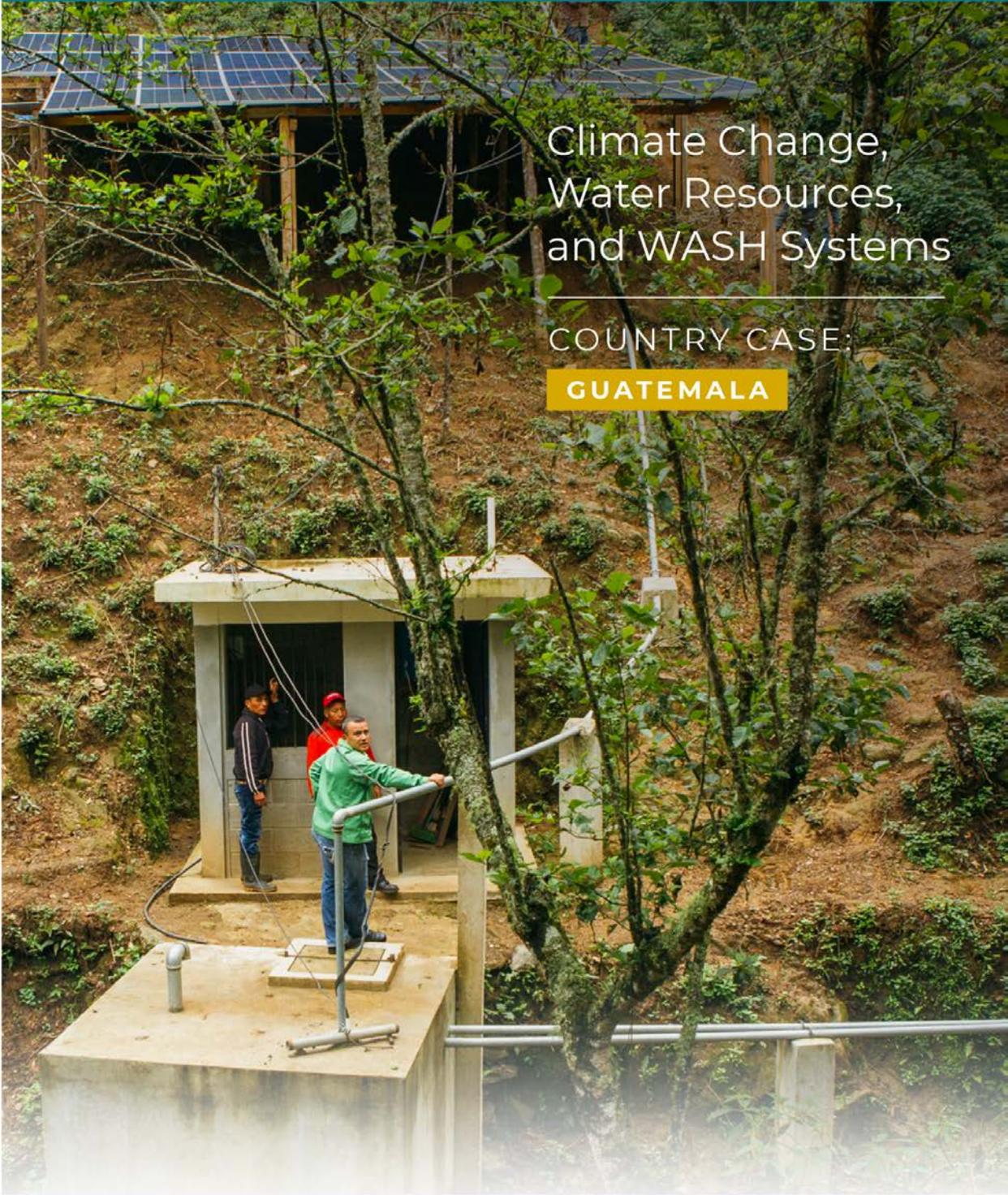


Climate Change, Water Resources, and WASH Systems

COUNTRY CASE:

GUATEMALA



	Risk	Programming	Policy & Planning	
Polluted water	High	Related	NAP	Yes
Too little water	High	Focused	National climate policies & plans	Limited
Too much water	Low	Focused	Extent WASH is included	Small

Climate trends and impacts on water resources

As a result of global warming, the increase in temperature of the seas, and the location of the country, precipitation patterns change dramatically from year to year, especially in areas considered dry.¹ The Guatemalan Dry Corridor, which includes the Quiché territory where Water For People works, is one of the areas most vulnerable to hydro-climatic events and that places the country at a high vulnerability rating globally. In addition, there is low resilience capacity which was demonstrated in the aftermath of Hurricane Mitch and Storm Stan, because in the affected places, people have not been able to recover their main livelihoods, including water and sanitation supply.

Anthropogenic practices are altering the natural balance, such as river pollution, inadequate watershed management, advance of the agricultural frontier, unfunded policies and laws that do not punish environmental crimes, and open defecation, among others. These practices show the need to promote and strengthen sustained processes of Integrated Water Resources Management (IWRM) that underpin climate change mitigation and adaptation actions.

Impacts on WASH infrastructure and services

The supply of water is greater than the demand so there is a surplus of unused water. According to the Universidad del Valle de Guatemala, only 24% of the annual supply is used.² However, the country's water potential is affected by the location of communities and the



¹ According to FAO, the area most prone to these phenomena is found in the Central American dry corridor. <http://www.fao.org/in-action/agronoticias/detail/es/c/1024540/>.

² Proposals for a participatory model of water governance. Instituto de Investigaciones Ambientales. Universidad del Valle de Guatemala. 2019.

availability of surface or groundwater sources, as well as the demand for hydraulic and water infrastructure that is difficult to access for excluded rural communities in the western highlands of the country.

The hydraulic infrastructure builds solutions to water access, by channeling scarce and distant surface sources to the populated centers, doubling their costs. Communities demand conventional gravity systems and home connections. Due to the effects of climate change and poor IWRM, groundwater use has increased through the drilling of wells operated by electricity, with direct consequences on the cost to users, maintenance, and sustainability. Regardless of the infrastructure used, the useful life and its replacement generally depend on scarce state investment, since there is no culture of payment for the service, much less the foresight to cover the damage to the infrastructure, whether caused by extreme weather events or useful life. In relation to sanitation, the use of latrines is common. Some families, having access to household water, implement flushable toilets with sanitation technologies such as biodigesters. In 1998 Hurricane Mitch damaged about 398 systems and 20,000 latrines. In 2005, Storm Stan destroyed 451 aqueducts and 26,258 latrines, which together have caused losses of around US\$90.2 million in water infrastructure and around US\$50 million in sanitation in the affected territories.³

Climate and WASH Policy and Initiatives

Climate change policy prioritizes within its strategic actions "Reducing Vulnerability and Improving Adaptation to Climate Change in Key Sectors of Society."⁴ The approach is aimed at building capacities, considering the needs of the population and ecosystems, protecting water recharge zones, and making use of water.

As a result of progress in planning, the National Climate Change Plan addresses two major components:

1. Adaptation to climate change: human health, marine-coastal areas, agriculture, livestock and food security, forest resources, ecosystems and protected areas, infrastructure. and integrated water resources management.
2. Climate change mitigation (sectors): energy, industrial processes, waste, agriculture, land use, land use change, and forestry.

Unfortunately, they are not binding on other national plans and their financing, leaving the coordination once again to the governmental institutions of natural resources, thus becoming an expression of intentions.

Water For People promotes several of the activities proposed within the National Climate Change Plan, such as lobbying for the approval of a water law and integrated management through mitigation actions in water recharge zones.⁵ Water Resources Management underpins the enactment and application of municipal regulations on water and sanitation through ordinances or municipal agreements on water and sanitation, the institutionalization of municipal

³ GWP. Situation of water resources in Central America. Roberto Cobos. Pp4.

https://www.gwp.org/globalassets/global/gwp-cam_files/situacion-de-los-recursos-hidricos_fin.pdf.

⁴ Ministry of Environment and Natural Resources. National Policy on Climate Change. <https://www.marn.gob.gt>.

⁵ Segeplan. National Climate Change Action Plan. <https://www.segeplan.gob.gt/nportal/index.php/biblioteca-documental/biblioteca-documentos/file/480-plan-de-accion-de-cambio-climatico>.

management with the creation and strengthening of Municipal Water and Sanitation Offices, as well as the creation of spaces for dialogue, coordination, and cooperation in the sector.

Country program activities: mitigation and adaptation

For mitigation, the IWRM Plans identify priority water recharge areas and define forest plans for the conservation and reforestation of forests, binding on forest incentives, established by law and facilitated by the National Forest Institute. On the other hand, technologies that promote sanitation are made available for the management of human excreta and wastewater to reduce environmental pollution.

For adaptation, alliances are established with actors to promote Water For People's Everyone Forever model, in which the universalization of water and sanitation coverage through community hydraulic infrastructure is promoted. The infrastructure is intended to be sustainable through planned and constant technical management and its future replacement is anticipated, motivating the communities to save around 10% of the capital to finance the partial or total replacement of the system, as well as the optimal use of water. In strategic alliances with the Water and Sanitation Network of Guatemala, measures are promoted to institutionalize IWRM as an urgent action to mitigate and adapt to climate change. In this sense, it is important that municipalities carry out multi-year planning, establishing goals and financing to reach Everyone milestones. In addition, it is important that they prioritize actions that guarantee the sustainability of services, through the participation of the different key actors and the implementation of mitigation projects in strategic water recharge areas.

Key Challenges

- Promote the approval of a Water Law in the country that enables the establishment of clear regulations for different uses, especially for human consumption.
- Extend access to forestry incentives to achieve conservation and recovery areas in water recharge zones in the medium term and the empowerment of the people in their territory.
- Capacity building of leaders and officials in sustainable local management that allows them to promote actions for mitigation and adaptation to climate change, territorial processes of IWRM, and the Everyone Forever model.
- Promote universal access to the human right to water and sanitation for each inhabitant, community, and public institution, through the development of planning for the sector aligned with Sustainable Development Goal 6.
- Establish milestones at different levels of planning and operation, as well as a monitoring system to measure progress on an annual basis and the promotion of sustainable technologies for rural communities.