



**The World Bank**

Rural Water and Energy Access Project (P161731)

**Note to Task Teams:** The following sections are system generated and can only be edited online in the Portal.

# Project Information Document/ Integrated Safeguards Data Sheet (PID/ISDS)

---

Concept Stage | Date Prepared/Updated: 10-Jul-2017 | Report No: PIDISDSC21125

**BASIC INFORMATION****A. Basic Project Data**

Country Bolivia	Project ID P161731	Parent Project ID (if any)	Project Name Rural Water and Energy Access Project (P161731)
Region LATIN AMERICA AND CARIBBEAN	Estimated Appraisal Date Sep 06, 2017	Estimated Board Date Oct 26, 2017	Practice Area (Lead) Water
Financing Instrument Investment Project Financing	Borrower(s) Plurinational State of Bolivia	Implementing Agency Ministry of Environment and Water (MMAyA) / Vice-Ministry of Drinking Water and Basic Sanitation (VA, Unidad Coordinadora de Proyectos, Minister of Energy, Programa de Electricidad para Vivir con Dignidad (PEVD)	

**Proposed Development Objective(s)**

The Project Development Objective (PDO) is to improve access and reliability of drinking water supply and clean energy services for underserved and low-income population in water scarce rural areas

**Financing (in USD Million)**

Financing Source	Amount
International Bank for Reconstruction and Development	50.00
<b>Total Project Cost</b>	<b>50.00</b>

Environmental Assessment Category B-Partial Assessment	Concept Review Decision Track II-The review did authorize the preparation to continue
---	--

**Note to Task Teams:** End of system generated content, document is editable from here.



Other Decision (as needed)

## B. Introduction and Context

### Country Context

**Bolivia made important economic and social progress during the commodity boom.** In 2015, the population of Bolivia stood at approximately 11 million; 31 percent of which lived in rural areas. Boosted by gas and mining exports and rapidly increasing public investment, economic growth averaged roughly 5 percent per year between 2004 and 2014. High economic growth, high commodity prices, and a dynamic domestic demand increased the average income from US\$920 in 2003 to US\$3,000 in 2015<sup>1</sup>. This improvement was especially pronounced for the bottom 40 percent of the population, who saw their incomes increase more rapidly than the non-poor population. As a result, the national poverty rate declined from 63 percent in 2002 to 39 percent in 2014; and extreme poverty saw an even faster decline from almost 39 percent in 2002 to 17 percent in 2014.

**Although macroeconomic buffers have helped to cushion the effect of lower commodity prices on economic growth, sizable macroeconomic imbalances have emerged and the new external context may jeopardize the trend of poverty reduction.** High dependence on commodity exports renders the economy vulnerable to downturns in export prices or international demand for such exports. In this context, GDP growth has decreased from a peak of 6.8 percent in 2013 to 4.3 percent in 2016 although the Government of Bolivia (GoB) tried to expand domestic demand, and low export prices and expansionary policies have resulted in sizable current account and fiscal deficits, which reached 5.5 and 6.6 percent of GDP in 2016 respectively. Poverty and inequality have stagnated since 2013 as labor income in sectors that employ the poor (agriculture, mining, and construction) saw little or no growth. These new patterns could constrain the reduction of poverty and extreme poverty. About 45 percent of the poor and 62 percent of the extremely poor live in rural areas. The rural population in Bolivia, especially those from indigenous heritages, still face chronic poverty, and are highly vulnerable to climate shocks and food insecurity, and lack basic services (water, sanitation, and electricity) and transport infrastructure.

**Bolivia is highly vulnerable to the impacts of climate change.** The retreat of glaciers, and the occurrence of more frequent and intense extreme weather events<sup>2</sup>, such as floods in the lowlands in 2013, and the drought in 2016 have severe impacts on the welfare of Bolivia's population and its economy. In November 2016, the Government declared a state of emergency for 7 of the country's 9 departments – with 51 percent of the country's municipalities were affected by the current drought. More than 80 percent of the affected municipalities mentioned agricultural damages and another 34 percent experienced livestock losses.

### Sectoral and Institutional Context

**Water.** Bolivia is well endowed with renewable water resources, but their spatial distribution does not match the population distribution across the country, resulting in significant water scarcity in the Altiplano and inter-Andean valleys where two thirds of the country's population resides. In addition, water quality has deteriorated significantly in recent years due to extensive mining, urbanization without sufficient planning (including solid waste collection), rapid deforestation, overuse of pesticides, overgrazing and the subsequent land degradation

<sup>1</sup> Atlas method

<sup>2</sup> Between 2003 and 2012, 6,800 floods and drought events affecting 700,000 people were registered



Access to improved water supply services (as defined for the Millennium Development Goals) increased from 68 percent in 1990 to 85 percent in 2015. Progress was also made during the past decade in reducing the gaps in service provision between rural and urban areas, as access to improved water in rural areas increased to 66 percent in 2015. The service gap between poor and rich are nevertheless still considerable in rural areas, especially in those areas with small, dispersed populations. Progress on the sanitation front has been slower; access to sanitation in rural areas increased from 28 percent in 1990 to only 50 percent in 2015. Open defecation declined over the same period from 46 to 17 percent though.

The water and sanitation sector is made up of many institutions. The Ministry of Environment and Water (MMAyA) and its Vice-Ministry of Drinking Water and Sanitation (VAPSB) are the sector authorities responsible for water and wastewater policies, technical standards and norms, and budgeting for sector investments when these are prioritized by the central government. The provision of WSS services is the responsibility of municipal governments. In rural areas, water services are managed by Community WSS Committees (CAPyS) while in the case of individual household solutions like rainwater harvesting a more household based management approach is used. The *Autoridad de Fiscalizacion y Control Social en Agua Potable y Saneamiento (AAPS)* is the agency that regulates the provision of water services and awards the authorization to service providers (EPSAS and CAPYS in rural areas). The sector investment program is implemented by several national entities, including: the *Entidad Ejecutora de Medio Ambiente y Agua (EMAGUA)*, the *Fondo de Inversion Productiva y Social (FPS)*, and the *Unidad Coordinadora de Programas (UCP)*, while the *Servicio Nacional para la Sostenibilidad de Servicios en Saneamiento Basico (SENABSA)* is tasked with improving the institutional capacity of the CAPYS and implementing community development programs in WSS Projects.

**Energy.** The power sector in Bolivia is dominated by the state-owned *Empresa Nacional de Electricidad (ENDE)*. It was unbundled into generation, transmission and distribution and privatized in the 1990s, to be re-nationalized in 2010 (generation) and 2012 (transmission and distribution). Bolivia's electricity sector is composed of a National Interconnected System (SIN by its Spanish acronym) and isolated systems, and its generation is mainly driven by gas-fired generation (71 percent) and hydro-power (29 percent). ENDE generates 75 percent of the electricity; 67 percent of the transmission system is in public hands; and half of the distribution companies are public. The system operator is the *Comite Nacional de Despacho de Carga (CNDC)* which is also responsible for tariff setting. Tariffs do not cover the actual operating cost and are highly subsidized.

Electricity coverage in rural areas is among the lowest in Latin America and achieving universal access represents a major challenge. In 2015, 87 percent of Bolivian households had access to electricity; with access standing at 97 and 68 percent in urban and rural areas respectively. Although, electricity coverage in rural areas increased from 33 percent in 2005 to 68 percent in 2015 there are still remote areas with very low access to basic energy services. The use of kerosene lamps, candles and batteries represent the major sources of energy in these remote areas. These sources of energy generate health risks associated with air pollution and solid waste generation. They also generate significant costs to households given the relatively low efficiency of these energy sources. The potential for solar energy in the inter-Andean valleys and the Bolivian Altiplano is high. Solar radiation in the area lies between 4 to 7 KWhm<sup>2</sup>/day. Previous projects with solar systems have proven to produce sufficient amounts of electricity for lighting, radio and the charging of cellphones.

The Vice Ministry of Electricity and Alternatives Energy (VMEEA), which reports to the Ministry of Energy (ME), is the institution responsible for rural electrification and renewable energy. Its responsibilities include delineating electricity sector policy and strategy for planning and monitoring, setting technical regulations and quality of service standards, and developing new programs that support the access to electricity agenda and foster the use of renewable energy. The Rural Electrification Regulation (approved by Supreme Decree No. 28567/2005) provides the legal framework to support renewable energy development. The VMEEA's General Directorate of Alternative Energy (DGEA) is responsible for rural



electrification and alternative energy project implementation. The *National Electricity Plan 2014-2025* aims at achieving 100 percent electricity access by 2025 and 79 percent of renewable generation by 2030. The *Living with Dignity Electricity Program (Programa Electricidad para Vivir con Dignidad - PEVD)*, the electricity access program implemented under the VMEEA, focuses especially on the provision of electricity services (through the grid) to rural and urban populations<sup>3</sup>.

In January 2013, the GoB launched the *2025 Patriotic Agenda* – a national plan which establishes medium-term policy objectives aimed at eradicating extreme poverty and translating the country's increasing economic prosperity into well-being in local communities. In 2015, the Government launched the Economic and Social Development Plan (PDES) that operationalizes the Patriotic Agenda for the period between 2015 and 2020. The PDES aims to increase access to secure water to 80 percent in 2020 and increase sanitation and electricity coverage in rural areas to 60 percent and 90 percent respectively in 2020. The Patriotic Agenda constitutes the basis for a series of ambitious government programs<sup>4</sup> including *Cosechando Agua Sembrando Luz* that was approved in 2015. This program aims to provide access to water supply and energy to populations in rural dispersed areas (representing 68 percent of the total rural population in 2015) facing conditions of poverty or extreme poverty (as per the GoB's poverty classification) and where access to water supply and energy coverage significantly lags that of other rural populations (less than 50 percent). Since 2015, MMAyA expanded the program to promote water harvesting not only for drinking water uses and include water supply technologies beyond rainwater harvesting to ensure the program's national scope. The GoB has currently funding secured from FONPLATA (US\$ 10 million earmarked for water supply and electricity) and the Italian Development Corporation (US\$ 28 million earmarked for rural water supply only).

The proposed Rural Water and Energy Access Project will be implemented under the “Cosechando Agua Sembrando Luz” program. The Bank project will provide rainwater tanks (and other solutions that are appropriate for dispersed and remote populations) and solar panels to around 7,200 households, 220 schools and 220 health posts.

#### Relationship to CPF

The proposed Project will contribute to the achievement of higher level objectives of the Government of Bolivia and the World Bank. The Patriotic Agenda (2015-2025) focuses on providing universal access to basic social services, including water supply and electricity by 2025. The Project would help the GoB to meet its Nationally Determined Contribution (NDC)'s targets of increasing participation of renewable energy by 79 percent in 2030 and achieving 100 percent drinking water and electricity coverage by 2025.<sup>5</sup>

The most recent World Bank's Country Partnership Framework (100985-BO) for Bolivia is fully aligned with the Government's NDP. The CPF is organized around two pillars: (i) *promoting broad-based and inclusive growth*; and (ii) *supporting environmental and fiscal sustainability and resilience to climate change and economic shocks*. Support for key infrastructure is a core part to share prosperity. Improved access to water, sanitation and electricity services in rural areas will help to improve social inclusion and poverty reduction (Pillar 1) as the ISHES survey has showed that the poor suffer more from lack of access to these basic services. By addressing inadequate access to basic services, the Project supports the Bank's Twin Goals. Access to water and electricity services also provides poor households with better health outcomes and also allows them to undertake more productive activities, while also enhancing their resilience to

<sup>3</sup> Between 2006 and 2010, PEVD connected 210,000 rural and 460,000 urban households to the electricity grid.

<sup>4</sup> Other government programs include 'MI Agua' to improve access to water and wastewater services; and 'Plan Vida' that supports poor communities in Cochabamba and Potosí through promoting initiatives that increase income.

<sup>5</sup> <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Bolivia/1/INDC-Bolivia-english.pdf>



climate change (Pillar 2) by increasing the use of scarce water resources more optimally and by creating a cleaner and diverse energy matrix through the use of solar panels.

### C. Proposed Development Objective(s)

**Note to Task Teams:** The PDO has been pre-populated from the datasheet for the first time for your convenience. Please keep it up to date whenever it is changed in the datasheet.

The Project Development Objective (PDO) is to improve access to water and clean energy services for the rural poor in selected areas and promote hygiene behavior changes at the community and household level.

#### Key Results (From PCN)

Key PDO indicators will be:

- Direct project beneficiaries (number), of which female beneficiaries (percentage) (core indicator)
- People provided with access to improved water sources (number, core indicator);
- People provided with access to electricity (number, core indicator);
- Percentage of targeted people that practice hygiene behavior at key times, disaggregated by gender;

### D. Concept Description

The government's Patriotic Agenda 2025 aims to achieve universal water and sanitation coverage, and electricity access by 2025. These goals are fully aligned with the newly defined SDGs. The GoB has asked the Bank to fund four Projects related to water: (i) a Project to provide water and wastewater services in peri-urban areas and small towns; (ii) a Project that fund improvements in wastewater treatment; (iii) a Project to provide household irrigation in dispersed areas, that will also be implemented in areas outside the Altiplano; and (iv) the proposed Project to improve access to water and energy in remote rural areas.



The Ministry of Planning and Development used a set of criteria, including poverty level, food insecurity and lack in access to basic services to select 216 communities with less than 500 inhabitants in 43 prioritized municipalities in the inter-Andean valleys of Cochabamba, Chuquisaca, Oruro and Potosi to participate in the proposed Project. The area of intervention is characterized by a very mountainous geography with steep slopes and narrow valleys with little groundwater resources and rivers with high seasonal variation which, in the upper part of the river basins, run dry during winter months. Average annual precipitation varies between 400 and 700 millimeters (mm). Climate risks in these regions are high and increasing. The start of the rainfall season is highly variable and hard to predict, droughts are frequent and occurring hail events threaten agricultural production. The expected beneficiaries of the Project are poor indigenous households, depending on subsistence agriculture. The selected communities of the Project are remote and often not accessible by vehicles. The Project will provide households in these remote areas with roof water harvesting systems (which is a measure to adapt to climate change) and solar energy household systems. Many of these areas have not been subject to development interventions, since access to them is time-consuming and costly. To lower high implementation costs, the Project will enter these communities simultaneously, use standardized designs and modules, including implementation guidelines. The designs and construction techniques will be based on experiences gained in similar environments. Accompanying technical assistance packages will focus on the use and maintenance of the household based solar home systems and roof water harvesting systems, training in hygiene and basic sanitation.

The Project will be funded as an Investment Project Financing of US\$ 50 million.

#### **Component 1: Investments in Drinking Water Infrastructure (US\$ 37 million)**

**Sub-Component 1.1: Investments in Water Infrastructure (TBD).** This component will improve access to safe drinking water for households during the dry season. To provide a minimum of 10 liters per day per person to an average family a cistern of 10 cubic meter ( $m^3$ ) is needed to capture the runoff of a roof with a minimum area of 23 square meter ( $m^2$ ). Thatched roofs are going to be converted with the support of the Project to tile or calamine roofs. To guarantee drinking water quality, the system includes filters to increase water quality and improve odor and taste. Analyzing different water storage options, cisterns made of reinforced concrete have initially been proposed by MMAyA. MMAyA and FAO successfully constructed these types of tanks in the Project region<sup>6</sup>. The cost of this solution is US\$ 4,688 per family. This includes the cost of the tank (US\$ 2,881) and the cost for corrugated metal sheets to improve the existing thatched roofs. The rainwater harvesting systems will also be installed in schools and health posts in selected communities. More cost-effective technologies will be investigated during preparation. The infrastructure, roof improvements and tanks which will be financed by the Project, will be transferred to the beneficiaries, who will be in charge of the O&M.

**Sub-Component 1.2: Capacity Building and Community Development (TBD).** This sub-component will develop the municipal, community and household organization and skills needed to plan, organize, facilitate the implementation, and manage individual household solutions in highly dispersed communities. It will also promote behavior change at community and household levels. The sub-component will be implemented through ‘investment packages’ that will include both the infrastructure (civil works) and community development components. The latter sub-component that will provide:

- Community mobilization for households to express their willingness to participate in the Project and be aware of their responsibilities to operate and maintain their water services;
- Technical assistance to community and household organizations to organize and develop the skills to manage and

<sup>6</sup> <http://www.fao.org/americanas/noticias/ver/es/c/294743/>



maintain individual household services, including the development of basic technical skills to repair and maintain the improved infrastructure;

- Technical assistance to municipal governments to facilitate the identification of households that will benefit from the Project –this task will be made in coordination with the community organizations following their well-established and traditional communication and decision-making processes-.
- Technical assistance to the municipal governments to provide backstopping in the operation and maintenance of household water services, and improve their resilience to climate change;
- Behavior change promotion at community and household levels to adopt improved hygiene practices including safe storage and water treatment at household level;
- Demand generation for household sanitation services. Increasing access to improved sanitation is a challenge particularly in rural dispersed communities living in the highlands and upper valleys of the country. Previous interventions with Ventilated Improved Pit (VIP) and ecological latrines did not yield the expected results with households going back to open defecation or use of unimproved latrines. The Project will aim to generate informed demand for sanitation services for a forthcoming sanitation Project the Bolivian Government is planning to fund with other donors.

### **Component 2: Investments in Electricity Infrastructure (US\$ 9.5 million)**

***Sub-Component 2.1: Investments in Electricity Infrastructure (TBD).*** This component would finance sub-projects to provide electricity services to households in rural areas and villages. The remoteness of the selected communities and the disperse settlements do not allow for an expansion of the electricity grid as these solutions are too costly in remote rural areas, and therefore the component will focus on the installation of photovoltaic systems. VMEEA estimated the average electricity demand for rural families at 90 W/h per day. This level of consumption would allow the use of two LED lights, a cell phone charger, a radio and a small LCD TV running on 12V. Further design criteria focus on the transportability of equipment to remote areas, easy installation (modular and ready to use -so called plug and play), battery with high electric density and efficiency, and low maintenance requirements. Solar home systems that meet these criteria cost an estimated US\$ 690 per household. This includes the price for an additional battery to be replaced in the fifth year of usage and an additional controller to be replaced in the seventh year. Once the photovoltaic panels will be installed, the project will transfer ownership of the solar energy equipment to the Municipality, which will sign a contract with the distribution company to carry out the operation, maintenance and replacement of the parts of the systems.

***Sub-Component 2.2: Capacity Building and Community Development (TBD).*** This component that will require consultant services and will include:

- Community mobilization for households to express their willingness to participate in the Project and be aware of their responsibilities to install and maintain their electricity services;
- Technical assistance to transfer sub-Project ownership to the local government provided the operation and maintenance is outsourced to a trained local community/agent, or micro enterprise, or distribution company.
- Technical assistance to households to install and maintain solar home systems using a gender-sensitive approach;
- Consultancy to operationalize the strategy the sector is preparing to ensure the sustainability of the services provided by the home solar systems;

The activities under Component 2 will be designed based on the implementation status and lessons learned from the BO Access and Renewable Energy Project (P127837). Given the similarities between the two Projects, and in order to take advantage of potential synergies, close coordination between the two Projects will be essential at both government and



Bank's level.

**Component 3: Project Implementation and Monitoring Component (US\$ 3.5 million)**

This component will fund the operation costs of the UCP and PEVD to coordinate, implement, supervise and monitor the two Project components. This component will also undertake program impact monitoring using a combination of initiatives that include the recently initiated baseline study that will sample a number of participating communities (and determine their current water, hygiene and energy behaviors), and measure progress in implementation and impact. It will also support the implementation of the Rural Water Supply and Sanitation Information System (SIASAR). Data for the information system will be collected in target municipalities to strengthen the capacity of VAPSB, SENASBA and municipal governments to plan and monitor water supply and sanitation service delivery.

**Note to Task Teams:** The following sections are system generated and can only be edited online in the Portal.

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

The borrower has conducted a Social Assessment (SA) that includes gender and intercultural approaches and analyzes particular socio-cultural issues in the areas where the proposed project will be implemented. Given that Indigenous Peoples are the overwhelming majority of direct project beneficiaries, the elements of an IPP will be included in the overall project design, and a separate IPP is not required. The elements of an IPP have been included in the overall project design. Land tenancy, assets and economic incomes of beneficiaries will not be affected; therefore, involuntary resettlement and land acquisition are not expected and OP 4.12, has not been triggered. Although the project does not present significant negative impacts, in order to ensure compliance with the World Bank environmental policies and safeguards, an Environmental and Social Management Framework (ESMF) will be prepared. The ESMF will identify geographically potential sites where projects will be developed (municipalities) and will assess potential socio-environmental impacts and measures to mitigate them (flora, fauna, soil, social, etc.) The ESMF will define all the needed requirements in order to comply with the WB policies and safeguards and the Bolivian regulatory framework. Also, extensive stakeholder consultation will take place during project preparation, and will continue through implementation. The ESMF will include an Environmental Management Plan that will be submitted to the contracting companies at the time of the submission of proposals. With regards to home photovoltaic systems, the final disposal of the waste will be coordinated with the municipalities.

Also, in compliance with Bolivian environmental regulations, before the execution of any work or project, the environmental license must be obtained from the environmental authority. The Environmental Law and its regulations have provided mechanisms to ensure the environmental management of programs and projects similar to the Rural Water and Energy Access Project. Although the electricity sector does not have an Environmental Regulation, Supreme Decree No. 27173 of Sept. 15, 2003, establishes that the extension of electric lines, densification of the electric service, subject to certain restrictions; and the photovoltaic systems without any restriction, are recognized as Category 4. The foregoing means that in order to obtain their environmental license, they only require the approval of a Certificate of Dispensation.

**B. Borrower's Institutional Capacity for Safeguard Policies**



Institutional capacity for social and environmental safeguards will be evaluated during the preparation of the social and environmental safeguard instruments. Specific recommendations will be addressed before Appraisal.

### C. Environmental and Social Safeguards Specialists on the Team

Juan Carlos Enriquez Uria, Angela Maria Caballero Espinoza

### D. Policies that might apply

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>Although the Project does not present significant negative impacts, in order to ensure compliance with the World Bank environmental policies and safeguards, an Environmental and Social Management Framework (ESMF) will be prepared. The ESMF will identify geographically potential sites where projects will be developed (municipalities) and will assess potential socio-environmental impacts and measures to mitigate them (flora, fauna, soil, social, etc.). The ESMF will define all the needed requirements in order to comply with the WB policies and safeguards (including General Environmental, Health and safety guidelines) and the Bolivian regulatory framework. Also, extensive stakeholder consultation will take place during project preparation, and will continue through implementation. The ESMF will include an Environmental Management Plan that will be submitted to the contracting companies at the time of the submission of proposals. With regards to home photovoltaic systems, the final disposal of the battery waste will be coordinated with the municipalities, and will be monitored during project implementation.</p> <p>Also, in compliance with Bolivian environmental regulations, before the execution of any work or project, the environmental license must be obtained from the environmental authority. The Environmental Law and its regulations have provided mechanisms to ensure the environmental management of Programs and Projects similar to the Rural Water and Energy Access Project. Although the electricity sector does not have an Environmental Regulation, Supreme Decree No. 27173, of September 15, 2003, establishes that the extension of Electric Lines, Densification of the electric service, subject to certain restrictions; and, the Photovoltaic Systems Without any restriction, are</p>



		recognized as Category 4. The foregoing means that in order to obtain their environmental license, they only require the approval of a Certificate of Dispensation.
		The project interventions will not result in Labor Influx issues. The activities only include small works, the purchase of equipment to be installed by households, technical assistance and training activities. The construction of the rainwater tanks (ie. small works) will require a few skilled workers from outside the communities who will guide a majority of unskilled local workers. The permanence of outsiders in the community will be very limited depending on the size of the community and the number of tanks to be constructed
Natural Habitats OP/BP 4.04	No	The project will be solely focused on the provision of water and electricity services in existing houses, schools and health posts and are therefore not in any way impacting natural habits.
Forests OP/BP 4.36	No	The project will be solely focused on the provision of water and electricity services in existing houses, schools and health posts and are therefore not in any way impacting forests.
Pest Management OP 4.09	No	The project will be solely focused on the provision of water and electricity services in existing houses, schools and health posts. As such, it will not provide funds for the purchase of pesticides, nor will it result in a change in pesticide management within the community.
Physical Cultural Resources OP/BP 4.11	No	The project will be solely focused on the provision of water and electricity services in existing houses, schools and health posts and are therefore not in any way impacting physical cultural resources.
Indigenous Peoples OP/BP 4.10	Yes	A Social Assessment (SA) was developed. Three Indigenous Peoples groups were identified within the proposed Project area, through the Altiplano and inter-Andean valleys of the departments of Cochabamba, Chuquisaca, Oruro and Potosi. Quechua population represent the 75 percent, Aymara population the 19 percent, and the Uru - Chipaya less than 2 percent of population in the proposed Project area. Given that Indigenous Peoples are the overwhelming majority of direct project beneficiaries, the elements of an IPP will be included in the overall project design, and a separate IPP is not required.



Beyond the positive effects of the project, such as ensuring access to safe water and energy for 7,500 beneficiaries from 168 rural communities with less than 500 inhabitants, the project will also stimulate productivity, especially for women while releasing them and children from their traditional role of collecting water from distant sources (rivers and springs). Also, access to energy at night time will increase women's productive hours. Finally, better infrastructure conditions in local schools and health services will give people more opportunities to ensure access to health and education, especially to women and children who have more time of permanent residency in rural areas, by reducing their time of traveling to other towns that offer better services.

Indigenous beneficiaries, their local organizations and Municipalities were consulted. Broad community support was given by Quechua, Aymara and Uru - Chipaya people to the proposed Project.

The consultations also helped to determine negative impacts and the most effective ways of mitigating them. These are: (i) eligibility criteria that will benefit permanent residents over those that only live occasionally in the community. More criteria of eligibility such as level of incomes, number of family members and presence of elders in a household, have been included. Also, considering that women and elders have more time of permanent residency in the communities, their participation in the process of validation of beneficiaries, will be ensured; (ii) galvanized calamine roof to collect rainwater might affect the habitat of wild birds, increasing the risk of proliferation of rodents. As a mitigation measure, roof paint will be included as part of the constructive solutions; (iii) placing tanks and solar panels on Uru Chipaya circular house's roofs, might affect esthetically their traditional architecture of circular houses; to avoid this risk, the project established that the solar panels and tanks will be placed in small structures of 23 mts<sup>2</sup> next to the houses, without affecting any preexisting assets.

As a wider mitigation umbrella, the integration of traditional indigenous authorities and municipal



		authorities, to inform households and communities in their native languages will be included as part of the consultation processes during the project cycle.
Involuntary Resettlement OP/BP 4.12	No	Involuntary resettlement and land acquisition are not expected since water harvesting systems and solar panels will be installed in existing houses, schools and health posts without causing any physical impacts on them therefore OP 4.12 is not triggered.
Safety of Dams OP/BP 4.37	No	The project will depend on the use of rainwater harvesting as the source of secure, safe drinking water; and does not build any infrastructure than rainwater harvesting tanks that are very small and will be setup very close to the existing house, school or health post.
Projects on International Waterways OP/BP 7.50	No	The project will depend on the use of rainwater harvesting as the source of secure, safe drinking water, as such it will not depend on either international or national ground or surface waters.
Projects in Disputed Areas OP/BP 7.60	No	No project activities are contemplated in disputed areas.

#### **E. Safeguard Preparation Plan**

Tentative target date for preparing the Appraisal Stage PID/ISDS

Sep 06, 2017

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 Appraisal Stage PID/ISDS

The Environmental and Social Management Framework will be prepared from January to April 2017.

#### **CONTACT POINT**

##### **World Bank**

Jorge Trevino, Caroline van den Berg, Lucia Spinelli  
Sr Water Resources Spec.

##### **Borrower/Client/Recipient**

Plurinational State of Bolivia

**Implementing Agencies**

Ministry of Environment and Water (MMAyA) / Vice-Ministry of Drinking Water and Basic Sanitation (VA

Carlos Ortúñoz Yañez

Minister

carlos.ortuno@riegobolivia.org

Unidad Coordinadora de Proyectos

Javier Pinto

Coordinator

japinto@hotmail.com

Minister of Energy

Rafael Alarcón

Minister

info@hidrocarburos.gob.bo

Programa de Electricidad para Vivir con Dignidad (PEVD)

Ramiro Lima

Coordinador de PEVD

rlima@pevd.gob.bo

**FOR MORE INFORMATION CONTACT**

The World Bank

1818 H Street, NW

Washington, D.C. 20433

Telephone: (202) 473-1000

Web: <http://www.worldbank.org/projects>

**APPROVAL**

Task Team Leader(s):	Jorge Trevino, Caroline van den Berg, Lucia Spinelli	
----------------------	--	--

**Approved By**

Safeguards Advisor:	Noreen Beg	08-May-2017
Practice Manager/Manager:	Rita E. Cestti	08-May-2017



Country Director:

Alberto Rodriguez

10-Jul-2017

**Note to Task Teams:** End of system generated content, document is editable from here.