



## Urban Water in the Marquense Valley\* Project

The water service of the inhabitants of the urban area is interrupted, of poor quality and becomes critical with climatic and demographic changes. The partner municipalities are located in the upper part of the Naranjo River Basin, department of San Marcos. They have a population of 118,270 (52% women and 48% men), with a high population growth rate (2.45%), a high rate of urbanization (60%), and a high population density (296 people/km<sup>2</sup>). These represent challenges to covering basic services, since housing, commercial, and industrial construction are constantly authorized, which causes a growing demand for water.

The coverage of the drinking water supply for domestic, commercial, and industrial uses reaches an average of 95%, and the systems were built between 1959 and 1994, exceeding their useful life. However, they continue to function, with limitations. The flows are low and interrupted with more than 30% leaks, and the systems are deteriorating. Water sources are running out and reducing their flow, leading to a greater uptake of aquifers. However, the water table is also progressively lower.

Despite having a disinfection plan (with chlorine), there are risks of bacterial contamination (due to the deterioration of the physical distribution systems and the lack of protection of supply sources) and chemical contamination (due to the excessive use of agrochemicals on agricultural land).

The water recharge and spring areas face problems of deforestation (due to illegal felling of trees), inadequate delimitation, grazing, agricultural use, fires, and pollution (due to lack of environmental sanitation).

*Protection and integrated and sustainable management of the upper part of the Naranjo River basin that supplies the urban headwaters with drinking water in the municipalities of San Pedro Sacatepéquez, San Marcos, San Antonio Sacatepéquez, San Cristóbal Cucho and Esquipulas Palo Gordo in the department of San Marcos.*

This project is part of EUROCLIMA+



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According to the Analysis of Vulnerability to Climate Change in the Western Highlands of Guatemala, the upper part of the Naranjo River basin will be subject to threats such as a predicted drop in precipitation but in more concentrated rains, and the occurrence of frosts, floods, landslides, erosions, and forest fires is highly to very highly vulnerable. Water demand and supply will also be highly vulnerable, since the water balance will be depleted due to less precipitation and less groundwater supply due to high runoff from concentrated rains.

The water supplied by the 20 networks comes 47% from underground sources and 53% from surface springs. The services are discontinuous: the inhabitants have only 4 to 12 hours of service per day.

The master plans of each municipality are outdated. The regulation establishes low tariffs with amounts between Q. 3.40 and Q. 20.00 for an average allocation of 30m<sup>3</sup> per month per family of 6 inhabitants. Even so, the delinquency levels are high: between 30% and 40%, and for this reason, the municipalities contract large debts (between Q6 and 13 million) with the electric companies. Consequently, they do not have a budget for preventive and corrective maintenance. Also, three municipalities do not have water meters and apply a fixed rate, which leads to excessive use of water. There is also no adequate management and treatment of wastewater and solid waste.

### GENERAL OBJECTIVE

Contribute to ensuring that women, men, girls, boys, and future generations in the urban areas of San Pedro Sacatepéquez, San Marcos, San Antonio Sacatepéquez, San Cristóbal Cucho, and Esquipulas Palo Gordo have enough, healthy, acceptable, physically accessible, and affordable water for personal and household use in a financially, institutionally, and environmentally sustainable manner.

Implementing agencies in the Urban Water Sector



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para el Desarrollo



AFD  
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DE DÉVELOPPEMENT



## SPECIFIC OBJECTIVE

Contribute to the better resilience to climate change of the urban water and drainage systems of San Marcos, San Pedro, San Antonio, Esquipulas, Palo Gordo, and San Cristóbal, and the best efficiency, continuity, and quality of the water service.

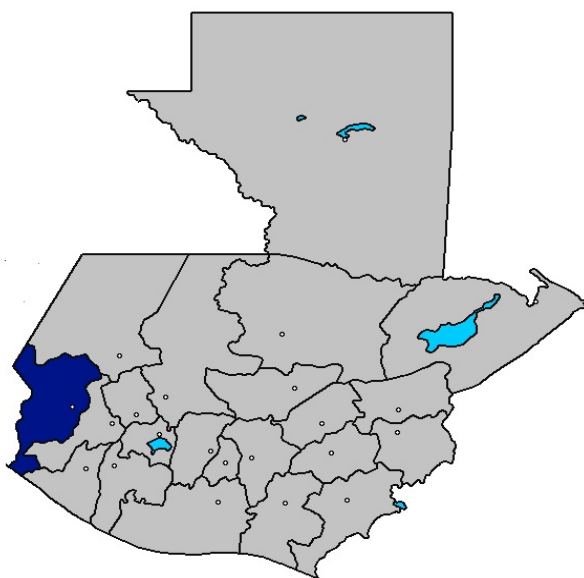
## RESULTS

- 1. More resilient water and drainage systems:** that they comply with the services required of the urban population according to the water master plans and basin management plans; and incorporate reforestation and protection measures in water recharge areas and springs to maintain flows; and functional payment mechanisms for environmental services to finance these measures; They also incorporate measures to promote the filtration and harvesting of rainwater to prevent flooding and better feed groundwater.
- 2. Better managed and sustainable water and drainage systems:** in which the service is provided with real rates that cover all expenses; with a better operational capacity and with innovative and technical administration and control systems; measures for accountability, transparency, and rapid response to leaks, illegal intakes, and sources of contamination are institutionalized; and a better culture of paying for and saving water is promoted.
- 3. Better quality water is** assured through better monitoring of its quality; better treatment; better social controls; and environmental sanitation measures.

## STRATEGIC LINES

- 1. Integrated management of water resources** at the level of hydrographic basins supplying urban areas. Analysis, development, and strengthening of **comprehensive management plans for water resources** that promote adaptation to climate change.
- 2. Resilience strategies for drinking water services in urban areas** in the face of climate change with a focus on the availability and quality of the resource, and studies for resilient infrastructures in the face of extreme weather events.
- 3. Strengthening of institutional, technical and economic capacities** to improve governance with a focus on the integrity of water and associated services.

## GEOGRAPHIC AREA



## FAST FACTS

**Geographic location:** 5 municipalities of the department of San Marcos:

- San Pedro Sacatepéquez,
- San Marcos,
- San Antonio Sacatepéquez,
- San Cristóbal Cucho; y
- Esquipulas Palo Gordo

**Phase and Duration:** Only Phase - 3 years

**Start Date:** January, 2020

**Finish Date:** January, 2023

**Phase Budget:** Q 14,799,144

**Direct Beneficiaries:** Urban population of the municipalities associated with the project that are located in the upper part of the Naranjo River Basin is 118,270 (52% women and 48% men). Other direct beneficiaries are the population that lives in the rural areas of the upper part of the basin, estimated at 60,000 people.

**Indirect Beneficiaries:** 400,000 people, the population of another 20 municipalities that will benefit from the good practices and innovations validated in the project. In addition to the 25 officials from municipal agencies and the 160 representatives of the COCODE's who reinforce their skills, practical skills, and academic qualifications in the governance of basins and waters.

### Main Partners:

- Municipalities of San Pedro Sacatepéquez as the leading entity and as local counterpart entities, the Municipalities of San Marcos, San Antonio Sacatepéquez, San Cristóbal Cucho: and Esquipulas Palo Gordo.
- HELVETAS Swiss Intercooperation in Guatemala (grant responsible)
- Ministry of Public Health and Social Assistance -MSPAS-
- Ministry of Agriculture, Livestock and Food -MAGA-
- Ministry of Environment and National Resources -MARN-
- Municipal Development Institute -INFOM-
- National Institute of Forests -INAB-
- National Institute of Public Administration -INAP-
- National Council of Protected Areas -CONAP-

### Donors:

- Euroclima+ Program, financed by the European Union -EU- and administered in Guatemala by the Spanish Agency for International Development Cooperation -AECID- and Agence Française de Développement -AFD-.
- HELVETAS Swiss Intercooperation.
- Contribution of the Urban Water Consortium in the Marquense Valley
- Strategic partners and local partners.

More information in:  
**EUROCLIMA+**  
[www.euroclimaplus.org](http://www.euroclimaplus.org)

**HELVETAS Swiss Intercooperation Guatemala**  
[www.helvetas.org/es/guatemala](http://www.helvetas.org/es/guatemala)

Participating partners:



**HELVETAS**

