

## WATER, WATER CRISIS, AND OTHER MISCELLANEA

It is not a cliché to say that water is the essence of life. Not only because 7/10 parts of the planet are covered by water and life-sustaining reactions occur in water or aqueous environments, but also because of the importance it holds in our daily lives and the environment around us. However, this statement refers more to the scarcity of water resources or the lack of required quality for utilization, which is already evident in various regions of the planet.

In recent years, extreme droughts have caused water supply crises in several countries in the Americas. For example, Venezuela has been subjected to a water rationing plan since 2013 due to decreased reservoir levels for supplying water to the population, affecting around 80% of the population who do not receive daily drinking water, and in many cases, the received water does not meet the required quality. In 2015, the state of California in the United States had to resort to the use of millions of shade balls to cover the surface of its reservoirs and reduce water evaporation. In 2021, Brazil experienced one of its worst droughts in over 90 years, compromising water supply to more than 30 million of inhabitants. Recently, in Uruguay, the city of Montevideo is at risk of running out of water due to a severe drought that depleted the volume of water stored in its reservoirs. Mexico, Paraguay, and Argentina have also faced water crises in recent years. Chile, Mexico, Guatemala, Peru, Venezuela, and Cuba are estimated to have medium to high water stress levels, according to the World Water Institute.

These extreme droughts are the result of significant human intervention and impact on the environment, specifically on watersheds, as well as the concentration of human populations in regions with water scarcity, which is a common factor in most countries in our region. For example, Venezuela has over 60% of its population concentrated in the Andean-coastal arc, where only 20% of water resources are available. Latin America shows one of the highest rates

of deforestation globally, with nine out of the top 24 deforestation fronts estimated at 10 million hectares between 2015 and 2020. This not only affects water reserves but also leads to significant biodiversity loss.

The loss of vegetation cover due to deforestation for urbanization, expansion of agricultural frontiers, mining, and other issues, coupled with the emission of greenhouse gases, has resulted in increasing average temperatures each year, contributing to climate change and predicting lower precipitation, shorter rainy seasons, and consequently, greater water scarcity.

Additionally, other factors cannot be overlooked, such as water sources being degraded by the discharge of pollutants and fertilizers. These activities also affect water availability for various uses and increase the cost of water treatment for consumption. The discharge of contaminants, along with the loss of vegetation cover, threatens strategic water sources for some countries. The area known as the "Orinoco Mining Arc" in Venezuela, with a larger area than countries like Cuba, Panama, the Dominican Republic, and Portugal, and home to water sources that generate hydroelectric power for over 70% of the country, is being heavily impacted by mining activities that compromise water resource utilization. Moreover, the blooming of cyanobacteria due to the runoff of fertilizers into eutrophicated lakes and reservoirs poses a severe public health risk due to the potent toxins some of these cyanobacteria produce.

Given this panorama, it is imperative for governments to raise awareness and take action to protect and restore watersheds, as well as implement measures to mitigate the effects of water body degradation and climate change.

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