Forum: Environmental Commission

Issue: Enhancing International Cooperation to address Water Scarcity and Access to Clean Water Resources

Student Officer: Rooney Lu

Position: Deputy President

Introduction

Water scarcity and access to clean water are pressing global challenges affecting billions of people, with climate change exacerbating shortageswhilewhile population growth drives demand, necessitating international cooperation to combat them. This report will examine the causes and impacts of water scarcity as well as international cooperation's role and potential solutions that may improve access to it; recent events like severe droughts in areas like Africa and California demonstrate why more concerted global action must be taken now to respond appropriately.

Key Terminology

Water Scarcity

Refers to lack of sufficient available water resources that meet the demands for use within an area.

Clean Water

Clean Water for drinking, cooking and hygiene purposes that is free from contaminants or pollutants is called “clean water” is called "clean water".

Transboundary Water Resources

are waterare w bodies such as rivers, lakes and aquifers which span multiple countries are

shared between multiple nations.

Water Management

Water management is tis the practice of planning, coordinating, developing, distributing and overseeing the best use of available water resources.

Desalination

Desalination is a used to extract salt and other minerals from seawater in order to produce fresh drinking water.

Water Stress

Ooccurs when demand exceeds supply over an extended period, or its quality prevents its use for useable purposes.

Aquifer

is an Refers to aunderground layer of rock from which groundwater can be extracted.

Sustainable Development Goals (SDGs)

In 2015, the United Nations established 17 global goals called Sustainable Development Goalsor or SDGs as part of their effort to tackle an array of global issues like water and sanitation access.

Integrative Water Resources Management (IWRM)

A process which seeks to promote coordinated development and management of water, land, and related resources so as so as to maximize economic and social welfare without jeopardizing vital ecosystems.

Water Footprint

This term refers to theis term refers to the total volume of freshwater used to produce goods and services

consumed by an individual or community.

Background

Water scarcity has long been an issue throughout history, particularly in arid and semi-arid regions such as the Middle East and North Africa (MENA). Water is essential to agriculture, industry, and human consumption - thus leading to tensions and conflicts as the need for it escalates. Civilizations living here developed sophisticated irrigation systems designed to manage their limited supplies - yet as populations grew with increasing demand these systems quickly became inadequate to cope.

In the 20th century, large dams like Egypt's Aswan High Dam were often seen as solutions for managing water flow and providing reliable supplies to agriculture and urban areas. While such projects offered some environmental and social advantages, their construction also had adverse environmental and societal ramifications, including displacement of communities and alteration of ecosystems; moreover, reliance on such infrastructure made countries vulnerable to changes due to climate variability or upstream usage.

MENA countries continue to experience severe water shortages as a result of many factors, including rapid population growth, over-extraction of groundwater resources and pollution. Political instability and conflict exacerbate this scarcity further by disrupting water infrastructure and hampering cooperative management of shared resources like Jordan River Basin which spans Israel, Jordan, Syria, and Palestine – each nation competing to control this essential resource.

Economic Aspects

Water Scarcity's Economic Implications Water scarcity’s economic implication of freshwater can severely undermine agricultural productivity, leading to food insecurity and higher food prices, textile production relying heavily on it also suffers and thus has an adverse impact on economic growth and employment; furthermore, in developing nations the lack of clean water hinders economic development further compounding poverty levels.

Political Aspects

Water can often become the source of contention among neighbors sharing water resources, such as Egypt, Sudan, and Ethiopia around the Nile River. Cooperation across national borders is crucial to effectively managing transboundary waters resources and avoiding disputes.

Environmental Aspects

Water scarcity has profound impacts on ecosystems and biodiversity. Rivers, lakes, and wetlands dry up, leading to habitat loss and species extinctions. Furthermore Furthermore, overo-extraction of groundwater can cause land subsidence and reduce quality - both threats that require sustainable management practices to preserve ecosystems.

Social Aspects

Water scarcity has devastating social repercussions, including health concerns due to inadequate water and sanitation resources. Women and children often bear the burden of collecting water themselves, restricting education opportunities as well as economic prospects. Ensuring equitable access is essential for social wellbeing and gender equality.

Data from the World Health Organization (WHO) indicate that approximately 2.2 billion people lack safe drinking water services, and by 2025 half of humanity may live in areas suffering from water shortage. Therefore, international cooperation must be used to address water scarcity.

Major Parties Involved

United Nations Environment Program (UNEP)

UNEP plays an essential role in combatting water scarcity by advocating sustainable water management practices and upholding freshwater ecosystem protection. Working in

collaboration with governments, international organizations and civil society to develop policies and programs which address pollution control measures as well as conservation measures as well as restoration programs of degraded environments, UNEP also works on supporting countries' implementation of integrated Water Resources Management (IWRM), climate resilience in water management strategies as well as providing technical assistance on building climate resilience water management practices.

Food and Agriculture Organization (FAO)

FAO plays an active role in water management, with agriculture as one of its largest consumers of freshwater worldwide. Through programs like Water Scarcity in Agriculture (WASAG), FAO works collaboratively with countries to address issues of scarcity in food production while simultaneously conserving precious water resources - with hopes that enhanced food security while conserving these vital natural resources are achieved simultaneously.

United Nations Educational, Scientific and Cultural Organization (UNESCO)

Through the International Hydrological Programme (IHP), UNESCO plays a significant role in advancing water issues through scientific research and education. IHP works toward building capacity in water management; encouraging sustainable use of resources; and increasing international cooperation within hydrology. UNESCO plays an especially vital role where scarcity of water compounds with lack of expertise due to scientific knowledge being limited in certain regions - through exchanges of knowledge and best practices that allow countries to formulate sound water management plans informed by current research findings.

African Ministers' Council On Water (AMCOW)

AMCOW is an intergovernmental organization which coordinates water policy and management across Africa. AMCOW works towards providing Africa with water security by encouraging sustainable use and management of its natural water resources; supporting African nations to address challenges related to scarcity, quality, or infrastructure deficit.

Furthermore, its efforts play an essential role in regional cooperation, sharing best practices among member nations as well as mobilizing funds needed for projects essential for economic growth or poverty alleviation in Africa.

World Meteorological Organization (WMO)

WMO plays an instrumental role in monitoring and forecasting water-related phenomena like droughts, floods, and rainfall patterns. WMO provides essential data and forecasts that enable countries to better manage their resources more effectively as well as prepare for extreme weather events more reliably. By strengthening early warning systems and encouraging international collaboration in hydrology and meteorology research WMO helps limit impacts associated with scarcity as well as supporting global efforts for adaption to climate change.

International Fund for Agricultural Development (IFAD)

The International Fund for Agricultural Development (IFAD) specializes in rural development and poverty alleviation with an emphasis on sustainable water management in agriculture. Through funding projects to increase irrigation efficiency, promote rainwater harvesting techniques, strengthen resilience against water scarcity in smallholder farming operations and develop capacity of smallholder farmers as a response to shortages, the International Fund for Agricultural Development strives to enhance productivity while simultaneously improving food security, decreasing poverty levels and combat climate change induced water stress in regions vulnerable to stressors as a response.

World Bank

The World Bank provides financial and technical assistance to countries for water-related projects. Their emphasis lies on improving water supply and sanitation, increasing efficiency of management practices, as well as supporting climate resilience. Their involvement helps mobilize resources and expertise needed to tackle water scarcity.

Nile Basin Initiative (NBI)

The NBI is an alliance among 10 Nile riparian countries working towards cooperative management and development of its shared water resources. Through dialogue, data sharing, and joint projects the NBI seeks to enhance water security while decreasing conflicts within its region.

Government Water Partnership (GWP)

The Global Water Partnership is an international network dedicated to sustainable integrated water resource management (IWRM). As part of this goal, GWP offers technical support, advocacy efforts and knowledge sharing between stakeholders at all levels in an effort toin an effort to advance sustainable water use practices.

India

India faces significant water challenges due to its large population and dependence on monsoon rainfall but has taken steps such as the Jal Jeevan Mission to provide access to clean drinking water for rural households by 2024. Furthermore, India plays an active role in regional cooperation efforts regarding transboundary rivers such as Gangas and Brahmaputra.

China

China has taken steps to combat water scarcity through ambitious projects such as its South-to-North Water Diversion Project, which diverts water from Yangtze River into more arid northern regions. Furthermore, their Belt and Road Initiative (BRI) includes investments in regional infrastructure that ensure regional water security.

European Union (EU)

The European Union has long been active in fostering water sustainability both domestically and abroad. Their Water Framework Directive sets high standards for quality management of waters within their member states, while funding projects designed to address

scarcity of clean drinking water for developing nations as well as diplomacy/partnership efforts promoting transboundary cooperation on transboundary waters such as in regions where tension arises over transboundary water issues. The EU also engages in diplomacy and partnerships to speed up transboundary water cooperation, particularly in regions where water is a source of tension. The EU's approach to water management includes policy development, research funding, and the promotion of innovative technologies for sustainable water use.

Timeline of Events

Date	Description/Note
September 25, 2015	Adoption of the Sustainable Development Goals including Goal 6 on clean water and sanitation.
March 22, 2021	World Water Day recognizes the critical need for groundwater management amid climate change.
October 31, 2022	COP27 highlights the significance of water management strategies as part of climate change adaptation strategies.
January 1, 2023	Effective January 1st 2023, Effective January 1st 2023, thet UN Decade of Water will commence, seeking to accelerate action towards meeting SDGs related to water before 2030.

Previous Attempts/Solutions

Millennium Development Goals (MDGs).

The MDGs are 8 targets included expanding access to safe drinking water and basic sanitation for all. Progress was made but many regions still faced difficulties. In 2016, the UN released more comprehensive targets in the Sustainable Development Goals (SDGs). However, the MDG "era" ended in 2015, the original planned year to reach the goals.

Paris Agreement

The Paris Agreement on climate change recognizes the vital link between water and climate resilience and adaptive capacity enhancement, particularly water management, to reduce climate impacts. Countries commit to strengthening adaptive capacities - including water management - so as to mitigate them. In December 2015, 196 UN Nations adopted the Paris Agreement in the Climate Change Conference (COP21), and it came into force a year later in November of 2016.

Integral Water Resources Management (IWRM) emphasizes coordinated development and administration of water, land, and other related resources to maximize sustainability and governance of these vital natural assets. Many countries and regions have implemented IWRM principles as an attempt at improved governance of their waters.

Potential Solutions

Countries like Saudi Arabia and Israel have invested heavily in desalination technology as an answer to water scarcity. Although desalination can provide solutions, its energy usage and costs make it unsustainable, hence the necessity of alternative, eco-friendly options.

1. Strengthen International Agreements: Expand existing frameworks and draft new agreements for cooperative water management that emphasize transboundary resources and climate resilience.

2. Promoting Technology Transfer: Facilitate the exchange of water-saving technologies such as efficient irrigation systems, wastewater treatment plants and desalination through international partnerships.

3. Building Capacity and Sharing Knowledge: Implement training programs for water managers and policymakers and establish platforms for knowledge exchange among water professionals by sharing successful case studies and best practices.

4. Mobilizing Financial Resources: Increase funding for water-related projects via international financial institutions, donor countries and public-private partnerships by prioritizing infrastructure, research, and community initiatives.

5. Enhancing Monitoring and Sharing Data: Deploy robust monitoring systems to track water availability, quality, usage patternsand usage rates across countries; facilitate sharing data for informed decision-making as part of collaborative management of shared water resources.

Bibliography

"United Nations Convention against Corruption." *United Nations Office on Drugs and Crime*. United Nations, 2004. Web. 13 Nov. 2009. <http://www.unodc.org/documents/treaties/UNCAC/Publications/Convention/08-50026_E.pdf>.

“The Paris Agreement | UNFCCC.” *Unfccc.int*, 2020, unfccc.int/process-and-meetings/the-paris-agreement#:~:text=The%20Paris%20Agreement%20is%20a,force%20on%204%20November%202016. Accessed 11 Aug. 2024.

"World Water Development Report 2021." *United Nations Educational, Scientific and Cultural Organization*, Web. Accessed 08 Aug. 2024. <https://en.unesco.org/themes/water-security/wwap/wwdr/2021>.

"Water Scarcity." *World Health Organization*. Web. Accessed 08 Aug. 2024. <https://www.who.int/news-room/fact-sheets/detail/drinking-water>.

"Global Water Partnership." *Global Water Partnership*. Web. Accessed 08 Aug. 2024. <https://www.gwp.org/en/>.

"Nile Basin Initiative." *Nile Basin Initiative*. Web. Accessed 08 Aug. 2024. <https://www.nilebasin.org/>.

"United Nations Millennium Development Goals." *Un.org*, 2015, www.un.org/millenniumgoals/#:~:text=News%20on%20Millennium%20Development%20Goals&text=As%20the%20MDGs%20era%20comes,September%20at%20the%20United%20Nations. Accessed 11 Aug. 2024.

Appendix

RAND Corporation

<https://www.rand.org/>

This website is useful for comprehensive research on water policy, management strategies, and climate resilience initiatives.

World Bank- Water Resources

<https://www.worldbank.org/en/topic/water>

Provides detailed reports, data, and project descriptions related to water management and development assistance.

United Nations Water (UN-Water)

<https://www.unwater.org/>

A valuable resource for information on international water-related initiatives, progress reports on SDG 6, and policy recommendations.