

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

BOLIVIA

MULTIPURPOSE WATER RESOURCES PROJECT FOR LA PAZ AND EL ALTO

(BO-L1080/BO-G1004)

PROJECT PROFILE

This document was prepared by the project team consisting of: Edgar Orellana (WSA/CBO); Alfred Grünwaldt (INE/CCS); Fernando Balcázar (RND/CBO); Alejandro Deeb (INE/CCS); Ana Iju (INE/CCS); Prem Jai Vidaurre (CCS/CBO); Javier Lucio Garcia (INE/WSA); Maria Julia Bocco (INE/WSA); Carolina Escudero, Abel Cuba (PDP/CBO); Javier Bedoya (LEG/SGO); Raúl Muñoz (INE/WSA); María Elena Castro (VPS/ESG); Steven Collins (VPS/ESG); Ana Rios (INE/CCS); Angelo Angel (INE/CCS).

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PROJECT PROFILE (PP)
BOLIVIA – MULTIPURPOSE WATER RESOURCES PROJECT FOR LA PAZ AND EL
ALTO BO-L1080/BO-G1004

BASIC DATA

Project Name:	Multipurpose Water Resources Project for La Paz and El Alto.
Project Number:	BO-L1080/BO-G1004
Project Team:	Team Leader: Edgar Orellana (WSA/CBO); Alternate Team Leaders: Alfred Grünwaldt (INE/CCS); Fernando Balcázar (RND/CBO); team members: Alejandro Deeb (INE/CCS); Ana Iju (INE/CCS); Angelo Angel (INE/CCS); Prem Jai Vidaurre (CCS/CBO); Javier Lucio Garcia (INE/WSA); Maria Julia Bocco (INE/WSA); Carolina Escudero, Abel Cuba (PDP/CBO); Javier Bedoya (LEG/SGO); Raúl Muñoz (INE/WSA); María Elena Castro (VPS/ESG); Steven Collins (VPS/ESG); Ana Rios (INE/CCS); Angelo Angel (INE/CCS).
Borrower:	Plurinational State of Bolivia.
Executing Agency:	Ministry of Environment and Water (MMAyA) through the Environment and Water Executing Agency (EMAGUA).
Execution Period:	48 months
Finance Plan:	
	BID (CO): US\$ 28,000,000
	BID (FOE): US\$ 7,000,000
	BID (FEC) ¹ (BO-G1004): US\$ 42,500,000
	BID (Nordic Fund) (BO-X1012) ² : US\$ 4,750,000
	Total: US\$ 82,250,000
Safeguards:	Identified Policies: OP-710, OP-765, OP-704, OP-102, B-05, B-06, B-09, B-10, B-11 Category: A

I. GENERAL JUSTIFICATION AND OBJECTIVES

- 1.1 **Problem Description.** The metropolitan areas of La Paz and El Alto are some of the primary development centers in Bolivia, with an approximate population of 2 million people and an estimated growth rate of 1.11% for La Paz and 5.10% for El Alto.³ The fast growth rate increase in the past few years in the periurban areas of these cities because of migration from rural areas, especially in El Alto, has resulted in the unplanned settlement of the population in areas with no drinking water and sewage coverage, or where service is discontinuous. Based on the information from the 2001 census and the projections made by the National Institute of Statistics (INE), in the city of El Alto there were nearly 9% of people without drinking water in 2011 (EPSAS).⁴ According to IC-RIMAC

¹ “Resources from the Strategic Climate Fund – Document GN-2604-3.” Donation Resources.

² The PP of operation BO-X1012 is attached as Annex 6. The availability of these resources will be subject to resource approval by the Bank’s Executive Board of Directors and the execution of the relevant administration agreement between Norway and the Bank.

³ Annual intercensal growth rate 1992-2001. 2001 Census Data, National Institute of Statistics.

⁴ EPSAS: Empresa Pública Social de Agua y Saneamiento S.A.

- projections,⁵ the population of El Alto and La Paz (including the neighboring municipalities of Laja, Achocalla, and Viacha) would reach 2,741,110 people in 2040, demanding a water level of around 4,119 l/s. Current water supply systems provide around 1,600 l/s, so there would be an uncovered water demand of 2,519 l/s by 2040.
- 1.2 Current sources⁶ for the metropolitan water system in La Paz and El Alto find their origin in rainfall, ice, and underground water. In some micro watersheds, glacier runoff is an important source, reaching up to 27% of supply in the dry period. Fast-melting glaciers will create a significant reduction in the natural capacity of supply and regulation of water resources in 2025-2045.
 - 1.3 Faced with this issue, the Ministry of Environment and Water (MMAyA) has been working on a comprehensive, sustainable, and climate-change resilient approach to provide reliability to water supply services in La Paz, El Alto, and neighboring cities. Three coordinated types of action stand out: (i) improving service levels in El Alto through specific investments, improving also the distribution network, and making adjustments to sites where current water sources connect with the distribution network; (ii) in the short and medium term, increasing water supply in about 1,000 l/s, which is the primary objective of this operation; and (iii) simultaneously, going forward with the drinking water and sewage Master Plan study, which has been coordinated together with the project herein proposed.
 - 1.4 The proposed Project framed within that Ministry's scope of action seeks to provide a comprehensive, resilient, and sustainable solution to cover part of the unmet demand for drinking water in El Alto in the short and medium term, by promoting, in addition, measures to reinforce people's resilience capabilities in the face of climate change. Thus, the MMAyA ordered in 2012 that an Identification Study (IS) be prepared in order to establish the best alternative to increase water supply in about 800 to 1,000 l/s. Eleven alternatives were analyzed, including the micro watersheds of Jacha Jahuira (Khara Khota), Khullu Cachi (Taypichaca), Janchalani, Jacha Waquiwiña, Condoriri, Tuni, Huayña Potosí, Chojlla Jipiña, as well as the Milluni and Choqueyapu watersheds.
 - 1.5 As a result of this study, the best alternative to increase water supply in the metropolitan area of La Paz, El Alto, and neighboring cities was identified: Water collection and transportation (respecting the flows used for irrigation and other purposes) from the watersheds of the Jacha Jahuira and Khullu Cachi rivers. Water allocation for El Alto is the result of a negotiation process between MMAyA and the communities that hold previous rights of irrigation and direct consumption. In consideration for the agreement to collect water for urban supply, the alternative selected proposes, on the one hand, improving existing irrigation systems, using technological procedures; and on the other hand, improving drinking water systems for the communities and comprehensively managing contributing watersheds with an approach to climate change resilience. With the execution of this project, water demand in the metropolitan area of La Paz and El Alto would be covered until 2025, approximately.

⁵ IC-RIMAC is the consulting firm hired by the Government of Bolivia to prepare the Investment Alternatives Identification Study (IS) to improve supply in the metropolitan area of La Paz and El Alto. The study was prepared in 2012.

⁶ Water supply systems for the cities of La Paz and El Alto take water from the following sources: Tuni-Condoriri system and Tilata, Milluni, Incachaca, and Hampaturi underground water wells.

- 1.6 Country and Bank Strategy.** The operation is consistent with the priorities set in Bolivia's National Development Plan and based on the guidelines defined in the National Climate Change Resilience Mechanism, grounded on a water resource basis. Bolivia's National Development Plan outlines strategic guidelines for country development in an intercultural context and is structured on four bases including action to ensure, among others, access to basic services such as water and sanitation, and the development of sectors that form the production matrix, especially through Policy 6, "Water for Everyone," which promotes the integrated management of water resources at the hydrographic watershed level. Moreover, these activities are aligned with the goals of the GCI-9 in connection with climate change and support to small and vulnerable countries. In addition, the Bank's Strategy for Bolivia⁷ (2011-2015 period) proposes to work in seven strategic areas, including water and sanitation, and also taking measures in transversal areas such as adaptation to climate change. The Bank's engagement will be focused on making efforts to expand drinking water coverage in periurban and rural areas and on improving the efficiency of existing irrigation systems in project watersheds (Jacha Jahuira and Khullu Cachi) considering the foreseen impact of climate change on water sources.
- 1.7 Alignment with the Strategic Climate Fund (FEC).** The Plurinational State of Bolivia is one of the countries that was selected under the *Pilot Program for Climate Resilience* (PPCR) of the *Strategic Climate Fund* (SCF). To access these funds and comply with PPCR stages, Bolivia has prepared its *Strategic Plan for Climate Resilience* (SPCR) which was endorsed⁸ by the Sub-Committee of the PPCR in November 2011.⁹ The proposed project is Component 2 of the SPCR and should be submitted to the Sub-Committee of the PPCR for fund approval, a process that will run parallel to the Bank's QRR. The Bank's standard procedure for approval of Sovereign Guarantee Operations will be followed.
- 1.8 Objective.** The overall objective of this project is to increase the climate resilience of the water supply system for the benefit of the people living in the metropolitan area of La Paz and El Alto and in the municipalities of El Alto, Batallas y Pucarani. The specific objectives are to: (i) increase drinking water service coverage and continuity for the municipalities of El Alto, Batallas and Pucarani; (ii) create experiences and lessons for the integration of the climate change approach into the planning, design and implementation of water projects in high mountain areas; (iii) start the preparation and implementation of a multi-purpose, participative, sustainable, resilient and gender-focused pilot plan for integrated watershed management; (iv) lay the groundwork in order to have a climate change-resilient water supply system for the metropolitan area of El Alto; and (v) reduce climate change vulnerability of productive irrigation systems located in the project area by improving water resource use and distribution efficiency. The investment project is structured into the following subcomponents:
- 1.9 Component 1: Increase in water supply for the metropolitan area of La Paz and El Alto.** It includes the construction and re-engineering of two 8 to 10-meter dams (e.g. Khotia Khota and Taypichaca), water control, diversion and distribution infrastructure, treatment plant, drinking water storage tanks, as well as

⁷ Document GN-2631-1 "IDB: Country Strategy with Bolivia (2011-2015)."

⁸ The endorsement of the operation is not a final approval of funds but rather giving the okay at an early stage to keep on working on an initial profile donors would be willing to fund.

⁹ Document available at www.climateinvestmentfunds.org/cif/ppcr

improvement in water use efficiency and reliability, protection and conservation of ecosystems, and assistance to highly-vulnerable populations affected by the project.

- 1.10 **Component 2. Implementation of an integrated watershed management program that takes into account the protection and conservation of ecosystems and water supply for multiple uses.** It includes natural resource and land use planning with a multi-purpose approach to the Jacha Jahaira and Khullu Cachi watersheds, through the formulation of an integrated watershed management plan developed in a participative manner, taking into account the communities' social and environmental needs, as well as the legal and institutional requirements defined by the government. It also provides for re-engineering activities for the irrigation systems of Khara Khota-Suriquiña, Khara Khota Tupaj Katari-Alto Peñas, Taypichaca Palcoco and Taypichaca Suriquiña.
- 1.11 **Component 3. Social program for the protection of vulnerable groups affected by the project and of populations affected by climate change in the target area.** Compensation and assistance programs agreed upon with the people living in the watershed that will be directly affected by the project will be implemented. Additionally, there will be a program specially designed to protect and benefit the most vulnerable populations, especially women, children, the elderly and the disabled.
- 1.12 **Component 4. Capacity building for the use of climate information in planning.** It provides for the collection of experiences in the interpretation and use of data and information related to climate change as a central element to the planning and design of programs and projects that promote climate change resilience.
- 1.13 **Component 5. Monitoring and evaluation.** It includes the formulation of the baseline and the collection of variables of interest over time, as well as knowledge and learning management.
- 1.14 **Component 6. Institutional strengthening for project management and execution.** Oriented to the funding of the management team.

II. EXECUTION SCHEME AND RISKS

- 2.1 **Borrowing country and executing agency.** The borrower and recipient of the grant will be the Plurinational State of Bolivia. The executing agency¹⁰ will be the Ministry of Environment and Water through EMAGUA, with the endorsement of a consulting firm providing management support that will be hired under the project grant funding.
- 2.2 **Project execution.** The details regarding execution mechanisms will be developed during the project preparation stage and will be reflected in the POD. The Ministry of Environment and Water (MMAyA) is the technical counterpart for the project.
- 2.3 **Risks.** The major risks are associated with: (i) the lack of coordination between actors; (ii) reaching agreements with the communities for the water volumes to be brought to the urban area of El Alto; and (iii) the institutional stability of the entity to which the program assets will, in principle, be transferred (EPSAS). During the design, mitigation and/or strengthening measures will be defined for the project executing agency, and for the water system operator. See Appendix II, for more details.

¹⁰ SECI Study and proposed execution structure, <http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=37726837>

III. SAFEGUARDS AND FIDUCIARY ASPECTS

- 3.1 **Safeguards.** The operation has been classified as a Category A operation and, as a result, it will have: (i) an Environmental and Social Impact Assessment that will be published 120 days before the presentation to the Board; and (ii) an Environmental and Social Management Plan to respond to identified project impacts.
- 3.2 **Fiduciary aspects.** According to the results of the institutional capacity assessment conducted early this year on EMAGUA, strengthening opportunities for the execution of the project have been identified, including training in bidding and financial management aspects for Bank projects. In any case, it is anticipated that a consulting firm will be hired to provide support for the fiduciary aspects, among others.

IV. RESOURCES AND SCHEDULE

- 4.1 Annex V describes the project milestones and preparation schedule. The tentative date for presentation to the Operations Policy Committee (OPC) is February 13, 2014, and Board approval is expected in the first half of 2014. The total administrative resources necessary for the preparation of this operation is US\$189,000.