



Study Guide Security Council

***“Limited Access to Fresh Water as a Security  
Threat: Resolving the Emerging Crisis and Ensuring  
Equal Distribution of Fresh Water for All”***

Tashkent International Model United Nations 2023

[timun.wiut.uz](http://timun.wiut.uz)

Tashkent 2023

## Table of Contents

Introduction.....	2
History.....	4
Causes .....	6
The Problem.....	8
Past UN Actions.....	10
Solutions .....	10
Conclusion .....	12
Links to research.....	13

## Introduction

Water- being a fundamental right that is essential for survival and the maintenance of a healthy life-is on the brink of crisis, emerging as a significant security threat, with millions of people around the world that face limited access to clean water. Having affected individual well-being, this crisis results in far-reaching consequences in socio-economic development, political stability, or environmental sustainability.

More than 70 percent of Earth's surface is covered in water, yet lack of access to clean water is one of the most pressing challenges of our time. As of 2015, 29 percent of people globally suffer from a lack of access to safely managed drinking water. More than double that number are at risk for water contamination from improper wastewater management.<sup>1</sup>

The increase in water-related disasters is indeed viewed as a pressing issue that cannot be neglected, as the inadequate fresh water allocation intensifies the situation, thus causing a disproportionate impact on marginalized communities and vulnerable populations. This, in turn, further widens social and economic gaps and triggers conflicts and tensions between various regions, communities, and nations.

Open defecation, which involves depositing feces in natural open areas like fields, forests, or rivers, is a significant cause of water contamination in many countries. This practice is still followed by almost one billion people globally, with South Asian nations like India and Nepal having a particularly high prevalence rate of around 32 percent. Despite having access to clean water from mountain rivers, Nepal, a landlocked country in the Himalayas, faces the issue of over 20 percent of its population living below the poverty line. A troubling study revealed that 75 percent of drinking water samples taken from schools in Nepal were found to be contaminated with fecal bacteria. Although open defecation is more common in rural communities, it still persists even in areas where

---

<sup>1</sup> National Geographic, 'Water Inequality | National Geographic Society' (*education.nationalgeographic.org*2023) <<https://education.nationalgeographic.org/resource/water-inequality/>>.

sanitation facilities are available, highlighting the need for awareness campaigns to educate people about the risks associated with this practice. Additionally, pollution caused by open defecation is further compounded by contamination resulting from natural disasters such as recurrent floods.

In sub-Saharan Africa, the percentage of the population practicing open defecation is slightly lower at around 23 percent. However, 40 percent of the population lacks access to safe drinking water. Gender inequality is more pronounced in this region compared to South Asia. In sub-Saharan Africa, more than 25 percent of the population, mostly women and girls, must walk for at least 30 minutes to collect water. This responsibility takes away valuable time from income generation, childcare, and household chores. Additionally, Africa faces a high risk of desertification, which will further reduce the availability of fresh water and increase the future threat of water inequality.

Even in developed nations like the United States and many European countries, where advanced wastewater treatment facilities and extensive pipelines provide quality water to urban and rural areas, inadequate system maintenance, infrastructure failures, and natural disasters reveal the severe consequences of poor water quality (even in the short-term). In a recent instance, drinking water in Flint, Michigan was improperly treated starting in 2014, leading residents to bathe in, cook with, and consume water with dangerous levels of lead. Moreover, certain communities in the contiguous United States consistently lack clean water and sanitation. According to the U.S. Environmental Protection Agency (EPA), nearly 8,000 homes in the Navajo Nation, the largest Native American reservation in the country, lack access to safe drinking water, and 7,500 have insufficient sewer facilities.<sup>2</sup>

---

<sup>2</sup> Binaya Mishra and others, 'Water Security in a Changing Environment: Concept, Challenges and Solutions' (2021) 13 Water 490.

## History

Water scarcity, contamination, and unequal distribution have plagued civilizations throughout history, making the global water crisis a long-standing issue. Ancient Mesopotamia witnessed the earliest instances of water management with the construction of intricate irrigation systems to support agriculture. However, mismanagement and inadequate maintenance often resulted in water shortages and conflicts. Similarly, ancient Rome recognized the significance of clean water for public health and built extensive aqueducts to transport water from distant sources. Nonetheless, as the Roman Empire declined, so did the maintenance of these systems, leading to deteriorating water quality and outbreaks of diseases like cholera. The Industrial Revolution exacerbated water-related challenges due to rapid urbanization and industrialization, causing overcrowded cities with insufficient sanitation infrastructure and the spread of waterborne diseases. This period also saw the emergence of centralized water supply and treatment systems.

Technological advancements in the 20th century allowed for the development of large-scale dams and reservoirs, bringing benefits like increased agricultural productivity and electricity generation but also displacing communities and disrupting ecosystems. The latter half of the 20th century witnessed global attention on water contamination due to industrial pollution, agricultural runoff, and inadequate wastewater treatment. This pollution had widespread consequences on human health and ecosystems, prompting government and international organization intervention. In 2010, the United Nations acknowledged access to clean water as a fundamental human right, and the Sustainable Development Goals (SDGs) established in 2015 included a target to ensure universal access to safe and affordable drinking water by 2030. Despite progress, challenges persist due to population growth, climate change, and inadequate infrastructure, exacerbating strain on water resources. Moreover, social and economic inequalities contribute to unequal access to clean water and sanitation facilities. The history of the global water crisis emphasizes the interconnectedness of water, human health, and sustainable development, necessitating comprehensive approaches that

address poverty, gender inequality, and environmental sustainability alongside water supply and sanitation issues.<sup>3</sup>

### **Facts of the Global Water Crisis**

**The 1700s to 1800s:** Industrialization leads to increased urbanization in England, highlighting the need for clean water supplies and sanitation.

**1800s:** Water shortages first appear in historical records.

**1854:** Dr John Snow discovers the link between water and the spread of cholera during an outbreak in London.

**1900s:** Since 1900, more than 11 billion people have died from drought, and drought has affected more than one billion people.

**1993:** The U.N. General Assembly designates March 22 as World Water Day.

**2000:** The U.N. member states set Millennium Development Goals (MDGs) for development progress, including a 2015 target to halve the number of people without sustainable access to safe drinking water.

**2003:** UN-Water was founded as coordinating platform for issues of sanitation and fresh water access.

**2005:** Thirty-five percent of the global population experiences chronic water shortages, up from nine percent in 1960.

**2005 to 2015:** UN member states prioritize water and sanitation development in an International Decade for Action called “Water for Life”.

---

<sup>3</sup> James Parker, ‘Water Shortages Have a History | Perspectives on History | AHA’ ([www.historians.org](http://www.historians.org) 26 September 2019) <<https://www.historians.org/research-and-publications/perspectives-on-history/september-2019/water-shortages-have-a-history-how-the-kenyan-colonial-state-mismanaged-a-resource-and-endangered-a-community>>.

**2008:** The UN-recognized International Year of Sanitation prioritizes health and dignity.

**2010:** The MDG's clean water access target is achieved five years ahead of schedule. More than two billion people have gained access to water since 1990. The UN General Assembly recognizes the right of each person to have adequate supplies of water for personal and domestic use that are physically accessible, equitably distributed, safe and affordable.

**2013:** The UN designates 19 November as World Toilet Day to highlight the global issue of billions of people left without access to proper sanitation.

**2015:** About 2.6 billion people have gained access to clean water in the last 25 years, and about 1.4 billion gained basic access to sanitation since 2000. The UN member states sign on to the Sustainable Development Goals (SDGs) – successors to the MDGs that promise clean water and sanitation for all by 2030.

**2018:** Worldwide, 2.1 billion people still live without safe drinking water in their homes and more than one billion people still have no choice but to defecate outside.<sup>4</sup>

## Causes

The issue of water scarcity can be attributed to a wide range of factors, including:

-population growth and urbanization

Rapid population growth and urbanization are primary drivers of water scarcity. As the global population continues to expand, the demand for water increases exponentially. Urbanization further exacerbates this issue, as cities consume vast amounts of water for domestic, industrial, and commercial purposes. The strain on water resources intensifies, often surpassing the available supply.

---

<sup>4</sup> World Vision, 'Global Water Crisis - Facts, FAQs, and How to Help | World Vision Australia' (Worldvision.com.au2018) <<https://www.worldvision.com.au/global-water-crisis-facts>>.

-climate change and altered precipitation patterns

Climate change has a profound impact on water availability and exacerbates water scarcity. Rising global temperatures lead to changes in precipitation patterns, resulting in erratic rainfall and prolonged droughts in some regions. Conversely, certain areas experience intense rainfall and flash floods, making it challenging to capture and utilize the excess water effectively.

-depletion and Pollution of water sources

The depletion and pollution of water sources are significant factors contributing to water scarcity. Over-extraction of groundwater through excessive agricultural practices, industrial activities, and rapid urban development leads to aquifer depletion. Additionally, contamination of water bodies by pollutants from industrial discharge, agricultural runoff, and inadequate sanitation infrastructure renders water unfit for consumption.

-inefficient water management and infrastructure

Inadequate water management and inefficient infrastructure further compound issues surrounding water scarcity. Outdated and poorly maintained water distribution networks result in significant losses through leakages and wastage. Furthermore, limited storage capacity and inadequate irrigation systems hinder efficient water usage, particularly in agricultural sectors heavily reliant on irrigation.

- economic and political factors

Economic factors like poverty and limited access to financial resources can inhibit investment in water infrastructure and conservation efforts. Additionally, political instability, conflicts over water resources, and poor governance can impede effective management and equitable distribution of water.<sup>5</sup>

---

<sup>5</sup> Carlo Ingrao and others, 'Water Scarcity in Agriculture: An Overview of Causes, Impacts and Approaches for Reducing the Risks' (2023) 9 Heliyon <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10392093/>>.



## The Problem

One of the most important recent milestones has been the recognition in July 2010 by the United Nations General Assembly of the human right to water and sanitation. The Assembly recognized the right of every human being to have access to enough water for personal and domestic uses, meaning between 50 and 100 liters of water per person per day. The water must be safe, acceptable and affordable. The water costs should not exceed 3 per cent of household income. Moreover, the water source has to be within 1,000 meters of the home and collection time should not exceed 30 minutes.

Despite water, being the basic facet, which is required in every aspect of our life, here are some water-related challenges.

- 2.2 billion people lack access to safely managed drinking water services. (WHO/UNICEF 2019)
- Almost 2 billion people depend on health care facilities (WHO/UNICEF 2020)
- Over half of the global population or 4.2 billion people lack safely managed sanitation services. (WHO/UNICEF 2019)
- 297,000 children under five die every year from diarrheal diseases due to poor sanitation, poor hygiene, or unsafe drinking water. (WHO/UNICEF 2019)
- 2 billion people live in countries experiencing high water stress. (UN 2019)
- 90 percent of natural disasters are weather-related, including floods and droughts. (UNISDR)
- 80 percent of wastewater flows back into the ecosystem without being reused. (UNESCO, 2017)
- Around two-thirds of the world's transboundary rivers do not have a cooperative management framework. (SIWI)
- Agriculture accounts for 70 percent of global water withdrawal. (FAO)<sup>6</sup>

---

<sup>6</sup> United Nations, 'Water' (*United Nations*2019) <<https://www.un.org/en/global-issues/water>>.

So, this is one proof that being perceived as such a basic necessity for mankind, water is not accessible to everyone.

Water shortage not only hinders people from enjoying the fundamental rights of resource usage but also has several more detrimental effects.

1. Apart from dehydration due to the obvious lack of drinking water, hunger is one the most serious effect of water scarcity. Why? Water shortages have a direct impact on crops and livestock, which can lead to food shortages and eventually starvation. As well, because of water shortages some people cannot shower, wash their clothes or clean their homes properly.

In the poorest countries, some children can't go to school, because they are either too sick, or they have to walk for a long time to reach a water source. Even when they can attend, many children cannot learn because of their fatigue, heavy responsibilities and worries for their families.

2. Water scarcity generates sanitation problems by forcing people to drink unsafe water. In fact, when water is scarce people tend to store it at home, which increases the risk of domestic water contamination and creates breeding grounds for mosquitoes, which transmit dengue and malaria. Lack of water cause other diseases such as trachoma (an eye infection that can cause blindness), plague and typhus.
3. Having access to water has become a powerful global economic issue that could become one of the main causes of international tension. Local conflicts - sometimes resulting in warfare - are triggered over scarce water resources. With the burgeoning global population and growing needs, these tensions could multiply in the future.

4. Water scarcity has different negative impacts on rivers, lakes, and other freshwater resources. It harms the environment in several ways including increased salinity, nutrient pollution, and the loss of floodplains and wetlands. Ecosystems and biodiversity (e.g. freshwater fish) are threatened by the scarcity of water resources.

## Past UN Actions

The United Nations has long been addressing the global crisis caused by insufficient water supply to satisfy basic human needs and growing demands on the world's water resources to meet human, commercial and agricultural needs.

The United Nations Water Conference (1977), the International Drinking Water Supply and Sanitation Decade (1981-1990), the International Conference on Water and the Environment (1992) and the Earth Summit (1992) — all focused on this vital resource.

The 'Water for Life' International Decade for Action 2005-2015 helped around 1.3 billion people in developing countries gain access to safe drinking water and drove progress on sanitation as part of the effort to meet the Millennium Development Goals.

Recent milestone agreements include the 2030 Agenda for Sustainable Development, the 2015-2030 Sendai Framework for Disaster Risk Reduction, the 2015 Addis Ababa Action Agenda on Financing for Development, and the 2015 Paris Agreement within the UN Convention Framework on Climate Change.<sup>7</sup>

## Solutions

There are ways to save water and mitigate the issue of not having access to clean water.

---

<sup>7</sup> Ibid.

## Sustainable water management

Improving water infrastructure must be a priority, as water conservation and efficiency are key components of sustainable water management. Solar desalination and smart irrigation systems are great examples of clean technology for water efficiency and control. That obviously applies even more to the agriculture and farming sector - the largest consumer of water.

## Reclaimed water

Rainwater harvesting and recycled wastewater also allow to reduction of scarcity and ease pressures on groundwater and other natural water bodies. Groundwater recharge, which allows water moving from surface water to groundwater, is a well-known process to prevent water scarcity.

## Pollution control

Without proper sanitation, the water becomes full of diseases and unsafe to drink. That is why addressing pollution, measuring, and monitoring water quality is essential. Besides, improving the sewage systems in specific areas is another way to prevent water scarcity from becoming any worse.

## Awareness and education

Education is critical to solve the water crisis. In fact, in order to cope with future water scarcity, it is necessary to radically reform all forms of consumption, from individual use to the supply chains of large companies.

## Steps that can be taken by companies:

Conduct comprehensive and periodic water-use assessments to understand the extent to which the company uses water in the direct production of goods and services, the associated social and environmental impacts on, and the needs of communities surrounding direct operations and supply chains;

Monitor water source performance, water withdrawals, consumption and quality, and identify and consider relevant adaptation and mitigation measures to avoid or reduce risks. This could include improved water efficiency in production processes, improved environmental quality of discharge, increased water recycling practices, or reduction of products' life cycle water dependency;

Strengthen climate information services and early warning systems for flood/drought forecasting, as well as surface and groundwater monitoring;

Use big data, such as digitalization and convergence of IoT with modeling (cost effective sensors, smart meters, water network, smart grid) and support forecasting trends through machine learning and AI (nonrevenue water energy consumption) to avert water scarcity crises and guarantee early action.<sup>8</sup>

## Conclusion

The limited access to fresh water is a critical security threat that requires urgent attention and collective action. By understanding the causes, consequences, and complexities of this issue, we can develop comprehensive solutions to ensure equal distribution of fresh water for all. The United Nations and its member states must prioritize this issue, allocating adequate resources and implementing sustainable policies to address the emerging crisis. By doing so, we can safeguard the well-being of current and future generations, promote socio-economic stability, and foster a more sustainable future.

---

<sup>8</sup> Unicef, 'Critical Business Actions for Achieving a Water Secure World' (2021)  
<<https://www.unicef.org/media/133021/file/Critical%20Business%20Actions%20for%20Achieving%20a%20Water%20Secure%20World.pdf>>.

## Links to research

Ingrao C and others, 'Water Scarcity in Agriculture: An Overview of Causes, Impacts and Approaches for Reducing the Risks' (2023) 9 Heliyon  
<<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10392093/>>

Mishra B and others, 'Water Security in a Changing Environment: Concept, Challenges and Solutions' (2021) 13 Water 490

National Geographic, 'Water Inequality | National Geographic Society'  
([education.nationalgeographic.org](https://education.nationalgeographic.org)2023)  
<<https://education.nationalgeographic.org/resource/water-inequality/>>

Parker J, 'Water Shortages Have a History | Perspectives on History | AHA' ([www.historians.org](http://www.historians.org)26 September 2019) <<https://www.historians.org/research-and-publications/perspectives-on-history/september-2019/water-shortages-have-a-history-how-the-kenyan-colonial-state-mismanaged-a-resource-and-endangered-a-community>>

Solar Impulse, 'Solutions to Water Scarcity: How to Prevent Water Shortages?' ([Solarimpulse.com](http://Solarimpulse.com)2018) <<https://solarimpulse.com/water-scarcity-solutions>>

Unicef, 'Critical Business Actions for Achieving a Water Secure World' (2021) <<https://www.unicef.org/media/133021/file/Critical%20Business%20Actions%20for%20Achieving%20a%20Water%20Secure%20World.pdf>>

United Nations, 'Water' (*United Nations*2019) <<https://www.un.org/en/global-issues/water>>

World Vision, 'Global Water Crisis - Facts, FAQs, and How to Help | World Vision Australia' ([Worldvision.com.au](http://Worldvision.com.au)2018) <<https://www.worldvision.com.au/global-water-crisis-facts>>