

Public-private partnership for water infrastructure upgrades

Cajamarca, Peru

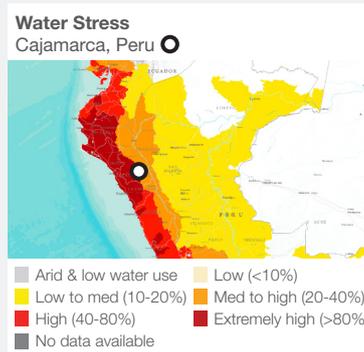
water scarcity impact

Reduced withdrawal	
Reduced consumption	
Improved water quality	●
Increased productivity	
Net basin benefit	

volumetric impact
12 148 120 m³/yr

capital cost
\$12 400 000

estimated unit cost of water
40 ¢/m³



Water Stress Map:
F. Gassert, P. Reig, T. Shiao, M. Luck and M. Landis, 2015. "Aqueduct Global Maps 2.1."

Confidence level
● Low ● Medium ● High

Water Scarcity Impact Key
● Main ● Minor

Credits
We would like to acknowledge Newmont for its input in the preparation of this case study.

Project Overview

Cajamarca is a mid-size town (population 220 000) located in the northern Sierra of Peru at 2 700 metres above sea level. The town lies in a close proximity of the South America's largest gold mine, Yanacocha, which has been operational since 1993. Yanacocha employs 62% of its work force from Cajamarca, but there has been a tension over access to potable water for Cajamarca's residents due to the seasonal rainfall distribution and the lack of appropriate natural water capacity of the river basins.

Yanacocha implemented a comprehensive water management strategy at the mine releasing 35 000 000m³ of treated effluent per year into the local river. Furthermore, as part of a proposed expansion and in order to address environmental concerns and ongoing disputes over water, it decided to extend its water management programme beyond the mine boundary.

In March 2012, Yanacocha formed a public private partnership (PPP) with the City of Cajamarca and the Cajamarca Water and Sewerage Company (SEDACAJ) and agreed to invest \$13 000 000 between 2012 and 2020 to finance new water infrastructure projects in Cajamarca. This long-term investment project is administered by the Association of Los Andes Cajamarca - ALAC (a local NGO).

Key Elements

- PPP between Yanacocha (a joint venture between Newmont (51.35%), Minas Buenaventura (43.65%) and the International Finance Corporation (5%)), the City of Cajamarca and SEDACAJ was formed in March 2012.

Under the PPP agreement:

- Projects were selected based on SEDACAJ and City of Cajamarca recommendations.
- Yanacocha was granted permission to upgrade the infrastructure.
- ALAC administered the projects in terms of planning and implementation.
- Between 2012 and 2015, seven construction projects worth \$12 400 000 were completed. Other projects with a value of \$2 000 000 are planned for implementation by 2020.
- Upon project completion, the ownership of newly built infrastructure is transferred to SEDACAJ.

Key Outcomes

- Upgrades to the water distribution system and four water treatment plants and construction of two reservoirs.
- Increased treatment capacity across Cajamarca's treatment plants by 30%, which provided reliable access to potable water all year round to 175 000 residents.
- Treatment capacity increased by 12 148 120m³ per year across all seven projects.



Cajamarca, Peru

Intervention Features

- PPP funding
- Stakeholder engagement
- Alternative water sources
- Upgrades to potable water infrastructure

Project Levers

(1) Forming a public-private partnership

Forming a PPP between the local government and a major industrial player and employer was seen as a win-win scenario for all parties.

The City of Cajamarca obtained water infrastructure assets to meet all-year-round potable water requirements that otherwise would not have been able to fund. In addition, the works provided a boost to the local economy.

The mine used the project to meet the recommendations of the environmental impact assessment for the expansion of the mine and improve relations with the local population.

Furthermore, the Peruvian law allowed the mine to use the investment as tax credit on their taxable income.

(2) Appointing ALAC to administer the PPP project

The PPP is administered by local non-governmental organisation, ALAC. It is responsible for:

- Administration of the financial support for the project
- Contract administration for planning and implementation of the project
- Contracting the supervisors for the project
- Transferring the completed projects to SEDACAJ

The principal members of ALAC are the representatives of the City of Cajamarca, SEDACAJ, The Mining Program for the City of Cajamarca and ALAC.

(3) Selection of infrastructure projects

The projects were identified through an independent Strategic Management Plan undertaken for the City of Cajamarca, and then prioritised by SEDACAJ. The following projects, worth \$12 400 000 were completed between 2012 – 2015:

- Two new pipelines (3 km) delivering untreated mine water to treatment plants.
- A 4.2km pipeline delivering potable water to the city of Cajamarca.
- A new reservoir with a volume of 15000m³.
- 21 kms of drinking water networks in the Mollepampa area.

(4) Operation and management

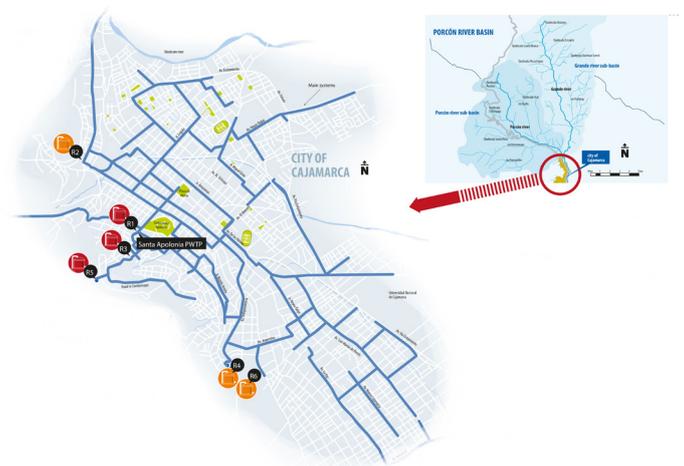
The ownership of the new infrastructure was originally transferred to the City of Cajamarca prior to being passed over to local water and sewerage authority. SEDACAJ is responsible for the operation and management of the new assets. Unlike other PPPs, there is no off-taker agreement for Yanacocha in exchange for the infrastructure investment.

Outcomes and Challenges

Cajamarca's water supply infrastructure has been significantly upgraded resulting in an additional 12 148 120m³ of available potable water. The project positively impacts over 175 000 residents providing reliable, all-year-round water supply. The project has improved relationships between Cajamarca's residents and Yanacocha and reduced tensions over water.

The main project challenges were:

- ensuring that all stakeholder interests were aligned.
- delivering the initial planning stage comprehensively to allow the overall project to be completed on time and within the budget. The project engineers were instrumental in reviewing the preliminary designs and approving project scopes.



Above: Expansion of water supply in the City of Cajamarca