WHAT PROGRESS LOOKS LIKE

## BRAZIL – AMBIENT WATER QUALITY (SDG TARGET 6.3)

Progress indicator: SDG 6.3.2 Proportion of bodies of water with good ambient water quality

Level of impact: National (213.1 million people and 8,358,140 km^2 land area)

Result: The area of water bodies assessed with good ambient water quality increased by 8 percentage points and the data provided evidence that investment decisions to improve water quality (e.g. the construction of 900 new wastewater treatment plants since 2013) are effective.

Progress 2017–2020:

71%
63%

2017   2020
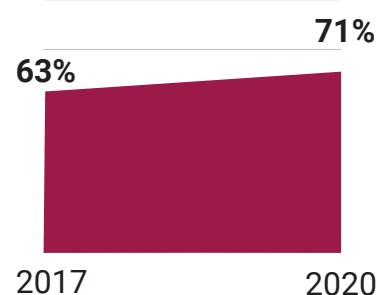
SITUATION

Brazil is the fifth largest country in the world; it stretches over nearly 40 degrees latitude, resulting in a varied climate that ranges from equatorial and tropical to semi-arid and subtropical zones. The country is home to 214 million people, of which six in seven live in urban areas. Brazil's upper-middle-income economy is one of the 12 largest in the world, and while agriculture and the extraction of natural resources remain important, the service sector accounts for two-thirds of the gross domestic product, and the industrial sector for more than a quarter. While millions of people have been raised out of poverty in recent decades, a large gap between the richest and poorest people in society remains.

Water management in Brazil is based on multiple water uses and is organized by river basin – the country is divided into 12 hydrographic regions, the largest being the Amazon basin. While the provision of water and sanitation services in Brazil is decentralized, the National Water and Sanitation Agency (ANA) is the central institution responsible for managing water resources, implementing the country's National Water Resources Policy, and defining reference standards for the regulation of basic sanitation services. ANA also monitors the conditions and the management of water resources in the country, including the SDG 6 indicators, together with other institutions, such as the Brazilian Institute of Geography and Statistics, the Ministry of Health, the Ministry of Regional Development, the Geological Survey of Brazil and the National Water Resources Council, chaired by the Minister of the Environment.

PROGRESS MADE

In 2017, Brazil reported that 63 per cent of the water bodies assessed had good ambient water quality, and by 2020 this figure had risen to 71 per cent. Although just two data points are not sufficient to establish a trend, these early signs are positive, and there is hope for Brazil to reach this SDG target by 2030.

When disaggregating the data by hydrographic region and looking at the annual data available from 2010, it becomes evident for example that the Uruguay River basin is consistently of good water quality, and that

the Eastern North-East Atlantic region showed steady improvement between 2014 and 2018. By combining annual data on water quality and water quantity, it is possible to detect a relationship between the two parameters, especially in the semi-arid hydrographic regions: the larger the quantity, the better the quality.

Identifying such a trend is only possible if supported by an advanced monitoring and assessment capacity. This means to have the technical capacity to collect and analyse water quality samples, the capacity to manage data, and the tools to use these data to meet information needs. This must be built on a culture of data-sharing between different organizations, and in turn, an environment that enables these activities to be suitably resourced and openly shared and disseminated. In Brazil, the freshwater quality monitoring of rivers and lakes, coordinated by ANA through the National Hydro-Meteorological Network and the National Water Quality Monitoring Network, comprises datasets from over 5,000 monitoring stations. Groundwater data is obtained from the Rede Integrada de Monitoramento das Águas Subterrâneas [Integrated Groundwater Monitoring Network] of the Geological Survey of Brazil. Since 2016, when the first contracts between ANA and the 27 federative units began, the scope for monitoring the quality of inland surface water has grown, not only

in terms of territorial coverage, but also in relation to the parameters analysed. Combining different datasets with high spatial and temporal resolution allows for greater insight into the drivers of water quality and can support and guide investment decisions.

The improved ambient water quality may be the result of the commissioning of around 900 new wastewater treatment plants that have come into operation in the country since 2013. This development has improved wastewater treatment (primarily in urban areas) by 37 per cent between 2009 and 2020: 59 per cent of wastewater flows are now safely treated. However, two-thirds of the 5,570 municipalities in Brazil (mostly in rural areas with smaller populations) still do not have sewage treatment facilities.

This type of evidence highlighting a causal link between the expansion of wastewater treatment plants and improved freshwater quality supports further efforts to improve water quality and achieve SDG target 6.3 with a measurable and rapid return on investment. ANA's efforts demonstrate how data can provide clear evidence that investment decisions to improve water quality are effective, and also help to improve understanding of the links to meteorological patterns that may be climate driven.

KEY SUCCESS FACTORS

- Large investments in wastewater treatment plants in urban areas
- Resource management organized by water basin, with support from a central institution with overall responsibility for policy, implementation and monitoring
- Availability of data with high spatial and temporal resolution to understand the status and links between actions and water quality outcomes

LEARN MORE

- National Water Quality Monitoring Network
- SDG 6 in Brazil: ANA's Vision of the Indicators (2022)
- Overall progress on SDG 6 in Brazil