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# WATER CRISIS IN THE HORN OF AFRICA

After the worst drought in 40 years, water insecurity poses a deadly risk to children in Djibouti, Eritrea, Ethiopia, Kenya, and Somalia

For children in the Horn of Africa, water is becoming an increasingly scarce resource. The region is in its third consecutive year of below-average rainfall, and is now experiencing the impacts of one of the worst climate-induced emergencies of the past 40 years.<sup>1</sup>

The protracted drought has led to a water crisis, with more than 8.5 million people, including 4.2 million children, facing dire water shortages across the region. Water scarcity is killing livestock, drying up crops and driving families from their homes in search of water.

Coupled with ongoing conflict and displacement, the children and families in the Horn of Africa are at serious risk of disease, starvation and death.

Over 20 million people in Djibouti, Eritrea, Ethiopia, Kenya, and Somalia, including 10 million children, will need water and food assistance through 2022 and beyond due to drought, insecurity, economic challenges, and conflict.<sup>2</sup>

## Fast facts

Within the past four months across the Horn of Africa:<sup>3</sup>

- **88%** increase in household water insecurity from 5.6 million to 10.5 million.
- **38%** increase in people in need from 14.5 million to 20 million.
- **37%** increase in the number of severely wasted children admitted for treatment in Ethiopia, Kenya and Somalia in the first quarter of 2022 compared to 2021.
- **40%** increase in IPC 3+4 food insecurity, from 11.6 million to 16 million.
- **15 million** children are out of school, and **3.3 million** children are at risk of dropping out.
- **More than 50%** increase in child marriage and female genital mutilation in many drought-affected regions compared to 2021.



## Climate change and water scarcity

Climate change is leading to increasingly unpredictable variations in temperature and rainfall patterns in the Horn of Africa, a trend that is only expected to intensify. While some areas may receive higher rainfall, much of the region will suffer from decreased rains. The average temperature increases are also projected to rise higher and faster than the global mean.<sup>5</sup>

Decreased rainfall will cause lower levels of surface water and limit the replenishment of groundwater aquifers – two important sources of water for communities. These decreased water levels, in conjunction with poor sanitation and hygiene, give rise to deadly waterborne diseases such as cholera and acute watery diarrhoea.

Increased temperatures cause more water to evaporate from land and water surfaces, leading to lower soil moisture and greater water losses from reservoirs. This impacts agricultural production and the availability of water for household use. Intense heat can also damage water infrastructure and increase the risk of water-borne pathogens that thrive in warmer temperatures.

Too much water, in the form of extreme rainfall events, also threatens water supply, as floods damage infrastructure, pollute wells and dislodge pipelines. Low-lying wastewater treatment facilities are particularly at risk.

In much of the Horn of Africa region, water scarcity has resulted in demand for water resources that exceeds the available supply. In short, **there is not enough water to meet the growing needs of children and families**, as well as agriculture, energy, industrial and ecosystem needs.

## The rising cost of water

Economic water scarcity arises where, despite the availability of water in nature, access to water is limited due to lack of infrastructure, cost and institutional constraints. It is characterized by insufficient investment in infrastructure meant to supply and distribute water equitably. Domestic water supply is difficult to secure for poor households, which are vulnerable to high retail water prices and seasonal fluctuations in availability.

Most people in the Horn of Africa rely on water delivered by vendors on trucks or donkey carts. In areas worst hit by drought, the cost of water has increased by up to 400 per cent. This means many families are forced to choose between water and other household essentials like food. Others can no longer pay for water at all.





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## Population growth and urbanization

The five Horn of Africa countries have a total population of about 200 million, ranging from 1 million in Djibouti to nearly 121 million in Ethiopia, the second most populous country in Africa. The average annual projected **population change** rates for 2020–2025 vary widely, from 1.3 percent in Djibouti to 2.9 per cent in Somalia.<sup>6</sup> Djibouti already has an 80 per cent urban population and Eritrea and Somalia have higher rates of urban growth than the rest of East Africa.<sup>7</sup>

Population growth drives burgeoning demand for water for all uses: households, agriculture, industry, and energy. Swelling city populations put huge strains on municipal water utilities and private providers to secure and protect water resources and to deliver enough safe water to the public. At the same time, informal settlements are expanding, and continue to have limited access to basic water services.

## Conflict and displacement

Conflict is one of the key drivers of famine, putting strain on food and water supplies, as well as health systems. And all too often, the human dependence on water has been intentionally exploited during armed conflict, with water resources and the systems required to deliver drinking water coming under direct attack. Nearly all of the conflict-related emergencies where UNICEF has responded in recent years have involved some form of attack hindering access to water, whether intentionally directed against water infrastructure or incidentally.

In the Horn of Africa, conflict risks remain high due to political fragility. The active conflict in northern Ethiopia, and the protracted crisis in Somalia have caused millions of people to flee their homes and restricted humanitarian access. Elections in 2022 in Somalia and Kenya may create tensions that will exacerbate difficulties in responding to the current drought.<sup>8</sup> The concentration of groups from different locations and competition over scarce water resources has historically generated tensions and conflicts, for example, between settled farmers and nomadic pastoralists.

The drought is forcing households to sell off assets like livestock, household items or land, and migrate in search of water and humanitarian assistance. The scale of the displacement is staggering; Somalia has 3.7 million internally displaced persons and Ethiopia has 4.2 million internally displaced persons and 800,000 refugees.<sup>9</sup>



# Impacts on children

Latest UNICEF data show that children in Eritrea, Ethiopia and Somalia are at extremely high risk of climate change hazards, including water scarcity, while children in Djibouti and Kenya are at high risk.<sup>10</sup> Children are more vulnerable than adults to extreme weather such as droughts, and are more exposed and less able to survive its impacts. Water scarcity affects children by depriving them of their right to health, education, nutrition and protection.

## Child survival and health

Limited access to clean water jeopardizes a child's chances of survival. Despite recent gains in child health, the child mortality rate in Somalia is among the world's highest, and only 56 per cent of households use safe drinking water. Water scarcity increases the risk of diarrhoeal disease, a major killer of children under age five. Other debilitating diseases such as cholera, hepatitis A, typhoid and polio are also linked to contaminated water sources.

For children in conflicts, unsafe water can be just as deadly as bullets. On average, children under the age of 15 who are living in conflict zones are nearly three times more likely to die from diseases linked to unsafe water and sanitation than from direct violence. For younger children, the situation is worse: children under five years old are more than 20 times more likely to die from diseases linked to unsafe water and sanitation than from direct violence.<sup>11</sup>







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## Child nutrition

Severe drought, like the one being experienced in the Horn of Africa, is a key driver of food insecurity. Without water, crops cannot grow, animals and livestock die, and communities are forced from their homes in search of pasture.

The resulting loss of nutritious food, coupled with poor access to safe water and sanitation, exposes children to a high risk of malnutrition. Water scarcity increases the risk of diarrhoeal disease, which exacerbates malnutrition. When children get sick with diarrhoea, they are unable to absorb the nutrients they need to grow. Over time this can lead to stunting and may irreversibly impact children's physical and mental development. Undernutrition has long been linked to unsafe water, sanitation and hygiene. And every day, over 700 children under age 5 die from diarrhoeal diseases caused by unsafe water, sanitation and hygiene.

## Education

Water access at schools in the region is low; none of the countries has national school water coverage above 45 per cent.<sup>12</sup> Poor water and sanitation conditions at school are an obstacle to girls attending school during menstruation. When rains fail and traditional water sources dry up, children, predominantly girls, must spend more time fetching water from longer distances, reducing their opportunities to attend school. Family coping strategies include withdrawing children from school to save money on fees and sending them to work. Families on the move have few options for keeping their children in school.

Drought is affecting school attendance for children in the affected areas as families are forced to move in search of water and livelihoods. Overall, 15 million children are now out of school in the Horn of Africa, and an additional estimated 3.3 million children are at risk of dropping out due to drought.

## Child protection

Water scarcity forces women and children to spend increased time and effort to meet household water needs. This often means they have to travel far from home, exposing themselves to violence and safety risks. Driven from their communities in search of pasture, water sources or food relief, families with children and adolescents on the move or in emergency camps are also at increased risk of violence or abuse.

# UNICEF's response

In response to this crisis, UNICEF launched a Regional Call to Action: Drought in the Horn of Africa ([Drought in the Horn of Africa | UNICEF Eastern and Southern Africa](#)). UNICEF and its partners have mounted an intersectoral operation across the region to tackle household water insecurity, child malnutrition, waterborne disease outbreaks, gender-based violence, and threats to education, even for displaced children. The immediate drought response funding requirements total USD 986 million.

At the core of this effort is the fight against water insecurity. UNICEF's water, sanitation and hygiene (WASH) programmes are working to keep water services operational, provide new and rehabilitated boreholes in strategic locations, and target at-risk communities and internally displaced populations (IDPs) for clean water for drinking, cooking and personal hygiene. WASH supplies for vulnerable households include hygiene kits, water purification tablets and jerrycans. Emergency WASH support is also being directed to at-risk healthcare facilities and schools.

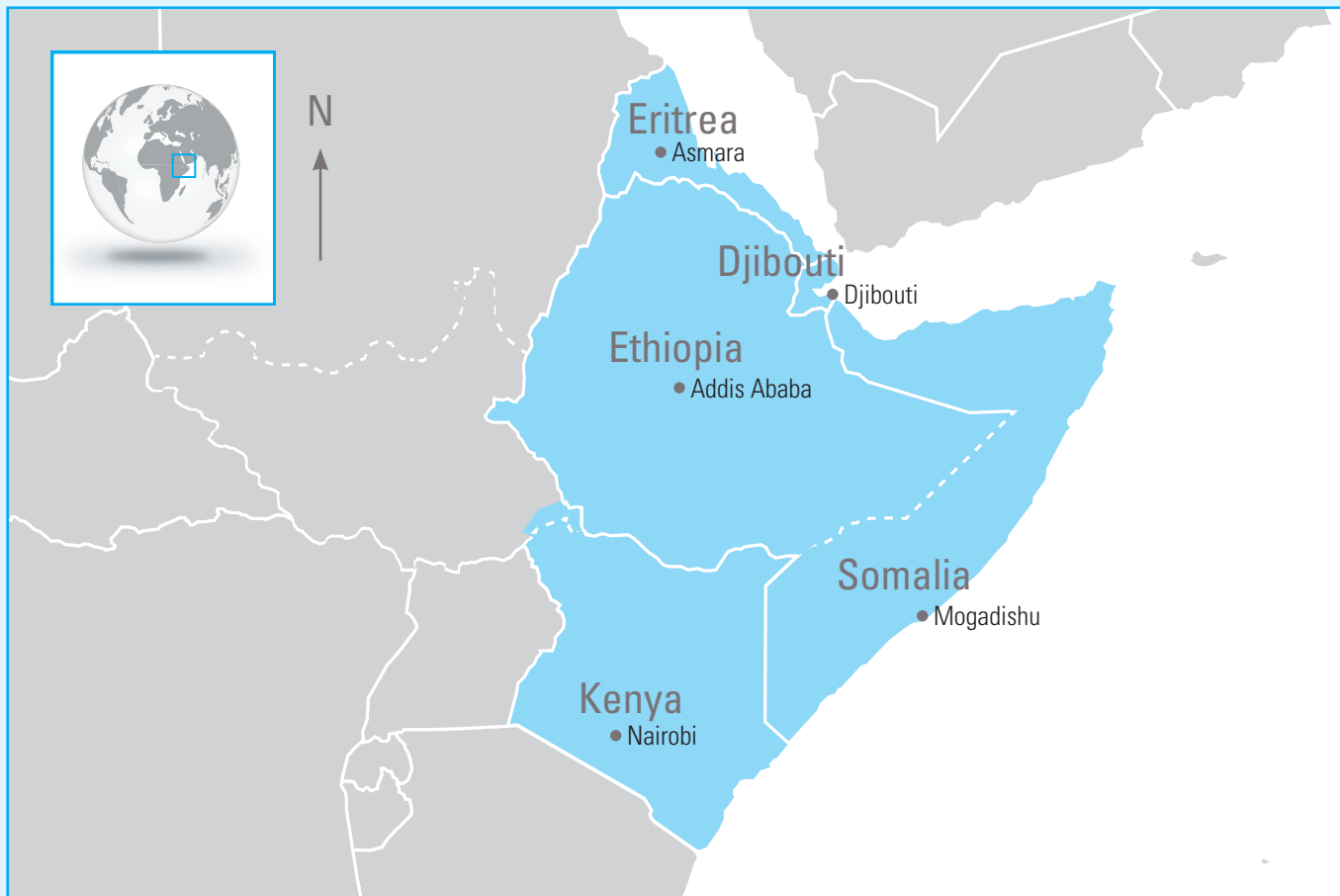
## Investing in climate resilient WASH

If immediate funding needs are met, life-saving support may avert catastrophic consequences this year. But recurrent droughts and increasing water insecurity demand even greater long-term investments in WASH sector governance, water resources management, community resilience, and climate-proof infrastructure. Durable solutions are required to ensure water security for all, at all times.

UNICEF and the humanitarian community have made important gains in building a WASH sector capable of providing high-quality water and sanitation services in emergencies. WASH responses are more timely and efficient, and there are better linkages with health, nutrition, shelter and other sectors. Global and national capacities for coordination and preparedness support more predictable and effective operations.

Now, the shift is underway to design WASH interventions with a long-term perspective, where humanitarian needs are met and the effects of hazards are mitigated, while protecting and accelerating progress towards the SDGs for water and sanitation. Even as the Horn of Africa disaster unfolds, UNICEF WASH programmes are working to find ways to secure sustainable impact.





## Snapshots from countries in the Horn of Africa

The Horn of Africa is a region in the northeast corner of the continent, comprising five countries: Djibouti, Eritrea, Ethiopia, Kenya and Somalia.

**Djibouti.** A highly water scarce country, Djibouti has no source of surface water such as rivers or lakes.<sup>13</sup> The country's 1 million residents rely on groundwater that is depleted during droughts. Climate change is expected to increase the risk and intensity of water scarcity and drought, affecting water supplies, agriculture, coastal zones, human health and livestock.

**Eritrea.** A small coastal country located along the Red Sea, Eritrea is highly dependent on rain-fed agriculture, but rainfall is low and unevenly distributed. Groundwater provides most of Eritrea's water supply needs. Over the past 60 years the temperature has risen by 1.7°C with tremendous impact on biodiversity, sea level rise, decline in food production and coral bleaching due to an increase in sea water temperature.<sup>14</sup>

**Ethiopia.** Ethiopia has a large population of 120 million people and has immense water resources. But variability in rainfall patterns and distribution, coupled with extreme climatic events, has caused water scarcity in many regions of the country, degraded water quality, and led to chronic food insecurity. Most rural populations rely on groundwater for their water supply, through shallow wells, deep boreholes and springs. Flooding caused by extreme rainfall events is a significant problem, exacerbated by the shortage of climate-proofed water infrastructure.

**Kenya.** A water-scarce country, Kenya is highly vulnerable to climate change, projected temperature increases and more intense and less predictable rainfall. An increase in frequency of droughts has posed major challenges for food security and water availability, especially in the arid north and east.<sup>15</sup> Intense rainfall and flooding have increased the likelihood of mudslides and landslides, particularly in mountainous areas. Coastal areas are now contending with rising sea levels and associated floods and saltwater intrusion. Urban flooding is becoming more frequent because of rapid urbanization, poor urban planning, and loss of green spaces in cities such as Nairobi and Mombasa.

**Somalia.** Somalia is one of the poorest nations in Africa with 69 per cent of its 16 million people living below the poverty line.<sup>16</sup> It has over 3,025 km of coastline, the longest in mainland Africa. Somalia continues to grapple with a fragile political system, insecurity, and climate shocks. Sixty per cent of its population live in rural areas as nomadic or semi-nomadic pastoralists. Droughts and floods pose the most severe hazards, and declining groundwater levels drive up prices and increase the likelihood of conflict over water.<sup>17</sup>



## Endnotes

- 1 [https://www.unicef.org/esa/media/10491/file/UNICEF-Regional-CTA-HoA-Drought-July-2022\(1\).pdf](https://www.unicef.org/esa/media/10491/file/UNICEF-Regional-CTA-HoA-Drought-July-2022(1).pdf)
- 2 [https://www.unicef.org/esa/media/10491/file/UNICEF-Regional-CTA-HoA-Drought-July-2022\(1\).pdf](https://www.unicef.org/esa/media/10491/file/UNICEF-Regional-CTA-HoA-Drought-July-2022(1).pdf)
- 3 [https://www.unicef.org/esa/media/10491/file/UNICEF-Regional-CTA-HoA-Drought-July-2022\(1\).pdf](https://www.unicef.org/esa/media/10491/file/UNICEF-Regional-CTA-HoA-Drought-July-2022(1).pdf)
- 4 IPC Classification levels: (1) Minimal/None, (2) Stressed, (3) Crisis, (4) Emergency, (5) Catastrophe/Famine.
- 5 <https://iopscience.iop.org/article/10.1088/1748-9326/aaba1b#:~:text=5%20%C2%B0C%20GWLs%20is,faster%20than%20the%20global%20mean>
- 6 [3] World Population Dashboard | United Nations Population Fund (unfpa.org)
- 7 [4] World Urbanization Prospects – Population Division – United Nations
- 8 [https://www.unicef.org/esa/media/10491/file/UNICEF-Regional-CTA-HoA-Drought-July-2022\(1\).pdf](https://www.unicef.org/esa/media/10491/file/UNICEF-Regional-CTA-HoA-Drought-July-2022(1).pdf)
- 9 UNICEF Horn of Africa Drought Situation Overview, April 27, 2022
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- 11 Water Under Fire, UNICEF, <https://www.unicef.org/reports/water-under-fire-2019>
- 12 [3] JMP (washdata.org)
- 13 [https://climateknowledgeportal.worldbank.org/sites/default/files/2021-04/15722-WB\\_Djibouti%20Country%20Profile-WEB.pdf](https://climateknowledgeportal.worldbank.org/sites/default/files/2021-04/15722-WB_Djibouti%20Country%20Profile-WEB.pdf)
- 14 Eritrea – Summary | Climate Change Knowledge Portal (worldbank.org)
- 15 [https://reliefweb.int/sites/reliefweb.int/files/resources/Kenya\\_2.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/Kenya_2.pdf)
- 16 Microsoft Word – Final Updated NDC for Somalia 2021.docx (unfccc.int)
- 17 Somalia – Summary | Climate Change Knowledge Portal (worldbank.org)



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**United Nations Children’s Fund**

3 United Nations Plaza, New York, NY, 10017

[www.unicef.org](http://www.unicef.org)