

Sanitation in Nicaragua

The challenge

In Nicaragua only 1.3 million urban inhabitants have access to sewage service, which represents less than 40 per cent of households. Most of the collected water is treated inadequately. The remaining urban population uses latrines or septic tanks. Often these systems harm the environment by infiltration into the groundwater or inappropriate deposition of sludge.

Nearly three million people, 89 per cent of the urban households, have access to drinking water. However, in many areas drinking water is only available for a few hours and for a few days a week.

The Nicaraguan Aqueduct and Sewer Company (ENACAL) is responsible for drinking water supply and wastewater treatment in urban areas. The company's revenue can only cover about two-thirds of its operating costs. This deficit hinders both repairs and maintenance of its existing facilities, as well as investments in new infrastructure. Sanitation has become a priority area of the current government, as manifested in the Human Development Plan 2013 - 2017. However, investments are dependent on resources from the international cooperation and multilateral credit agencies.

For the period 2014 - 2017 the construction of 10 new water treatment plants and 12 wastewater treatment plants in 19 cities is scheduled. The funding is guaranteed through international cooperation framed in the Comprehensive Sectorial Programme for Water and Sanitation (PISASH).

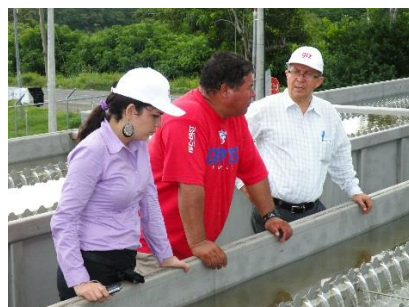
The current structure of ENACAL - which oversees and supports the operation of 39 existing wastewater treatment systems in 18 Departments (excluding the capital Managua) - is highly centralised. It has a limited budget and few professional engineers for the diversity of technologies used in the treatment systems.

Programme	Programme to improve efficiency in the drinking water supply and sanitation sectors (PROATAS)
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Country	Nicaragua
Partners	Nicaraguan Aqueduct and Sewer Company (ENACAL) National Water Authority (ANA)
Duration	2011 – 2015
Budget	EUR 1163 millions

Our approach

On behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH supports the Nicaraguan Aqueduct and Sewer Company (ENACAL) to improve the efficiency of their drinking water and sanitation supply seeks to improve access to drinking water and sanitation services for the population of Nicaragua. With the Programme to improve efficiency in the drinking water supply and sanitation sectors (PROATAS), GIZ strengthens ENACAL on major issues such as: (1) Managerial efficiency, (2) Operation and maintenance of facilities, and (3) Financial self-sustainability.

Since June 2013 PROATAS supports ENACAL in the operation of 16 selected wastewater treatment plants across the country. The objective is that ENACAL can avoid deterioration of existing treatment systems caused by lack of proper operation and maintenance and ensure the sustainability of the scheduled future investments.



To ensure efficient wastewater treatment, PROATAS advises the company in:

1. Improvement of treatment plants with small investments on high-impact technology upgrades for 16 selected treatment plants.
2. Technical training of ENACAL staff through the Human Capacity Development (HCD) approach in operation and maintenance of plants and considering various treatment technologies.
3. Improved organisation and regulation with the creation and implementation of a new management model at ENACAL. It is focused on preserving the operation of treatment plants in compliance with current regulations of effluent discharge. This includes a better allocation of financial and human resources from ENACAL for sanitation. At political and legislative levels, GIZ advises in updating the regulation of effluent norms.
4. With the application of Integrated Water Resource Management GIZ as well supplies the National Water Authority (ANA). Water Resource Management plans in watersheds support protection and sustainable use of water resources. This includes measures aimed to reduce pollution from wastewater.

Results – What we achieved so far

- PROATAS offers continuous training to 32 staff members including managers, heads of delegation and technicians responsible for the administration and supervision of treatment plants. PROATAS also trains 64 technical operators through on-the-job training.
- PROATAS completed 80% of execution of minor works to improve operation of the plants.
- ENACAL created an item in its cost structure destined exclusively to sanitation, improving previous practices that did not specify these costs and included them as part of the cost of drinking water.

Map of treatment plants that PROATAS advises



Financial assistance in sanitation from KfW sanitation

The Wastewater Treatment Plant in the capital city of Managua was built with funding from the German Development Bank (KfW). It serves approximately 800,000 inhabitants. The most modern plant of Central America, it has been operating since 2009. The impact on the water quality of Lake Managua is evident; for example, the seaside boulevard has become a tourist attraction. Currently, the KfW supports ENACAL with complementary measures such as expanding the treatment plant's capacity, solar drying of sludge and biogas utilization. In the colonial city of Granada, KfW supports the rehabilitation and extension of the sewerage system and the wastewater treatment plant. The Bank financing for both projects is of approximately 51 million Euros.

In previous years, the KfW funded sewage and drinking water systems in the cities of Matagalpa and Jinotega and influenced the institutional strengthening of these delegations of ENACAL.

More materials available on www.proatas.org.ni, <http://www.susana.org/en/resources/library?search=nicaragua> and on the [DMS](#) folder (accessible to GIZ staff only).

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