

Uganda snapshot on water and climate

About the country snapshot

This country snapshot provides an at-a-glance understanding of the current national water and climate resilience status. It presents the latest information across key climate-smart decision-making categories (water resources and water and sanitation, SDG 6, climate change and disaster risk reduction, financing, governance, gender mainstreaming and social inclusion) in an easily digestible format, extracting the most important details from national and/or international analysis. No data was independently collected for this baseline snapshot, which will be complemented by a follow-up snapshot in mid-2024 to assess incremental progress in our journey to resilience.

1. Uganda water resources and water, sanitation, and hygiene

Climate change and environmental degradation, combined with population growth and rural to urban migration, are difficult for many developing countries to manage. Uganda, with one of the highest rates of population growth, particularly faces the challenge of maintaining existing services while investing in new systems to meet growing demands. Although at first glance, Uganda seems well watered with extremely low abstraction of water (particularly for irrigation), the effects of climate change, wetland degradation, and inability to match investment in water, sanitation, and hygiene (WASH) with population growth present a challenging situation that will worsen if major reforms are not undertaken. The reduction of government expenditure on water from 5 percent to 3 percent of the national budget is an indicator of the fragility that the water sector faces. Although the [World Resources Institute \(WRI\) Water Risk Index for Uganda](#) provides a score of low to medium, the physical risk factors associated with unimproved water and lack of sanitation (which lead to significant contamination of surface water and even groundwater) and the regulatory and reputational risks (which deter private sector investment) are rated as extremely high.

This brief reviews data from existing global frameworks that are used at the country level to plan, finance, and manage water resources to meet the challenges related to climate change and development.

Uganda



World Resources Institute Water Risk Index

Overall risk rating: **Low to Medium**

Physical risk rating



Extremely High

Water/sanitation/regulation and reputational risk rating



Extremely High

Groundwater risk



Extremely High

Regulatory risk rating



Extremely High

2. Sustainable Development Goal 6: Joint Monitoring Programme and Global Environmental Management System

The Joint Monitoring Programme [report covering 2000–2020](#) demonstrates that Uganda's two decades of population growth and economic expansion, with substantial population transfers

from rural areas to urban centres, have put a strain on existing water and sanitation services. The Ministry of Finance (2019) estimates that 90 percent of Ugandans will have no access to

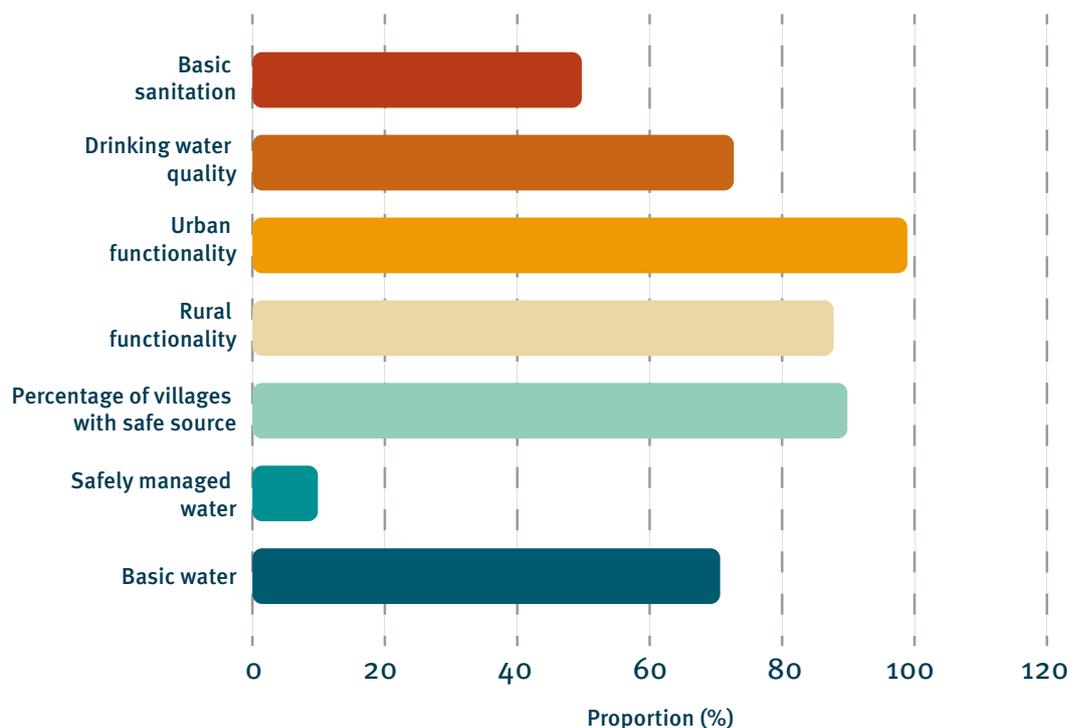
safely managed water by 2030 in the current budget outlook (see Figure 1).

Sustainable Development Goal (SDG) 6 targets related to the **Global Environmental Management System (GEMS)**, which reviews the status of water resources, report that Uganda has low water stress with only 6 percent of renewable water extracted. The area covered by water bodies increased between 2001 and 2015; however, wetland conversion (for agriculture and housing) and **degradation of other water bodies accelerated**. The National Environment Management Authority warns that Uganda has been losing on average 791 km² of its wetlands each year, a trend that could lead to total depletion by 2040 if it continues. While procedures in law or policy for participation by users/communities and level of participation in Uganda (**SDG 6 indicator 6.1a and b**) are reported to be very high, particularly in rural areas, the same report provides an alarming assessment that the proportion of bodies of water

with good ambient water quality in Uganda (2017–2020) is zero¹ compared with other countries in the region, such as Burundi at 100 percent, Kenya and Tanzania at 85 percent, and Rwanda at 79 percent.

According to a Climate and Development Knowledge Network and Department for International Development-funded study commissioned by the Ministry of Water and Environment (Markandya et al., 2015), climate change and fluctuation are impacting the availability of water for domestic use, agriculture and livestock, fisheries, aquaculture, forestry, tourism, lake transport, and energy generation. Social sectors impacted include water and sanitation, health, and nutrition. Total water demand was expected to increase from 408 million m³ per year in 2010 to 3,963 million m³ per year in 2050. Total unmet demand will then rise from 3.7 million m³ per year to 1,651 million m³ per year in this period.

Figure 1: Estimate of Uganda's access to water and sanitation by 2030



Source: Ministry of Finance, Budget Monitoring and Accountability Unit, 2019

1 Possibly a mistake/miscalculation.

3. Climate change and disaster risk reduction

Uganda submitted its intended Nationally Determined Contribution (NDC) in 2015, with commitments on emission reductions, while observing the importance of adaptation due to the country's vulnerability to the impacts of climate change, including changing weather patterns, drops in water levels, and increased frequency of extreme weather events. In 2021, Uganda forwarded detailed notes to the United Nations Framework Convention on Climate Change, stating its intention to update the intended NDC to strengthen its focus on adaptation. However, the country has not yet developed a full NDC or a National Adaptation Plan.

It is anticipated that climate change will have a substantial impact on Uganda. Damages to the assets, livelihoods, and food security of poor and vulnerable populations are most likely to have an impact.

To enhance reliable access to water services, the United Nations Children's Fund and the Ministry of Health are using a Climate Resilient WASH Framework in the drought-prone Karamoja region, partnering in a US\$14 million Green Climate Fund-financed proposal that promotes climate-smart technology using low-cost renewable energy sources.

The Ministry of Water and Environment, with support from the United Nations Children's Fund, is undertaking a study to enhance the resilience and adaptive capacity of rural livelihoods to climate impacts and risks on water resources in

the most at-risk areas, where there are also insufficient potable water and sanitation services, through:

- i) strengthening water resources monitoring systems for improved water management
- ii) generating and disseminating appropriate water resource information for different stakeholders and communities most affected by floods, droughts, and landslides
- iii) developing information and rationale for climate-resilient water and sanitation projects.

Natural disasters in 2019/2020 affected more than 355,000 households and 125,000 persons were displaced. The World Bank estimates that up to **12 million people will be internally displaced in Uganda by 2050** without concrete measures on floods, mudslides, and drought.

Uganda has one of the most organized disaster management systems in the region, partly as a result of floods and landslides in the Mount Elgon watershed, droughts in the greater Karamoja region, impacts of refugees (who often exceed 1.5 million), and hundreds of thousands of seasonal migrants (pastoralists) from Kenya, Ethiopia, and South Sudan who move with their livestock. All require huge logistical support for food, water, and sanitation.

4. Financing

The Climate and Development Knowledge Network and Department for International Development study for the Ministry of Water and Environment (Markandya et al., 2015) indicates that if no adaptive measures are adopted, annual costs could range from US\$3.2 billion to US\$5.9 billion within a decade, with the greatest impacts occurring in the water sector, followed by energy, agriculture, and infrastructure. The anticipated cost of inaction during the 2010–2050 period is between US\$273 billion and US\$437 billion. For climate finance, the Ministry of Finance, Planning and Economic Development states that Uganda has mobilized US\$942 million

for 46 projects that are under implementation. **More than 75 percent of these funds** (US\$750 million) have been approved for investment directly at the sub-national level, for innovative adaptation and mitigation projects that focus on co-benefits with the SDGs and prioritize nature-based solutions that restore environmental services.

According to Uganda's Ministry of Finance, the budget for the water sector fell from 5 percent to 3 percent of the national budget between 2018 and 2022. The sector budget is significantly dependent on external flows.

5. Governance

Ninety-eight percent of Uganda is part of the Nile Basin and almost all of its water resources are transboundary, covered by treaties and legally binding agreements under the Lake Victoria Basin Commission, the Nile Basin Authority, and the [Kagera River Basin Organization](#), which, despite reduced functionality in the recent past, serves as a constant reminder of how a transboundary water management entity can be institutionalized. As the source of the White Nile, Uganda plays a pivotal role in regional water governance and could leverage greater investment to use its significant water resources for development in this food insecure region.

Access to water and sanitation is a fundamental human right, as enshrined in the national constitution. However, access remains low.

Development and management of water resources in Uganda is based on hydrological units known as catchments, which do not match with political boundaries such as districts and counties and arguably undermine the authority and responsibility of local authorities over key water issues.

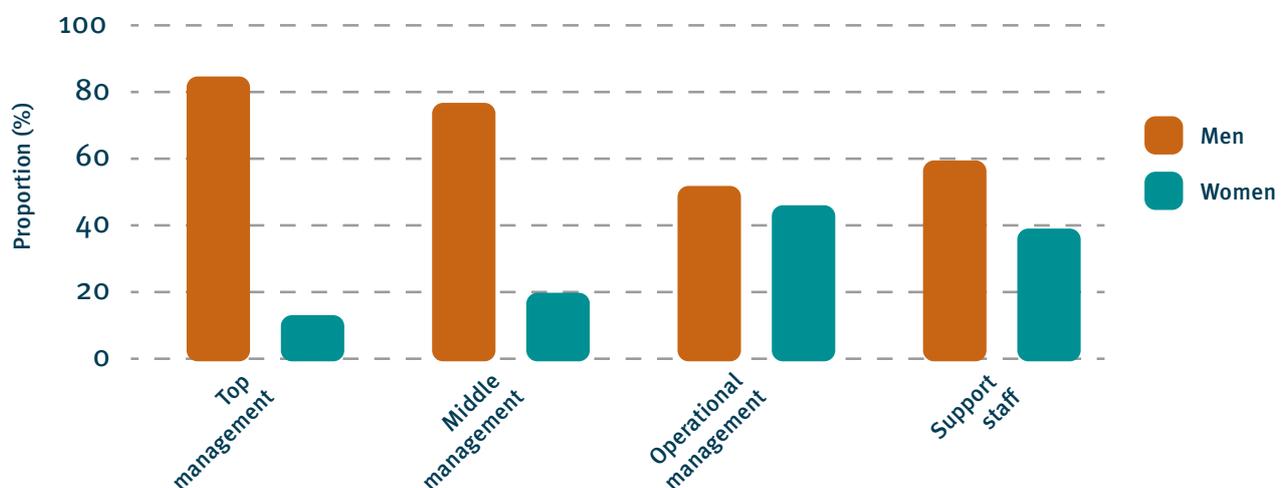
6. Gender mainstreaming and social inclusion

The Constitution of Uganda (1995) guarantees gender equality and goes further, stipulating temporary affirmative action in favour of women to rectify inequities caused by history, tradition, and other causes. Uganda is a signatory to a number of international agreements and has a Gender Policy (2007) that provides a framework for gender-sensitive development. Despite the numerous activities and interventions carried out by the Ugandan Government and development stakeholders, little progress has been made, as exemplified by the breakdown in Figure 2 (below) regarding the distribution of MWE staff by gender. There are much fewer women in senior-level positions. Uganda's prevailing Water and Sanitation Gender Strategy (2018–2022) recognizes that despite previous efforts, the inadequate capacity of sector workers to use gender-disaggregated data results in gender

disparities in the sector's leadership and management, as well as insufficient water and sanitation services for women and girls.

The Strategy notes that by 2018, few or none of the top management had been trained on gender mainstreaming. Some of the key measures proposed to meet gender targets at all levels include reviewing gender integration for 30 percent of existing staff and 100 percent of all new jobs, and 100 percent of national and district officers; training 70 percent of field staff on gender mainstreaming; and issuing 30–50 percent of licences to operate water businesses to women, youth, and people with disabilities. There has been no update available on changes made as a result of the 2018 study.

Figure 2: Gender distribution across MWE staff, 2018



Source: Republic of Uganda Ministry of Water and Environment Water and Sanitation Gender Strategy (2018–2022) p. 11

References

Markandya, A., Cabot-Venton, C. and Beucher, O. (2015) *Economic Assessment of the Impacts of Climate Change in Uganda*. Ministry of Water and Environment and Makerere University. Available at: https://cdkn.org/sites/default/files/files/Uganda_CC-economics_Final-Report2.pdf

Ministry of Finance, Budget Monitoring and Accountability Unit (2019) *Briefing Paper 18/19: Can Uganda achieve SDG 6 on Water and Sanitation?* Budget Monitoring and Accountability Unit, Ministry of Finance, Uganda.

About the Global Water Leadership (GWL) programme

Effective and equitable water management is becoming increasingly complex, and increasingly important, as climate change impacts add new uncertainty to policy decisions and financial investments. The Global Water Leadership in a Changing Climate programme (GWL) is working intensely in ten countries, bringing together key stakeholders and decision makers from two water management pillars – water resources and water and sanitation – to develop holistic, integrated policies and plans to enhance national water and climate resilience. The programme is funded by the UK Foreign, Commonwealth and Development Office (FCDO) and implemented by Global Water Partnership (GWP), the United Nations Children’s Fund (UNICEF), the Sanitation and Water for All Partnership (SWA) and the World Health Organization/UNICEF Joint Monitoring Programme (JMP).



Countries in the GWL programme

1. Bangladesh
2. Central African Republic
3. Chad
4. Madagascar
5. Malawi
6. Nepal
7. Rwanda
8. State of Palestine
9. Tanzania
10. Uganda