental and social impact assessment
 - i. Preparation of bidding process

4. Expected Outcome and Deliverables

- 4.1 The expected deliverables are described below:
- Working Plan
 - Draft Report
 - Final Report

5. Reporting Requirements

- 5.1 The IDB will be the sole owner of all the products derived from this consultancy, including the rights of reproduction, distribution, dissemination, and publication of materials in all languages.

6. Acceptance Criteria

- 6.1 The firm will have extensive experience in the telecommunications sector, with Senior teams' members involved in projects in LC and other developing regions specific domain of domestic and international broadband infrastructure is required, including both terrestrial and undersea cables.

7. Other Requirements

- 7.1 The IDB will be the sole owner of all the products derived from this consultancy, including the rights of reproduction, distribution, dissemination, and publication of materials in all languages.

8. Supervision and Reporting

- 8.1 Supervision and coordination of the consultant's work will be the responsibility of Antonio Garcia Zaballos (IFD/CMF), Team Leader, antoniogar@iadb.org

9. Schedule of Payments

- 9.1 Payments will be made as per following schedule, upon approval by the Team Leader, responsible for this TC (See item VI below).

Payment Schedule	
<i>Deliverable</i>	<i>%</i>
1. Upon approval Working Plan	30%
2. Upon approval of draft report, and	30%
3. Upon approval of final report	40%
TOTAL	100%