

Water and Sanitation Activities in Bolivia

The challenge

Bolivia was one of the initiators of the Declaration of the Human Right to Water and Sanitation and one of the first countries to incorporate this right in its constitution in 2009.

Of a population of 10,027,254 inhabitants, 67.3 per cent live in urban areas (INE Census 2012). Until the end of 2012, 78.5 per cent of the Bolivian population had access to safe drinking water and 49.4 per cent to sanitation, which means that the country had already reached the Millennium Development Goal related to water. Despite all the investment efforts, the number of people with access to adequate sanitation did not improve much, since about 5 million people still lack access to basic sanitation.

A large proportion of wastewater is discharged untreated into surface waters and they contaminate groundwater, while only about 12 per cent of wastewater is treated successfully.

The Millennium Development Goal for sanitation will not be achieved in the country because of the population sprawl in large cities, together with the scarcity of water due to factors related to climate change, over-exploitation and uncontrolled waste and wastewater disposal.

Additionally, issues such as quality standards for drinking water and sanitation are not being considered, especially in rural and peri-urban areas, making poor water quality a contributing factor to an infant mortality rate up to ten times higher than in Europe.

The experience and the institutional and financial capacity of sector institutions to ensure sustainability of services, water quality, proper wastewater treatment and sustainable management of water resources are insufficient. They still face operational and regulatory difficulties to ensure the

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operationalisation of the human right to water and sanitation for the Bolivian population.

Particularly in low-income peri-urban areas the quality of drinking water and sanitation, as well as the water deficit are exacerbated by pollution and the impact of climate change on water resources.

In these areas, the needs of users are met by basic service providers (EPSA). Many of them are small-scale operators are still institutionally weak to meet all requirements for provision of water and sanitation services. This deficiency is mainly based on the lack of training, human resources and institutional management.

Past achievements

The German Technical Cooperation, through the former PROAPAC Programme (2001-2012), worked on different topics that present progress in the sector:

The consolidation of the sector institutionalisation, including the establishment of an agency dedicated to technical assistance of operators.

Support for the development of various policy and planning instruments, such as the National Basic Sanitation Plan, Community Development Guides and others.



L: Faucet M: Children receiving water in Chaco.
R: family and the drinking water service

The implementation in schools of two successful hygiene campaigns on basic sanitation issues and the importance of water for health, 'Water for Life' and 'Hand Washing', which trained children, teachers and parents.

Our approach

The goal of the programme PERIAGUA is to ensure access to services, the quality of drinking water and the access to sanitation in peri-urban areas of Santa Cruz and Tarija.

Work is developed through a multi-level approach:

- Working at the national level, supporting the formulation of policies and regulations, strengthening the technical capacity of sector institutions, and supporting the development of national strategies to develop actions to implement the Human Right to Water and Sanitation.
- At the regional level, capacity building of departmental and municipal governments, as well as of civil society organisations, providing tools for planning, implementation and evaluation of adequate water resources management, improving their capabilities depending on their skills.
- At the local level, supporting service providers (EPSA) by training their technicians, developing management tools in the technical, commercial, administrative, financial, legal, social and environmental areas, in order to improve service delivery.

The team is composed of national and international technicians, as well as partners in national, regional and local institutions in peri-urban areas of Santa Cruz and Tarija, incorporating local experiences or providing feedback for processes from the local level.

Programme activities

The programme is run jointly with the Ministry of Environment and Water through the Vice-Ministry of Drinking Water and Sanitation and the sector institutions.

It works in the following areas:

- **Water quality**, which comprises:
 - **Drinking water quality**, supporting the service providers (EPSA) to achieve adequate control of the quality of their water supply, improving the capabilities and equipment of laboratories, supporting the regulator in monitoring water quality.
 - **Wastewater quality**, advising on the development and implementation of regulatory instruments for
- the control of discharges from wastewater treatment plants, so that they can control their effluents and protect the environment.
- **Sustainability of services at service provider level**, comprising:
 - Financial efficiency of service providers focused on improving the different technical, commercial, administrative, social and environmental processes, as well as relations with other stakeholders such as municipal authorities and the population.
 - Loss reduction, focused on improving the provision of drinking water through different programmes and actions such as: pressure management, leak detection and control, etc.
 - Improve quality in projects of water and sanitation throughout the cycle (pre-investment, investment and post investment).
 - Increased household connections to the sewer system, working on strategies to improve effective sanitation coverage, which has been very difficult to achieve due to the resistance of the population to accept these changes.
 - Rehabilitation of treatment plants, through a rehabilitation plan that will be implemented with shared resources among different levels of government, as well as technical support and training to service providers for effective management of wastewater treatment plants.
- **Integrated water resource management**, comprising:
 - Protecting sources of drinking water, determining the availability of water for human supply and thus achieve sustainable water use, counteracting the effects of climate change and water scarcity.
 - Reducing consumption, working nationally to support the sectorial policy in this subject and locally to generate instruments and tools to raise awareness among service providers and the general population to pursue a policy of saving water.
- And transversely, the issue of **participation of women in sanitation management** aims at increasing the number of women participating in the management of service delivery and at the national level, through training women that currently play this role and promoting and raising awareness about the importance of the issue at the institutional level in order to achieve an inclusive and comprehensive management.

Results achieved so far

Regarding water quality, issues are being considered locally so that the service providers can know and control the water quality provided to their customers and report the situation to the competent entity. Likewise, the programme supports the development of tools to improve and ensure the water quality for human consumption. At the national level, work was focused on the dissemination and analysis of water quality standards and on improving the capabilities and regulatory procedures for the control of water quality. The programme coordinates closely with the PTB Company's programme on building quality infrastructure



Figure 1. Technicians testing water quality

that supports measurements of tests on drinking water.

Wastewater issues are considered closely with the triangular cooperation project among Mexico-Bolivia-Germany, of whose coordination PERIAGUA is part, enabling the cooperation between Bolivian and Mexican institutions. This triangular project aims at the reuse of wastewater from urban centres in agriculture.

As an important issue regarding service sustainability, the various responsible institutions at national, regional and local levels are supported in improving the quality of their projects through training in project design for drinking water, sewerage and wastewater treatment plants, aimed at professionals of the Vice-Ministry of Drinking Water and Sanitation, executing agencies, municipal and departmental governments, staff from the service providers, independent professionals, students and teachers in public and private universities.

At service providers level, activities are focused on training and implementation of various measures that contribute to the sustainability of the provision of water and sanitation services, improving the technical and financial efficiency in

the different areas. For example recently a programme to reduce physical losses in water networks in Tarija was implemented, enabling saving water and significant financial resources.

Regarding management of water resources, works began aimed at knowing the quantity and quality of ground water available for human consumption for the city of Santa Cruz and its peri-urban areas. In order to assess this, a working group integrated by the vast majority of key local and national institutions was created.

Women involved in senior levels of the service providers received training, with the participation of more than 30 women who improved their performance in their areas. Additionally, the campaign "Turn off the tap of violence against women" was carried out by the Water and Sanitation sector, incorporating in water bills captions and data of where to go to in case of violence, which had much significance, especially in Santa Cruz.

Success factors

The **multilevel approach allows the development of concepts nationally that can be implemented locally** through the advice of PERIAGUA, providing feedback for policies and regulations to tailor them to reality.

Another success factor in PERIAGUA is the **work with several stakeholders, not only with the government authorities, but also with the civil society**, and the coordination with other donors that helps improve advice and not duplicate efforts, increasing efficiency.

The **development of strategies for household connections** to the sewer system is a new theme for Bolivia. Part of the programme has developed a strategy for household connections based on social marketing, developing promotional tools and financial schemes **at the local level that can be replicated at the national level** in the different investment programmes for community sanitation processes.

Health education is now no longer covered by the programme, but it was **integrated into all processes of community development and institutional strengthening** through a Plan for Health Education at the national level with the National Service for Sustainability of Basic Service (SENASBA).

Resources

Among the materials, instruments and tools used and developed in recent years for the approach of different topics in the field can be mentioned:

- Guidelines for reducing water losses - A focus on pressure management.
- Recommendations for the choice of wastewater treatment plants suitable for Bolivia.
- A look from the programme PROAPAC - Lessons learned and reflections 2001-2012.
- Systematisation of wastewater treatment and reuse.
- Systematisation of health education campaigns.
- Guide for Health and Environmental Education.
- Policy for an efficient water use.

More materials are available on

<http://www.giz.de/en/worldwide/25590.html>,

<http://www.susana.org/en/resources/library?search=bolivia+giz> and on the [DMS](#) folder (accessible only for GIZ staff).

More pictures available on Flickr:

<https://www.flickr.com/photos/gtzecosan/collections/72157621008398561/>

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