

Climate Change, Water Resources, and WASH Systems

COUNTRY CASE:

NICARAGUA

	Risk	Programming	Policy & Planning	
Polluted water	High	Related	NAP	No
Too little water	High	Related	National climate policies & plans	Some
Too much water	High	Related	Extent WASH is included	Large

Climate trends and impacts on water resources

Water For People in Nicaragua works in two municipalities in the department of Jinotega, San Rafael del Norte and La Concordia, in the north central area of the country. In the northern and central regions, annual precipitation ranges from 800 mm (31.5") in the intra-mountain valleys to 2,500 mm (98.4") on the eastern slopes of the mountain ranges. Deforestation and the deterioration of natural resources, mainly the soil, have caused:

- Reduction in water infiltration, decreasing the quantity and quality of surface water and groundwater.
- High vulnerability of water resources and agriculture to natural events such as droughts or floods due to extreme events.
- Limited use of water due to contamination with pesticides and solid and liquid waste.

Phenomena such as the decrease in rainfall have caused the depletion of surface water sources and the over-exploitation of groundwater resources, causing shortages or abandoned infrastructure. Floods and extreme temperatures have polluted the water, increasing levels of turbidity and pathogens that increase the risk of water-borne diseases.

Nicaragua experienced a deepening of the national environmental crisis in 2019, and the impacts of climate change were felt more severely. Temperatures continued to hit historic records in the Pacific Rim and the seven most populated departments of Nicaragua reached maximum temperatures above 40.0°C (104°F). The increase in the average temperature of the country ranged between 1.0°C and 1.5°C with respect to its historical records. The greatest difference in thermal amplitude was observed between minimum and maximum temperatures of more than 15°C on the same day in several sectors of the country. There is a comprehensive document explaining the impacts of climate change in Nicaragua.¹



¹https://coin.fao.org/coin-static/cms/media/5/12802494073060/apuntes_sobre_cambio_climatico_en_nicaragua.pdf

Impacts on WASH infrastructure and services

According to the Ministry of Environment and Natural Resources (MARENA), results of a 2008 study on the "climatic and socioeconomic scenarios for the XXI century" and the projections calculated for climatic variables indicate that the average annual precipitation tends to decrease, while evapotranspiration tends to increase in different scenarios and time horizons. These reductions may be more evident in the Tamarindo river basin located in the Pacific region, and in the Viejo river basin, representative of the dry zones of the north and central regions. Under a pessimistic scenario and for the 2100 horizon, it is predicted that in both basins the reduction in precipitation could be -36.6%, while the increase in evapotranspiration can vary from 12.15% in the Tamarindo river basin to 25.0% in the Viejo river basin. However, it must be recognized that an accurate assessment of the availability of water in the current conditions of the country is limited by the lack of hydrometric information in some hydrographic basins in the country. This does not allow us to get precise data to estimate the potential impacts on water resources in certain representative basins for each one of the macro-regions.

Climate and WASH Policy and Initiatives

As part of the agreements assumed by the Government of Nicaragua through the signing of the Paris Agreement on Climate Change in September 2018, the Intended Nationally Determined Contribution (INDC) was presented to the secretariat of the United Nations Framework Convention on Climate Change. Subsequently, on February 11, 2019, Presidential Decree No. 07-2019 was published in the official gazette through which the Government of Nicaragua established the National Mitigation and Adaptation Policy and created the National Response System to Climate Change, same as the INDC.²

On September 27, 2019, Nicaragua signed the Escazú Agreement which aims to comply with principle 10 of the Rio Declaration and was ratified by the National Assembly of Nicaragua on December 11 of the same year. Through their signing and ratification, the countries express the political and legal commitment to ensure environmental justice, access to information, and public participation.

MARENA is the lead agency for national environmental public management and therefore has been assigned the implementation of the National Climate Change Policy and System. In 2019, the budget assigned to MARENA represented 0.41% of the total general budget. In 2020, this allocation was reduced to 0.24%, decreasing almost by half in relation to the amount allocated the previous year. The budget assigned in 2020 to this body is the lowest in the recent history of the country, and the budget allocation does not necessarily correspond to the responsibilities assigned through the decree creating the National Climate Change Policy and System and other responsibilities assigned by law.

Country program activities: mitigation and adaptation

At the national level, the country program participates in the leadership team of the Interagency and Sector Commission for Sustainable Development Goal 6. In this commission, there is a working table for goal 6.5.1 (degree of integrated water resources management implementation). As part of this commission's activities, in coordination with the Global Water Partnership, an evaluation has been carried out and scopes of work are being prepared for the coming years.

²<http://legislacion.asamblea.gob.ni/normaweb.nsf/b92aaea87dac762406257265005d21f7/2aa845f404d355c6062583a0005a2819?OpenDocument>

At the local level, with the municipalities, capacities are being developed for the service authority and water committees on the use of management tools, such as using a water inventory to determine preventive measures based on an assets registry and monitoring of service provision, all as part of a Water Resources Management Plan.

At the municipal level, the formation of Drinking Water Committees for good water management is encouraged, making use of micrometering and establishing tariffs that ensure sustainability.

Key Challenges

Regarding the Institutional Framework, due to the political composition of the parliament, they inhibit all possibilities of promoting environmental law initiatives, while all the laws that are approved by the National Assembly must be sent from the executive branch, without consultation processes. Also in 2019, the judicial system, in many environmental aspects, had an inefficient performance and there was no knowledge of the application of any penalty for misconduct or environmental crimes.³

The instruments discussed and approved in parliament have no reference whatsoever to the national efforts previously developed by this administration, among which is the National Strategy for the Environment and Climate Change and sectoral instruments that expired between 2015-2016.⁴ Additionally, the assumptions made on the implementation of said instruments do not correspond to the current economic, social, environmental, and institutional reality of the country. The current socio-economic conditions make these instruments an expression of intentions with little chance of being realized. The declaration of these instruments is also inconsistent with the draft general budget of the republic for 2020.

The downward trend in the budget of the government agencies responsible for environmental management in the country reflects the level of priority assigned by the current administration to national environmental management. The reduced availability of financial resources for said environmental management contributes to the deepening of the national environmental crisis, as it limits the capacity of the pertinent governmental bodies to effectively carry out their functions in the adequate management of natural resources, particularly in a context in which policy schemes favor the growth of activities that have direct negative effects on environmental sustainability, such as mining, monocultures, and extensive cattle ranching, among others that fall within the framework of priorities of both government authorities and the big economic agents of the country.

³<https://humboldt.org.ni/situacion-ambiental-nicaragua-2019/>

⁴http://euroclimaplus.org/intranet/documentos/repositorio/Plan%20de%20Acci%C3%B3n%20Cambio%20Clim%C3%A1tico%202010-2015_Nicaragua.pdf