

CLIMATE CHANGE AND WATER SECURITY

CASE OF BURKINA FASO AND NIGER

Advocacy brief
WaterAid West Africa
July 2021





▲ Moustapha (left) and his colleague Desire (right) taking measure of water level in a well, showing us their volunteer work as water monitors, in the village of Sablogo, in the Commune of Lalgaye, province of Koulpelogo, Region of Centre-East, Burkina Faso. January 2018.

“It is with the water of the body that one draws water from the well.”

Nigerian proverb

1. Unicef/OMS, Progress on drinking water, sanitation and hygiene: 2000-2017: Special focus on inequalities.

We all need clean water to survive. But right now, climate change is making life harder for the poorest people in Sub-Saharan West Africa where nearly one in three people are still living without clean water close to home¹.

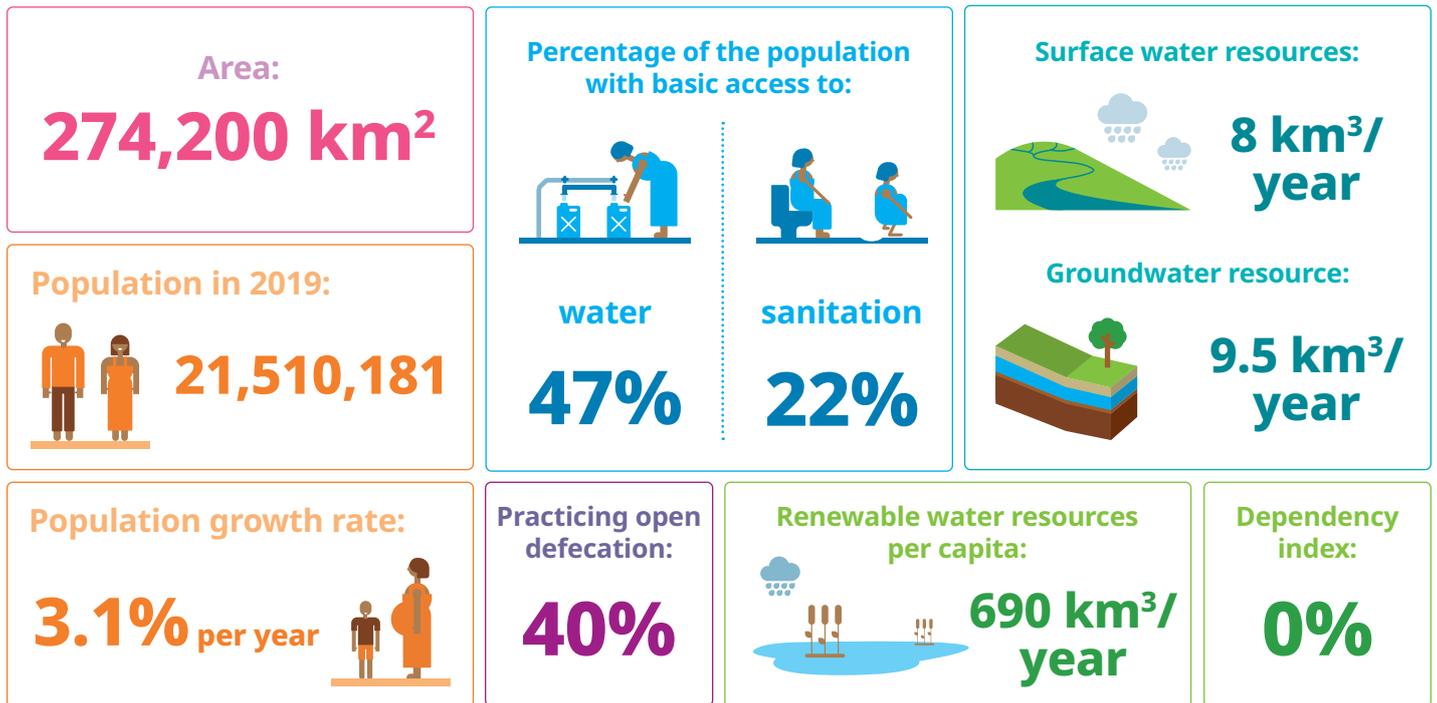
In Burkina Faso and Niger, the climate crisis is a water crisis. A series of droughts have occurred since the 1970s with a general decline in rainfall. The region has experienced a 2°C rise in temperature since 1950. In Niger, the temperature will increase by 2.0°C to 4.6°C by 2080.

In both countries, many people still depend on surface water sources, such as rivers and ponds, which are vulnerable to shocks and disasters. This situation greatly compromises key development sectors such as agriculture and puts the wellbeing of over 43 million people at risk.

As part of WaterAid’s campaign on water and climate, we conducted a research study of the impacts of climate change on water security in the West Africa region, focusing on Burkina Faso and Niger. We are calling on the governments of these two countries to make a firm commitment to ensure that communities have access to safe, clean and sustainable water resources.

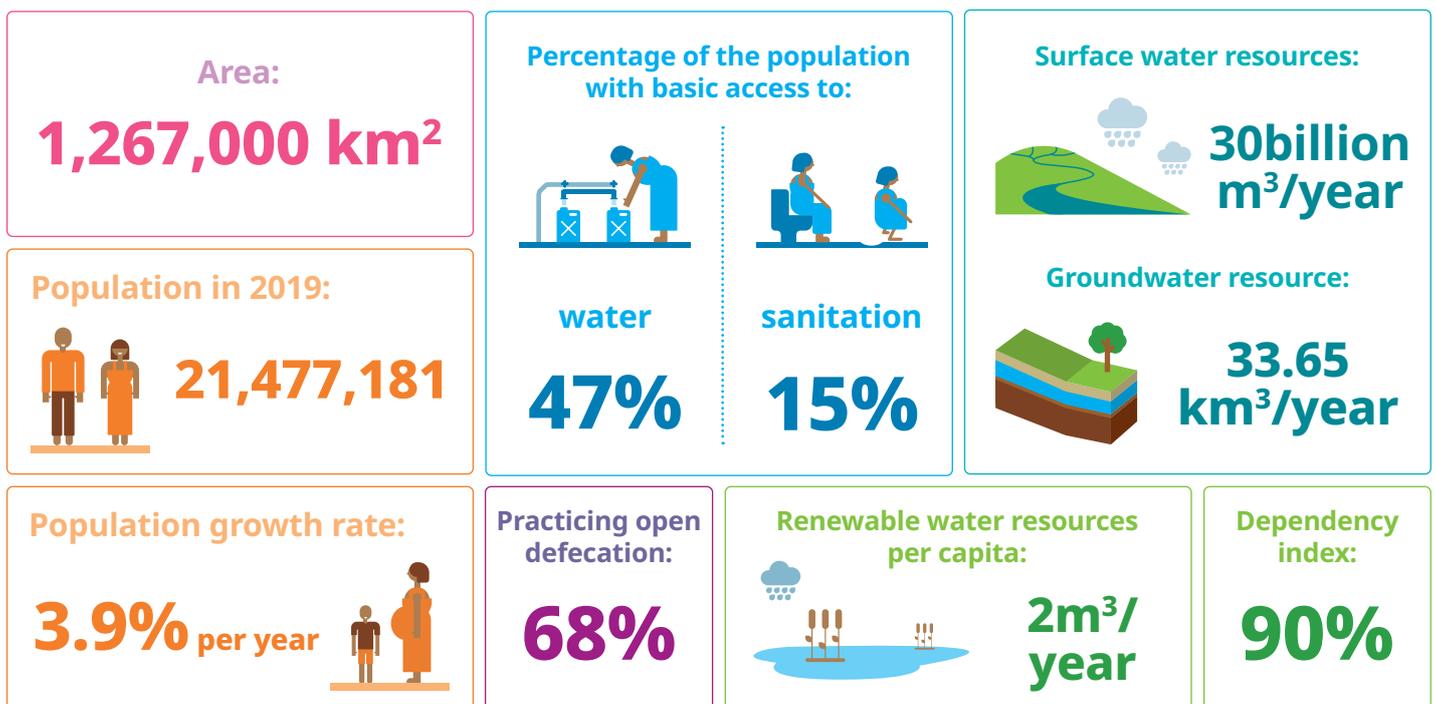
Moustapha, Desire and other community members pictured beside the sand dam constructed across the riverbed. The sand dam is used to improve water retention and recharging of groundwater, in the village of Sablogo, in the Commune of Lalgaye, province of Koulpelogo, Region of Centre-East, Burkina Faso. January 2018.

STATISTICS FOR BURKINA FASO



Source: (JMP 2020).

STATISTICS FOR NIGER



Source: (JMP 2020).

WHAT IS THE PROBLEM?

The water resources sector appears to be one of the most vulnerable in West Africa. The governments of Burkina Faso and Niger have certainly taken into account the issue of climate change in their national policies and strategies (National Adaptation Programmes of Action, National Communications, National Action Plans, etc.).

However, according to forecasts on the impact of climate change on water resources, the water insecurity already present in both countries could intensify and threaten economic stability and human development if the countries concerned do not put in place adequate measures for water resource management such as building structures or establishing systems (for example, small dams, stone fences, tree planting) and observed safe distance between the sanitation facilities and waterpoints.

▼ [Satala community members inspecting some documents with project staff next to the main pond in the village of Satala, commune of Dungass, in the department of Dungass, Zinder, Niger. February 2019.](#)

In Burkina Faso, an estimate of the ratio of usable water to the country's needs shows that the country is in a permanent state of water stress. Yet due to local conditions, water scarcity is prevalent across Burkina Faso, as the hydro-geological conditions and flat topography lead to much of this rainfall becoming unavailable.

As much infiltrates the soil, which contains few aquifers. A further rainfall is 'lost' into the rivers which flow rapidly to Ghana and end up in the Gulf of Guinea. These conditions call for action, in particular, for increased investment in water services.

The supply of water to large urban areas in a context of climate change and rapid urbanization will remain the main resource management challenges for Burkina Faso in the years to come. In 2050, water volumes will decrease significantly compared to the 1961-1990 in all the basins of Burkina Faso. In particular, there will be a drop of 68.9% in the Comoé, 73% in the Mouhoun, 29.9% in the Nakanbé and 41.4% in the Niger. This is likely to have a significant impact on the supply of drinking water to communities.





► Clement Nana, 30, market gardener, standing among his dried up aubergine crops, in his market garden, in the village of Yargho, commune of Toece, Bazega province, south central region, Burkina Faso. February 2021.



Despite its considerable water potential, Niger - a predominantly desert country - has a very high water dependency index: 89.6%.

The country is totally dependent on the actions of other neighbouring states for its supply of fresh surface water.

Niger is estimated to use only 20% of its total groundwater resources. In addition, some of Niger's groundwater is highly mineralized, due to high evaporation linked to climate change and/or the age and dissolution of minerals in the aquifer.

Annual withdrawals to satisfy the various water needs by 2025 will evolve to more than 9.2 billion m³. They remain well below the renewable water resources estimated at more than 32.5 billion m³ annually. Surface water resources will be weakened by several years of drought, desertification and silting.

The challenges of water management in Niger are mainly related to problems of development and mobilization of water resources, regulation of surface water flows, and equitable allocation of the resource in periods and years of pronounced deficits.

Yargho is a village located in the rural commune of Toece, in the province of Bazega, in the South Central region of Burkina Faso. It is about 70 km away from Ouagadougou, the capital of Burkina Faso. In Yargho, the rainy season generally runs from May to October, and the dry season is from October to April. The inhabitants make their living from agriculture, breeding, and small trade, but also and above all from market gardening.

It is currently estimated that there are more than a hundred market gardeners, who, every dry season, use the water from the dam with the help of motor pumps and pipes to produce off-season vegetables in fields around the dam. They produce onions, tomatoes, cabbage, aubergines, chilli, courgettes, etc., which they sell to earn an income and provide for themselves and their families. In addition to the dam, a few boreholes and traditional wells serve as a source of water supply for the inhabitants. Unfortunately, these water sources are insufficient and not all of them work well in all seasons.

In early 2021, against all expectations, the dam that allows the Yargho market gardeners to water their plants dried up on 22 January. Usually, the water would run until the end of February or even March, but this year this was not the case. Even in December 2020 the water had already begun to run out, and it finally dried up in January, leaving the market gardeners in distress and disarray and without a source of water for their produce.

WHY IS THIS IMPORTANT?

The availability of water resources and water supply services to abstract, treat and deliver water to households is fundamental to water security. Groundwater is particularly important for domestic water supply, which underpins livelihoods and contributes to resilience to water shocks and climate change impacts.

Without water security, people, especially women and girls, are more vulnerable and less able to cope with drought, floods, disease and weather uncertainties. The effects of climate change negatively impact the availability of water resources, the availability of drinking water (increased water stress) as well as the quality of water resources. With climate change making rainfall less predictable, droughts and floods more likely, the need to reach everyone everywhere with safe WASH services is more urgent than ever.

According to the [World Bank report](#) (2016): **“water scarcity exacerbated by climate change could cause some regions to**

experience a decline of up to 6% in GDP, trigger migration and trigger conflicts”.

The West African region is a region where population growth, economic development and urbanization are continuously increasing, with a growing demand for water. In Burkina Faso, the significant variation in rainfall from one year to the next and the increase in potential evaporation represent proven risks for the growth cycle of rainfed crops, particularly millet and sorghum. The scarcity of pastures and water reservoirs will force pastoralists to migrate further south.

In Niger, the Sahelian zone is at risk of early drying up of wells and cesspools, low filling of lakes, insufficient water for various uses and worsening water stress. The sectors most affected are: agriculture (drop in agricultural production), livestock (fodder deficit), forestry (reduction in forest formations), health (increase in the rate of attack by certain diseases such as measles, meningitis, malaria and respiratory diseases).

“Previously, water resources and vegetation were more abundant in Dungass. But today they tend to disappear. Before, there was a water source nearby but now the water has dried up. Here it was a wooded savanna, but over time some types of trees disappeared”

The trainings that we have received from WaterAid and DEMI-E allowed us to understand that all this is the effect of the phenomenon of climate change. We can see that this is a reality. There are palpable examples. Climate change has a big impact on our agriculture. Previously, Dungass was the place for farming peanuts, but now, with time, we don't have that anymore.

Our peanut is gone. Rice was produced a lot here in Dungass but this production has decreased. Now when you want to grow a field, you need manure and fertilizer. Before we didn't know all that.” said Ali Sabo, 51, a water monitor.

▶ Ali Sabo, 51, a water monitor, demonstrating how he uses a rain gauge to monitor rainfall, Dungass, in the department of Dungass, Zinder, Niger. February 2019.



CALL FOR URGENT ACTION TO ENSURE WATER SECURITY

Water is life. If governments do not anticipate the predictable and devastating effects of climate change to secure access to water and sufficient provision it will affect many lives.

In the context of climate change, the development of resilient and gender-sensitive WASH services is an increasingly urgent priority. Without these services, the communities in Burkina Faso and Niger will not be resilient. The WASH sector must be part of the climate change adaptation work.

As African countries prepare for UN Regional for Climate Week and COP26, they must ensure that water, sanitation and hygiene are included in their climate change adaptation commitments in order to achieve the Sustainable Development Goals by 2030.

WaterAid calls on the governments of Burkina Faso and Niger to:

- Include water, sanitation and hygiene in climate change policy as a key adaptation strategy. Both governments should urgently complete NDCs ahead of COP26 and commit to incentivise better cross-institutional cooperation across departments to recognise water, sanitation and hygiene as essential elements in climate change adaptation
- Improve climate resilience and adaptive capacity to extreme water-related disasters through risk and emergency management solutions by raising community awareness about risks and strengthening integrated water resources management programs at all levels by 2030
- Prioritise the development of national funding proposals that address WASH and climate change to ensure that they meet the criteria set by funds such as the Green Climate Fund and the Adaptation Fund
- Endorse innovative financing such as the Resilient Water Accelerator, which aims to build practical solutions to the water and climate crisis, support countries' such as Niger and Burkina Faso bids to secure climate finance, and ensure that more climate finance is fast-tracked towards protecting communities' vital water services from a changing climate.



◀ Maimouna Dembele, 70, president of the Benkadi women's group, watering crops inside the market garden in the village of Kakounouso, Samabogo, Circle of Bla, Segou Region, Mali. February 2019.

▶ Community members from Basbedo during a village assembly, in the commune of Tenkodogo, in the Centre-East region, Burkina Faso. June 2019.

Front cover: A water monitor testing a new rain gauge in her village in the commune of Tenkodogo, in the Centre-East region, Burkina Faso. June 2019.



FOR MORE INFORMATION

Please contact infowaro@wateraid.org.
The summary report of the research study is available [here](#).

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WaterAid is an international not-for-profit, determined to make clean water, decent toilets and good hygiene normal for everyone, everywhere within a generation. Only by tackling these three essentials in ways that last can people change their lives for good.

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