

# Climate Change, Water Resources, and WASH Systems

COUNTRY CASE:

**HONDURAS**



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

## Climate trends and impacts on water resources

According to the global climate risk index of the organization GermanWatch, Honduras was the country most affected from 1995-2014 by heat and cold waves, extreme temperatures, and floods.<sup>1</sup> Water is the main medium through which climate change influences the terrestrial ecosystem and therefore the livelihoods and well-being of societies.<sup>2</sup> Phenomena such as the decrease in rainfall have caused the depletion of surface sources and the over-exploitation of groundwater sources, while floods and extreme temperatures have caused contamination, increasing levels of turbidity and pathogens that increase the risk of water-borne diseases.

According to a study, by 2020 annual precipitation will have decreased by 6%, mainly in the departments of Cortés, Santa Bárbara, Copán, Ocotepeque, Lempira, Intibucá, Comayagua, La Paz, Francisco Morazán, El Paraíso, Valle, and Choluteca.<sup>3</sup> For the same year it is projected that the average annual temperature will have increased by 0.8°C which will affect more severely the western and southern departments of the country, including Comayagua, Francisco Morazán, and El Paraíso.

Water For People in Honduras promotes the Everyone Forever model in different areas of the country with strong impacts on water resources. In the south of the country, located in the Dry Corridor, there are municipalities in the department of La Paz that are replicating the model. Its population is usually affected by drought every year. In the north, the municipality of El Negrito in the department of Yoro is affected by fluctuations in sea level, causing flooding and saline intrusion of freshwater aquifers, also reducing the availability of drinking water with significant effects on quality.



<sup>1</sup> <https://germanwatch.org/sites/default/files/publication/13503.pdf>

<sup>2</sup> United Nations, 2010. Resolution 64/292. The human right to water and sanitation. <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N09/479/35/PDF/N0947935.pdf?OpenElement>.

<sup>3</sup> <https://acchonduras.files.wordpress.com/2014/10/variabilidad-y-cambio-climatico-honduras2010.pdf>.

Also, the massive deforestation in the water recharge area caused by the extensive cultivation of coffee and other crops for economic purposes has caused the depletion of surface sources in municipalities such as Chinda, San Antonio de Cortes, and El Negrito.

## Impacts on WASH infrastructure and services

Honduras, due to its relief, is a country with a great diversity of both surface and groundwater sources. This makes it easier to specify an appropriate technology to provide drinking water and sanitation services to the population. A drinking water system usually has five to seven components: a catchment work (a kind of dam if it is a surface source or a well if it is a groundwater source), a conduction line, storage tanks, distribution networks, household connections, and others (pressure break tanks, water purification plants, retention works). A sanitation technology can have a stall and a septic tank, a seepage pit, or a biodigester.

Considering the risks of climate change that most impact the infrastructure and the provision of WASH services, we've identified:

1. Pollution of surface sources due to the ecological imbalance in the mountains due to intense deforestation.
2. Pollution of groundwater sources due to floods, adding to the pollution from sanitation services not managed in a safe way.
3. Instability and water stress of water sources.
4. Damage to infrastructure due to landslides and floods.

These risks are more noticeable in the north, in the municipalities of El Negrito, Chinda, and San Antonio de Cortes. However, in the southern area, in the Dry Corridor, sources suffer from water stress most of the year, which facilitates the spread of diseases when families must store water for future supply.

## Climate and WASH Policy and Initiatives

- [Water, forest, and soil master plan](#): A supplement of Plan Honduras 20/20, this initiative seeks to integrate the issues of water, forest, and soil from a perspective “from the local to the national and global,” thus strengthening the integrated management of resources under inter-institutional coordination.
- [National Action Plan to Combat Desertification](#): A tool for the implementation of the National Plan (2010-2022) - Country Vision (2010-2038) that covers state policies and setting goals and indicators in agriculture, forestry, environment, land use planning, decentralization, and education in an integrated way.
- [Climate-Resilient Development of Water, Sanitation, and Hygiene Services: Strategic Framework](#): A strategic framework based on the experiences of GWP and UNICEF seeking to provide the WASH sector with guidance on key elements to consider in the planning and implementation of actions aimed at improving climate resilient WASH services.
- [National Climate Change Strategy Honduras](#): Established by Decree No. PCM-022-2010, this strategy is based on addressing interactions between different aspects of climate change, considering its causes, impacts, and response measures.
- [Updated Regional Climate Change Strategy](#): A cross-cutting approach with specific objectives and strategic axes for each country in Central America.
- [Anticipated and Determined Contribution at the National Level](#): Focus of actions to be carried out to improve the living conditions of people vulnerable to climate change.

## Country program activities: mitigation and adaptation

More than 800,000 Hondurans lack access to improved water services (availability, quantity, quality, and resilience to the adverse effects of climate change), 80% of whom reside in rural areas. 1.43 million lack improved sanitation services and at least 600,000 defecate in the open.<sup>4</sup> To adapt to the problems surrounding climate change, Water For People in Honduras implements the Everyone Forever model, developing infrastructure for the most vulnerable areas of the country and strengthening communities with water committees and service authorities, in a coordinated and systematic way with national entities, to ensure the safe availability of water and sanitation resources.

Another measure of adaptation to climate change is to ensure the quality and quantity of water, developing and training the service authority and water committees on the use of management tools, such as using a water inventory to determine preventive measures against possible fluctuations or how to develop policies and strategic plans in water and sanitation based on an assets registry and data monitoring of service provision. In addition, we have developed important tools, such as a methodology to measure the [degree of IWRM implementation at the municipal level](#) including measurement of progress and setting priorities around the target.

To ensure the sustainability of sources and micro-watersheds, whether through declarations, purchase, or reforestation, we support the creation and strengthening of initiatives such as the Community Association for the Purchase and Protection of Micro-watersheds, which was recognized by Global Water Partnership as a [Water Change Agent](#) in 2021.

## Key Challenges

Key challenges in implementing climate change adaptation and mitigation activities include:

- Implementation of existing policies for the regulation of WASH services, due to the lack of a consolidated structure that is responsible for providing the necessary technical assistance.
- Weak coordination between existing government institutions related to risk reduction and mitigation of climate change and other actors in the agricultural and energy sectors.
- Cohesion between the different actors who use water, causing a disproportionate use of the resource.
- Lack of financing to develop infrastructure and sustainability components to ensure water resources and mitigate risks.
- Limited collection and updating of consistent data to facilitate decision-making.
- Evidence of little or no approach to gender-based objectives in water resources management and female participation in decision-making.
- Little clarity of guidelines on how to approach water resources management at a municipal level.

<sup>4</sup> JMP, 2015. Report on the Joint WHO/UNICEF Monitoring Program for the MDGs.