**COMBINED PROJECT INFORMATION DOCUMENTS / INTEGRATED SAFEGUARDS DATA SHEET (PID/ISDS)\nCONCEPT STAGE**

**Date Prepared/Updated:** 28-Jul-2016

**Report No.:** PIDISDSC16405

## I. BASIC INFORMATION

### A. Basic Project Data

<table>
<thead>
<tr>
<th>Country:</th>
<th>Peru</th>
<th>Project ID:</th>
<th>P157355</th>
</tr>
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<tbody>
<tr>
<td>Parent Project ID (if any):</td>
<td></td>
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**Project Name:** PE: Digital Inclusion Project (P157355)

**Region:** LATIN AMERICA AND CARIBBEAN

**Estimated Appraisal Date:** 11-Sep-2017

**Estimated Board Date:** 30-Nov-2017

**Practice Area (Lead):** Transport & ICT

**Lending Instrument:** Investment Project Financing

**Borrower(s):** MEF - Ministerio de Economía y Finanzas

**Implementing Agency:** FITEL, FITEL

**Financing (in USD Million)**

<table>
<thead>
<tr>
<th>Financing Source</th>
<th>Amount</th>
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<tr>
<td>Borrower</td>
<td>77.63</td>
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<tr>
<td>International Bank for Reconstruction and Development</td>
<td>70.00</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>147.63</td>
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</tbody>
</table>

**Environmental Category:** B - Partial Assessment

**Concept Review Decision:** Track II - The review did authorize the preparation to continue

**Is this a Repeater project?** No

**Other Decision (as needed):**

### B. Introduction and Context

**Country Context**

1. Peru is an upper middle income country with remarkable economic growth over the last
decade. Sound macroeconomic and structural policies over the last 20 years, supported by favorable external conditions over the last decade, rendered significant growth and poverty reduction. Peru grew at an average of 4.5 percent per year during 1990–2013 (compared to a regional and global growth of around 3 percent). Under a more favorable external environment for its commodities, Peru grew at an even faster average rate (above 6 percent per year) during the last ten years. Growth helped Peru to reduce poverty from 55 to 23 percent of the population between 2001 and 2014, faster than other countries with similar income levels. During the same period, the share of those living extreme poverty fell from 16 to 4 percent. Growth was also widely shared: between 2004 and 2013, real income per capita of the bottom 40 percent grew at an average rate of 6.8 percent, faster than the national average. Growth was the main driver of poverty reduction and inequality primarily through improved labor incomes rather than redistribution policies, and in the context of a smaller size of the state relative to other higher middle income countries.

2. Despite the recent gains in growth and poverty reduction, income disparities within the country remain pronounced, particularly between rural and urban areas. In 2014, the national poverty rate stood at nearly 23 percent, but in rural areas it was considerably higher (around 46 percent). Poverty is especially concentrated in highland rural areas (just above 50 percent in 2014). To address this, the Government has launched an ambitious development agenda designed to accelerate growth and improve equity by boosting productivity and eliminating social disparities.

**Sectoral and Institutional Context**

3. Limited individual usage of Information and Communications Technologies (ICT) and scarce ICT infrastructure are hampering economic development. The World Economic Forum, through its Networked Readiness Index 2015, identifies ICT Individual Usage and Infrastructure in Peru as main barriers for reaping the benefits of ICTs to promote economic growth and well-being. According to World Bank data, the broadband access gap between Peru and the rest of the region is growing, and in 2014, the number of fixed broadband and mobile broadband subscriptions per 100 inhabitants in Peru (5.7 and 17.8, respectively) were below regional averages (10.4 and 24.9 respectively).

4. Rural areas are less attractive to private investors to roll out telecommunications networks, which makes the case for public subsidies. Furthermore, penetration of Internet is dramatically lower in rural households compared to urban households. Less populated areas tend to be less attractive for private investors because the smaller density of potential customers makes it harder to recover the investment through user subscription and service fees. In addition, access to electricity, which is a key enabler for ICT infrastructure and services, remains a challenge in certain rural areas in Peru. According to World Bank data, in 2014 only 73 percent of rural population had access to electricity, while more than 98 percent of urban population in Peru and more than 87 percent of rural population in LAC had access to electricity. In Peru, about 21.7 percent of the population lives in rural areas, and half of it lives below the national poverty line.

5. To overcome these constraints, the Government of Peru is in the process of expanding broadband infrastructure across the country. The Government launched in December 2014 the National Fiber Optic Backbone Network (RDNFO after its name in Spanish), a project that plans to connect most provincial capitals of the country with a fiber optic network by end of 2016. Following the roll out of the National Network, the objective is to extend the broadband service to all district capitals in 21 out of the Peru’s 24 regions under similar arrangements. Thus, the Ministry of Transport and Communications (MTC) through the Technical Secretariat of the
Telecommunications Investment Fund (FITEL for its Spanish acronym) is in the process of developing broadband regional projects to connect all districts and serve final users in those districts where no reliable and affordable broadband service is currently being offered or expected to be offered in the medium term. These regional connectivity projects include the roll out of two network segments: a Transport Network, which will connect the RDNO from provincial capitals to district capitals, and an Access Network, which will provide final service in those districts where no reliable and affordable service is available. The Transport Network for these 21 regions, with an estimated total cost of US$561 million, will be fully financed by MTC and FITEL, and will replicate the scheme for the RDNO; that is, the infrastructure will be state-owned, built and operated by the private sector under a public-private partnership scheme. The Access Network, with an estimated total cost of US$670 million, will be cofinanced by FITEL and development partners, including The World Bank, under a similar public-private partnership scheme.

6. Connecting Government facilities in rural areas can spur the use of broadband. The WEF Networked Readiness Index 2015, identifies ICT Government Usage as the main demand trigger in Peru, ranking 70 out of 143 economies (with a score of 3.9 over 7 points), significantly above that on Business Usage (90th, with 3.4 points) and on Individual Usage (94th, with 3 points). Consequently, the Government strategy of connecting facilities such as schools, police offices, and health centers in rural areas could make broadband services accessible to a large share of the population.

7. Traditionally, extension of telecommunications infrastructure in rural and low income areas requires public funding. Far-fetched areas, low density locations, and/or low income areas are not commercially attractive for incumbent operators. In order to promote access to services in these areas, government support is required. FITEL, in fact, has been a pioneer in the use of ‣ smart-subsidies ‣ for telecommunications, linking subsidies to service delivery under an output-based aid scheme. Similar schemes have been implemented by many other governments in the region and included in several World Bank projects, since they do not crowd-out private sector and enable service provision in areas that would not be served under normal commercial incentives.

8. Experience shows that, without promoting the use of broadband as a catalyst for socioeconomic development, the bulk of investment in infrastructure will remain underused and inaccessible for some segments of the population. In particular, according to the International Telecommunications Union 2015 ICT Development Index, for the Skills subindex, Peru ranks 66 out of 167 economies, scoring 7.7 over 10; only 1 position and 0.30 points better than in 2010. Thus, the building digital skills pace could be increased to better serve the creation of digital outputs that can contribute importantly to socio-economic development. To address this lack of skills, a number of ICT training activities are being included in the regional projects being designed by FITEL, although more emphasis could be placed on specifically targeting girls and women in rural areas: in 2013, 6.9 percent of women 12 years old and above used Internet in rural areas, compared to 11.8 percent of men; whereas 61.2 percent of women 12 years old and above used mobile telephony, compared to 67.6 percent of men.

9. The use of new technologies and services that are enabled by broadband networks could help unlock the potential for development in rural areas. From sensors and unmanned aerial vehicles to remote microwork and open development initiatives (from open software and open hardware to open data) technologies that can be extended to previously isolated communities through broadband networks can help unlock the potential economic growth that broadband
conveys. Drones have been used in Indonesia to assess infrastructure and help in disaster readiness, while in Tanzania they have helped map previously unchartered informal urban areas. Open data initiatives in Mexico have helped reduce crime in urban areas, and developers from all over the world have competed to create valuable applications out of data published by governments across the globe. Access to telecommunications services has increased participation of women in the labor force in many countries. In the case of rural areas, as expected, complementing activities that foster these applications are needed.

10. In the case of Open Data, there are already existing initiatives in Peru that could help extend its benefits in rural areas. Since the publication of the Open Data Readiness Assessment carried out by the World Bank in 2010, different government entities have started initiatives related to it: the Prime Minister’s Office has launched an Open Data strategy, the region of La Libertad is testing its Open Data portal, and the municipalities of San Isidro and Miraflores have launched their open data portals. Open data contributes not only to transparency and accountability, but it can also spur an improvement of public service delivery through innovative use of the data by entrepreneurs, as proven in other countries.

Relationship to CAS/CPS/CPF

11. The proposed Project is fully aligned with the WBG Country Partnership Strategy for the period FY12-FY16 and the Peru Performance and Learning Review, particularly with regard to supporting Pillar 2: Connecting the Poor to Services and Markets. The Project will contribute to reduce the telecommunication gap and integrate the poor, particularly those living in rural areas, to the network of social services and local markets. Peru has one of the lowest broadband penetration in Latin America and universal access to telecommunications services has not been achieved limiting the opportunities of using technologies for the poor. Fixed broadband Internet penetration (2.7 percent in 2014) remains significantly lower than the Latin American regional average (10.4 percent). Expansion of broadband networks in rural areas will probably increase accessibility and the affordability of broadband services.

C. Proposed Development Objective(s)

Proposed Development Objective(s) (From PCN)

12. The proposed Development Objective is to (i) increase access to broadband services in selected rural areas of the country, and to (ii) improve livelihoods and foster economic development in selected rural areas through a better use of technology.

13. The PDOis consistent with The World Bank twin goals. The recent World Development Report 2016 (WDR16) on Digital Dividends stresses the fact that uneven access to digital technologies, mainly broadband, may exacerbate inequalities within citizens, especially in lower income segments of the population. This project is specifically aimed at bringing rural areas, which represent the lowest income levels in the country, to the digital world by connecting them with reliable and affordable high speed networks.

Key Results (From PCN)

Indicator 1: District Capitals connected to the National Fiber Optic Backbone Network. The Access Network financed under Component 1 will provide broadband access to approximately 195 district centers, benefiting approximately 625,000 people.

Indicator 2: Number of public entities connected to the National Fiber Optic Backbone Network.
Component 1 will also connect schools, health centers, and police stations in benefited districts.

16. Indicator 3: Number of services created/improved by leveraging broadband connectivity. Once rural districts are connected, information should be made available and costs of creating and transmitting new information should also drop significantly. Component 2 will help create and improve existing information systems to improve both productivity of the population and public service delivery.

D. Concept Description

17. The project will extend the benefits of the RDNFO to rural districts that currently do not have access to broadband services. The RDNFO is currently connecting 190 provincial capitals across the country under a wholesale approach. The Transport Network component of each regional project extends the fiber optic network to all districts capital, also under a wholesale approach. The Access Network component of each regional project (funded in part through this project) will provide final services to rural population and connect specific Government entities (schools, health centers, and police stations).

18. Additionally, the project will identify specific opportunities to harness the potential economic value of access to broadband. Through relevant, tailor-made contents, the project will catalyze the benefits that access to broadband provides to rural population, following the main recommendations of the recently published WDR 2016 on Digital Dividends.

19. The project will consist of three components:


20. This component will finance the Access Network in districts that currently do not have access to broadband service and will connect public entities. It is estimated that the Access Network will benefit approximately 195 district capitals, with a total population of approximately 625,000. Additionally, the access network will provide broadband service to approximately 864 schools, 352 health centers, and 97 police stations.

21. The government has requested the Bank to support this project in selected regions, which initially are Arequipa, La Libertad, and Pasco. The selection of these regions has been the result of a combination of criteria, including but not limited to the relative size of the expected investments required, the availability of funds under FITEL and other government sources, and current FITEL’s pipeline of regional projects.

22. Once the Access Network is built, all districts in the three regions will be available to any third party under a cap price, regulated by the Government. Similarly, the Access Network retail services will also be subject to a cap price, ensuring that rural populations find it affordable.

23. The infrastructure will be built and operated under a PPP model that has proven to be successful in other rural telecommunications projects. Serving rural areas that pose high costs and low revenues are not commercially attractive. Hence, a standard practice in rural telecommunications is to implement a smart subsidy process that minimizes the chances of
private sector crowding out while at the same time guarantees service provision in these areas. The project will be tendered under a technology neutral, reverse auction subsidy model. In essence, this means that the Government will provide operators (existing or new ones) with the requirements in terms of coverage, quality of service, price cap, and safeguards, and will award the contract to the technical compliant operator that requests the lowest subsidy. Subsidies are then paid in installments according to the operator meeting specific targets over certain period of time. FITEL has extensive experience in designing, tendering, and implementing PPP projects, particularly in rural areas; and such experience is often regarded by international experts as a good practice to expand broadband connectivity in unserved and underserved areas.

24. The proposed model intends to make the Access Network sustainable over time. The idea of a one-time subsidy divided in tranches over time is that even though during the first years the subsidy will cover capital expenses and some operational losses, it is expected that over time the Access Network will be profitable.

Component 2 ➢ (Digital Contents and Skills (IBRD: US$2.5 million))

25. Activities under this component are aimed at leveraging the connectivity provided by the Access Network to realize economic benefits to rural beneficiaries through content creation and capacity building. Following some of the recommendations from the World Development Report 2016, this component intends to introduce some of the analogue complements to digital development that increase the opportunities for economic development in rural areas. In particular, this component would include:

a. Rural Open Data Platform (US$ 500,000). This activity will support FITEL in the creation of a web platform for rural open data. This platform will publish information regarding rural areas to the public, as well as gather information generated by the project (and from other regions) to support rural development. Among others, this activity will carry out an Open Data Readiness Assessment for Rural Telecommunications and organize co-creation events to develop application and content that benefits rural population in the three regions.

b. Digital Applications for public service delivery in rural areas (US$ 1,000,000). This component will support the creation of applications, content, and digital services that will benefit different segments of rural population and local governments. In general, the proposed activity will leverage existing information to improve the performance of small businesses and improve the quality of public service delivery in rural areas. For example, in agriculture intensive areas, the project could design services that provide access to relevant content (soil treatment, harvesting, retail prices of crops, etc.), and at the same time could provide local governments with real time information from citizens through the entities that have been connected by the project.

c. Digital Skills relevant for rural areas (US$1,000,000), with emphasis on public officials, seniors, and women. In order to allow rural communities to reap the benefits of access to digital technologies, this component will include training courses that are relevant to rural areas. Even though these training courses will be offered to the broad population, the project will pay special attention to segments of the population that have been traditionally excluded from digital services (seniors, women, etc.), as well as specialized training for public officials working in the public entities that will be connected.
Component 3 ➢ Implementation Support (IBRD: US$1,500,000)

26. This component will support FITEL administer and coordinate project implementation, including supervision costs and capacity building. The component includes support for the implementation, monitoring and evaluation of the Project’s activities, including project audits, dissemination of project progress to relevant stakeholders, and the carrying out of impact evaluation surveys. The project will also carry out capacity building activities for the benefit of relevant stakeholders, including participation in knowledge exchange activities.

27. This component will support the following:

a. Core Project implementation staff, including a Procurement Specialist, a Financial Management Specialist, a Project Accountant, and two Safeguards Specialists (environment and social) to support Project preparation and subsequent implementation.
b. Logistic support for implementation and supervision as needed (PCs, office equipment, operating costs, audits, and communication support).
c. Monitoring and Evaluation (M&E) consultant and surveys to support indicator data collection for the various components.

II. SAFEGUARDS

A. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The project will support the last mile access connectivity wireless infrastructure to be deployed within most district capitals of the selected regions, comprising highlands, upper amazon and coasts. The technology used to deploy the telecommunications access wireless network in these regions will be proposed by the bidders taking part in a technology neutral tender process. Thus, it is expected that bidders propose to install some kind of antennas, for which either existing passive infrastructure could be reutilized at the criteria and risk of the bidder, but in most cases the buildout of a few telecommunications towers would be needed.

Among the inhabitants of these region there are Indigenous communities (e.g., in the highlands of Pasco and Arequipa as well as the Upper Amazon of Pasco), and these are expected to benefit from the project. For this reason OP 4.10 Indigenous Peoples is triggered.

Some towers will need to be constructed as well as access roads and these may entail the use of rights of way, compensation payments as well as small land acquisitions, and for these reasons OP 4.12 Involuntary Resettlement is triggered.

B. Borrower’s Institutional Capacity for Safeguard Policies

The implementing agency (FITEL) does not have a team specialized and dedicated to managing social and environmental project aspects. The institutional capacity of FITEL for dealing with environmental and social safeguard issues is limited. Currently, there is not a social and environmental team to assure the Bank’s and national compliance of environmental and social safeguards preparation and implementation. Nevertheless, FITEL will incorporate social and environmental specialist(s) as part of its core staff to strengthen its capacity to comply with World Bank safeguards policies during the project preparation and implementation. The World Bank task team will provide guidance and support to FITEL to comply with the World Bank safeguards policies during project preparation and subsequent implementation.
C. Environmental and Social Safeguards Specialists on the Team  
Alonso Zarzar Casis (GSU04)  
Ximena Rosio Herbas Ramirez (GEN04)

D. POLICIES THAT MIGHT APPLY

<table>
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<th>Safeguard Policies</th>
<th>Triggered?</th>
<th>Explanation (Optional)</th>
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<tr>
<td>Environmental Assessment OP/BP 4.01</td>
<td>Yes</td>
<td>No significant adverse impacts are expected to result from any of the project components as the broadband wireless access network will be wireless and only few towers are likely to be needed. The broadband transport lines will use existing infrastructure from the electricity network. As there is insufficient detail available to assess and address specific impacts and, the location of passive infrastructure (e.g., the towers) and access lines have not been identified yet, an Environmental and Social Management Framework (ESMF) that will contain references to the World Bank Group Environmental Health and Safety Guidelines on Telecommunications, will be prepared with procedures to assess the environmental and social impacts, measures to reduce and mitigate the potential impacts, provision for estimating and budgeting the cost of such measures, and the responsible agencies for addressing project impacts.</td>
</tr>
<tr>
<td>Natural Habitats OP/BP 4.04</td>
<td>TBD</td>
<td>While the project will not lead to loss of natural habitats, the final decision on triggering this project will be taken, during implementation, once more information is available regarding the passive infrastructure to support the wireless access network. The ESMF will include screening for impacts and measures to address these impacts including not supporting new infrastructure construction that will degrade or convert critical natural habitats.</td>
</tr>
<tr>
<td>Forests OP/BP 4.36</td>
<td>TBD</td>
<td>While it is expected that not major new infrastructure will be constructed and all the project components will use existing infrastructure, the final decision on triggering this policy will be taken after more information becomes available on the exact location of the passive infrastructure to support the wireless access network infrastructure lines.</td>
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<tr>
<td>Pest Management OP 4.09</td>
<td>No</td>
<td>This policy should not be triggered given that the project’s activities will not include/support the use of pesticide.</td>
</tr>
<tr>
<td>Physical Cultural Resources</td>
<td>TBD</td>
<td>The project is not expected to will not construct</td>
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**OP/BP 4.11**

| Major New Infrastructure | Peru has a rich cultural heritage particularly in the Andean region, and therefore final decision on triggering this policy will be taken after more information becomes available on the exact location of the passive infrastructure to support the wireless access network lines. The ESMF will include clear procedures for reviewing locations for physical cultural resources issues and how to manage chance finds in accordance with WB policy and the national legislation. |

**Indigenous Peoples OP/BP 4.10**

| Yes Indigenous communities in the project areas are expected to benefit from the project. Due to the final route in the selected regions will not be known before appraisal, the borrower will prepare an Indigenous Peoples Planning Framework which will be consulted prior appraisal- to ensure adequate involvement and benefits to Indigenous Peoples in project areas. Potential land acquisition and the use of existing right of ways may affect indigenous lands. The social assessment and IPPF will guide the preparation of IPPs that will delineate, amongst others the mechanisms to attain broad community support. |

**Involuntary Resettlement OP/BP 4.12**

| Yes The construction of towers and access to network infrastructure lines may entail the use of right of ways and small land acquisitions. For these reasons this policy is triggered. No physical displacement of persons or assets is expected. The project will try to make use of existing electricity infrastructure for routing, thus minimizing impacts and payments for rights-of-ways. The borrower will prepare a Resettlement Policy Framework before appraisal. |

**Safety of Dams OP/BP 4.37**

| No This policy is not triggered as the Project will neither support the construction or rehabilitation or dams nor will support other investments which rely on services of existing dams. |

**Projects on International Waterways OP/BP 7.50**

| No This policy should not be triggered as the Project will not finance activities involving the use or potential pollution of international waterways. |

**Projects in Disputed Areas OP/BP 7.60**

| No This policy should not be triggered as the Project will not finance activities in disputed areas as defined in the policy. |

**E. Safeguard Preparation Plan**

1. **Tentative target date for preparing the PAD Stage ISDS**
2. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the PAD-stage ISDS.

August 15, 2017

III. Contact point

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Contact: Arturo Muente Kunigami
Title:
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Title: Consultant

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V. Approval

<table>
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<tr>
<th>Task Team Leader(s):</th>
<th>Name: Doyle Gallegos, Arturo Muente Kunigami, Pau Puig Gabarro</th>
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<tbody>
<tr>
<td>Approved By</td>
<td></td>
</tr>
<tr>
<td>Safeguards Advisor:</td>
<td>Name: Maria Elena Garcia Mora (SA) Date: 29-Jul-2016</td>
</tr>
<tr>
<td>Practice Manager/</td>
<td>Name:</td>
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<tr>
<td>Manager:</td>
<td>Date:</td>
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1 Reminder: The Bank’s Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.