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CHAIR REPORT

Forum: Arab League

Issue: Addressing water scarcity and enhancing resource management in the Arab region

Name:Siyona Chiranewal and Sara

Position: Deputy Chairs

UWC SOUTH EAST ASIA

Introduction:

The Arab world has always experienced shortages of rainfall and groundwater, leading to increased reliance on rapidly decreasing surface water.Due to the arid climates in many countries in this area, the Arab Region has always struggled with water scarcity. This has sometimes led to phenomena such as drought and dust storms due to the Shamal winds, as well the growing problem of lack of certain resources, particularly water and crops. While this has been a problem since ancient times, the current issues of overpopulation and climate change are leading the situation to only worsen. According to EcoMENA, Kuwait Times and many other sources, as of 2023, the average MENA citizen may only have 480 cubic meters, which is 10% less than the global average, the lowest water availability per person in the world. The UNESCWA(United Nations Economics and Social Commission for West Asia) even stated that a shocking 19 out of the 22 Arab States are below the water scarcity threshold. Some reports by the World Economic Forum and many others predict that by 2050 the drop in water availability will be 30% as well as approximate 14% GDP loss.

This problem perpetuates for a number of reasons: apart from the environmental factors and their exacerbation due to climate change, it is a set of socioeconomic issues. These include lack of awareness of the problem, high population growth rate, high cost of living and some failure to adopt water conservation strategies. This could potentially result in outcomes such as a growing number of people who need increasing amounts of water, all while they remain apathetic about conservation efforts. Another factor is lack of energy for desalination, as well as numerous regional conflicts leading to internal migration and emigration to other countries. This could mean some countries are far less ready for extreme situations and worsening drought than others.

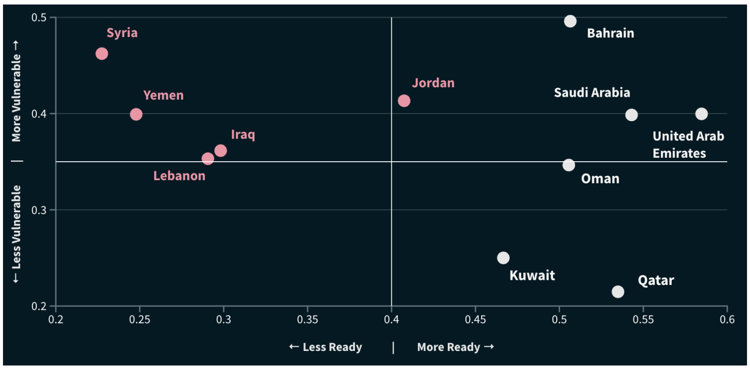

Figure 1: A graph showing the readiness and vulnerability of a few different countries in this region(Notre Dame Global Adaptation Initiative)

In committee, we aim to find pragmatic solutions to these challenges, which could include solving the institutional problems, developing frameworks, legislation and systems, and more. While solutions have been made previously, they are often not highly feasible for all MENA(Middle East and North African) countries, or have not been highly effective, which is understandable considering the sheer breadth of the circumstances and issue at hand.

Definition of Key Terms:

1. **Scarcity:** The concept of when humans have infinite demand for a certain resource, however ,that resource does not have an infinite supply;when the amount of a resource cannot fulfill the demand of a population. Eg in Arab nations there is an infinite demand for water however the water is not enough to fulfill the demand.
2. **Resource management:** How nations set frameworks for sustainable and equitable use of resources to fulfill the UNSDGs, economic growth, and environmental needs, and social well-being. For instance, due to the limited amount of water, nations need to set up a method of resource management to optimise the resource for the wellbeing of society and UNSDG goals.
3. **Droughts:** Prolonged periods of insufficient precipitation and lack of surface or ground water leading to water shortages.
4. **Floods:**A flood is an overflow of water that submerges land that is usually dry. In the sense of "flowing water", the word may also be applied to the inflow of the tide. Floods are of significant concern in agriculture, civil engineering and public health.
5. **Irrigation practices:** Irrigation practices are different methods of applying a controlled amount of water to field(s) at regular intervals, which may vary based on numerous variables.
6. **Arid climate:** An arid climate refers to an area that is both hot and dry, as it has little to no rainfall.
7. **Overpopulation:** When a population has excessive amounts of people, often to its detriment.
8. **Desalination:** The process of removing salt and other minerals from water so it can be used for irrigation, consumption and construction and others.

Background Information:

Factors that led to Further Exacerbation

In order to fully understand the extent of the water crisis and resource management issues, it is best to go into more depth about the issues that continue to lead it to reach the dire situation it is today.

Natural Geographical State

The Arab Region has always been incredibly arid due to its placement at the Tropic of Cancer and in the Hadley Cell, which causes dry air to descend and stops rainfall. Many countries in this region also lack groundwater, as well as other freshwater sources. Countries in MENA have developed solutions for this since ancient times, many of which are beyond the technology expected for that time period. Some examples include the waterwheels of Hama in Syria, early irrigation dams in Yemen, and the fountains and wells of Fez and Marrakesh in Morocco during medieval times.

Political Climate

The Middle East and North Africa are currently facing around 45 armed conflicts, being the region most affected by armed conflict in the world. The majority of these conflicts are non-international, but all of them have an effect on the citizens of that country and neighboring countries. Some areas of conflict include the Gaza-Israel conflict, as well as conflicts within Sudan, Syria, Lebanon, and Yemen. While this does not have a causal relationship with water scarcity or resource management, thinking about this context can also help us understand how to solve problems in the long term. Especially considering that lack of clean water, a basic necessity, can further perpetuate conflict, almost creating a negative reinforcing loop.

Social Climate

Many in the Arab Region are not overly concerned about the issue of water scarcity, leading to some people overconsuming water. Another global issue that is seen very often in Arab countries is overpopulation, pollution and urbanization. Although none of these are without positive affect, their prevalence can sometimes lead to inefficient or high water consumption. Subsequently, overpopulation led to an increased need for food, and farming, which without proper precaution can often be inefficient and water-intensive as well.

Environmental Changes

Due to issues like climate change, evaporation and extreme weather are more commonplace, leading to droughts, floods and overall water scarcity. This is only worsening as years go by and one of the main reasons countries are not as well-equipped to deal with the situation as they have been in the past.

Current Situation:

Previous Solutions Implemented:

Solution	Pros	Cons
Artificial Rain/Cloud Seeding	-May increase rainfall by over 35% in ideal situations -Will get increasingly more efficient as development continues	-Expensive and hard to access for many countries -May have long term environmental effects -May not be feasible/sustainable long-term
Desalination/solar powered desalination	-high quality water supply -reliable	- High construction, operation and maintenance costs - Environmental impacts of brine deposits and their disposal - High energy consumption
Dam building and usage of groundwater	- Can be easy and more cost effective short term - Gives water for irrigation and usage - Can sometimes provide hydroelectric power	- Habit destruction and blocked migration - Displaced communities - High construction costs

Major Parties Involved and Their Views:

Egypt:

Egypt is a nation that is critical in the water shortage. The nation grapples with water shortage for several reasons. Firstly, it has rising temperatures that critically impact the climate's ability to produce more water. For instance, the IEA mentions its temperature from 2000-2020 has accelerated, resulting in over 50% of energy use in cities like Cairo being for air conditioning during peak summer months. Because of the hot climate, rain is extremely scarce, which causes agricultural industries to depend on the Nile River. The impact of this is that because water usage is so dependent on bodies like the Nile due to a lack of rain, Egypt is undergoing critical water scarcity. Its agricultural sector also has a high demand for water, which clashes with Egypt's growing population. Lastly, there is a high amount of pollution, including municipal and industrial waste, in the Nile River. Egypt's government is now pioneering for the nation to adopt desalination, wastewater treatment, and improve infrastructure. The American University in Cairo finds that water scarcity is 1000 cubic metres below the global poverty threshold. Egypt, due to this, has been a pioneer for nations collaborating to have more efficient water management and wishes to protect its rights over the Nile River.

Sudan:

Sudan is a nation that faces severe water scarcity due to several factors. The first is the ongoing conflict in Sudan, which requires heavy water usage and destroys water treatment plants in cities like Khartoum and Omdurman. There have been several aid groups like UNICEF that have tried to provide water amidst this, but have been stopped due to the ongoing conflict. People in Khartoum and other cities have been without piped water for weeks. Moreover, there is a large disparity between rural and urban areas; rural areas often rely on wells that have been contaminated and have to walk long distances simply for water. Projects dedicated to stopping this have, in many cases, been halted due to the conflict. Due to this Sudan relies on the Nile River and wants more binding contracts dedicated to ensuring that the river is used and managed properly(The Nile Bank Iniative, the 1929 and 1959 treaties and more). The country’s stance is in support of Egypt in its conquest to protect the water of the Nile. Both nations struggle deeply with water scarcity; however, Sudan, coupled with its conflict, grapples with far more waterborne diseases. The nation advocates for clean water and has wanted far more cooperation rather than conflict on water access using the Nile.

Jordan:

Jordan is one of the most water-scarce nations. UNICEF states that it grapples with 100 cubic metres of water per person per year, which is far below the threshold for scarcity. Moreover, it has few renewable resources for water, which is exacerbated because of the amount of water extracted for cities and farming. The nation also has many Syrian refugees coming in, which results in a higher population demand for water. The nation grapples with climate change and high population growth, which creates a deeply rooted issue with water scarcity. It is a strong advocate for regional cooperation; the nation believes that water diplomacy is the key to peace. The nation's government has adopted water salination projects and has many public awareness campaigns. It invests in smart meters and drip irrigation.

Upstream states(Ethiopia,Burundi, South Sudan,Kenya,Rwanda,Tanzania, Uganda, DRC):

Ethiopia claims the right to use the Nile River for irrigation and its own development and rejects old colonial treaties that favour Egypt and Sudan's usage of the Nile River. They believe that through effective water management and diplomacy, the Nile River can be utilized by more than just Egypt and Sudan for their own purposes, but also by many other Arab nations. They use water for hydropower(Eg, the Grand Ethiopian Renaissance Dam) and mainly for irrigation. The possible benefit for this, in their view, is that they can develop their economy and stop poverty, but with a lack of access to water, it is far harder to do this. Nations like Turkey, instead of focusing on water diplomacy, focus far more on asserting control over water within their borders for their own national development. In summary, delegates should account for the debate ongoing in upstream nations on whether water should be exclusive for nations or should be shared by neighbouring countries, and water diplomacy is vital.

Gulf states:

Most Gulf States have extremely low rainfall fall such as Saudi Arabia, Kuwait, Bahrain, Qatar, and Oman. These nations grapple with extreme aridity, causing them to have water scarcity. These nations have a heavy reliance on desalination of seawater, which is vital for sectors such as agriculture. These nations, in many scenarios, have collaborated to invest in technology such as more sustainable methods of water treatment and smart irrigation. Additionally, they have begun to become far more concerned about the exponential usage of groundwater and its depletion. Its high population and industrial expansion cause these nations to weigh the two against one another, whether prioritizing economic growth, which requires heavy water usage, or prioritizing citizen wellbeing due to a large population's need for water. The main cause of water is not just a lack of rainfall, it also is the evaporation the climate causes, which begs the need for solutions for this. These nations, however, have come up with possible solutions such as water reuse, infrastructure investment, and desalination.

UN:

The UN views water as a basic human right; access to water is seen as a human right under UN resolutions. More specifically, safe and clean water is seen as a basic human right. Water scarcity is additionally not only viewed as an environmental issue but also a humanitarian and development crisis. The UN has highlighted on numerous occasions how Arab countries have less than 1000 cubic metres of water per person per year, which is below the water scarcity threshold. The UN recognises water scarcity, population pressure, refugee pressure, over-extraction, conflict, and climate change as causes that exacerbate this. The UN has advocated for regional and international cooperation, and it promotes shared water management for transboundary rivers like the Nile River and encourages data sharing, joint planning, and benefit sharing from upstream and downstream rivers. SDG 6, SDG 1,2, and SDG 13 are all goals that support this. The UN recommends investing in water infrastructure. The UN supports protecting ecosystems and supporting groundwater recharge zones. UN organizations such as UNICEF, UNDP, and WFP all support the ongoing issue within Arab countries.

UN Involvement, Relevant Resolutions, Treaties and Events:

While the UN has not written any definitive reports specifically on the water crisis in the Arab world, they have passed resolutions on other situations in the region or in relation to water scarcity, as well as creating UNESCWA.

- Declaration on Protection of Humanitarian Personnel and UN and Associated Personnel in Armed Conflict, 24 May 2024(S/RES/2730)
    - While there is a relationship between water scarcity and the conflict in many of these regions, it is not so much so that providing solutions and declarations on one will have a large impact on the other
- Creation of UNESCWA, August 9 1973
    - This has helped with managing a lot of region specific issues and raising awareness, but it hasn't necessarily come up with any long-term solutions to water scarcity that were implemented
- UN 2023 Water Conference, March 22-24
    - While it raised awareness, many participants signed voluntarily and it has no legal claims and there few ideas that were operationalised
- UN Water Action Decade,2018-2028
    - It's hard to track the effectiveness of this well as it has yet to reach its completion, but it has made some impact so far on water conservation as a whole, if not hugely prevalent in the Arab Region
- The Human Right to Safe Drinking Water and Sanitation, 22nd December 2023(A/RES/78/206)
    - Not entirely related to or discussing the issue at hand, but some of the points it brings up intersect
- Baku Dialogue on Water for Climate Action, November 21st 2024
    - The conversation was fruitful and many significant parties signed their intent to follow through, however the discussion didn't necessarily allow much further action to take place

Possible Solutions:

Desalination and other technologies:

Developing desalination and other such technologies that increase the sustainability and efficiency of water usage, especially in water-intensive fields such as agriculture. This can include water efficient irrigation systems, preservation of groundwater, artificial rain and more. The issues with over-reliance on these solutions may be high cost, which may lead to countries of lower economic status to have reduced accessibility to them.

Climate Action and Conflict resolution:

Climate change and Conflict in many of the Arab regions often perpetuate water scarcity and lack of collaboration, attempting to solve this can lead to an institutional change that can help stop the water crisis. While these are both larger issues,acknowledging and accounting for them while coming up with strategies can be essential, as well as attempting to mitigate some of their immediate negative effects.This can include investment in sustainable technologies as well supporting other countries in the aspects of water and resource management.

Increased Awareness and resource management:

Awareness of the water scarcity in MENA countries, both within and externally has been a bit of a problem in this situation. Additionally, resources are often not delegated to their best extent, which can lead to problems of overconsumption in certain sectors and others having far below the level considered to be scarcity. This may include solutions such as campaigns, resource allocation laws or water limits in certain fields.

Bibliography:

Useful Links:

- This CSIS article titled 'Surviving Scarcity' which brings up a lot of the issues,statistics as well as some historical context
- The article by EcoMENA detailing the scenario as well as discussing UNEP involvement
- The following UNESCWA publications(1 & 2) both of which go into more detail about the the situation, its causes and possible solutions
- Many UNDP and UNICEF publications, including these two, both of which provide examples, build empathy and give some solutions

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