2020 - 2021
Model Arab League
BACKGROUND GUIDE

Council of Arab Environmental Affairs Ministers

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National Council on US-Arab Relations

Original draft by Sabrina Zhang, Chair of the Council of Arab Environmental Affairs Ministers at the 2021 National University Model Arab League, with contributions from the dedicated staff and volunteers at the National Council on U.S.-Arab Relations

Honorable Delegates,

It is my great pleasure to welcome you to the 2020-2021 Model Arab League season! My name is Sabrina Zhang, and I am currently a senior at Northeastern University studying Political Science and International Affairs, with minors in Computer Science, History, and Law and Public Policy. I will be serving as your Chairperson for the Council of Arab Environmental Affairs Ministers at the National University Model Arab League, as well as the Northeast Regional Model Arab League. This is my fourth year of participation in Model Arab League, and my third year of chairing. I am so excited to chair this committee this school year. This year has been full of ups and downs, and with the global spread of COVID-19 and continuous warming of our planet, it is clear that discussions on environmental issues need to take top priority. This is why this committee is so critical – we have the chance to discuss how technology, science, and policy intersect and how they impact the future of regional sustainability.

Through Model Arab League, I have gained so many valuable experiences and learned so much about Middle East politics, diplomacy, and myself. Because of my experiences in these conferences, I have become a more confident and emphatic speaker, as well as a better researcher and writer. In addition, I have met so many kind, passionate, and truly amazing people that I have the honor to call my friends. These skills and experiences have followed me in professional and academic experiences and made me the person I am today. I hope that participating in this program will do the same for you, and, as your chair, I want to help make your experience as rewarding as it has been for me.

I want to provide some tips and advice that will help you make the most out of your conference and your participation in this program. First, do your research! You should definitely read this background guide, but your research should not stop there. Use this guide as a launching pad for your intellectual curiosity. There is so much more to learn about the topics than is here, and the more prepared you are, the more successful you will be during committee sessions. Second, become well-versed in your country specific policy. This is critical to accurately representing your country's interests during committee sessions. Third, be bold! During conferences, don't be afraid to participate and lead conversations. I remember at my first Model Arab League conference, I felt like I had nothing to contribute so I stayed quiet for the first session. However, only once I realized that my opinion and country point of view are critical to diplomatic discussions, did I really experience what this program has to offer.

Do remember to be respectful, open-minded, and diplomatic during committee sessions. I wish you all the best of luck this year!

Best,
Sabrina

Topic I: Analyzing the possibility of pandemics or disease outbreaks originating from the region and proposing methods to prevent outbreaks of new or current diseases among livestock, plants, and humans in the region.

I. Introduction

A. General Background

In 2020, discussions about the possibility of pandemics and disease outbreaks have increased in relevance and importance as the world addressed the outbreak of SARS-CoV-2, a virus strain that causes the disease known as COVID-19. In a world of increased globalization and international connectivity, diseases like COVID-19 have spread extremely fast, infecting and killing hundreds of thousands of people. The United States alone has seen over one hundred thousand deaths within the first six months after the disease emerged.[1]

The disease emerged in China in December 2019 after an outbreak of viral pneumonia.[2] After some research, it was discovered that this new strain of coronavirus caused severe acute respiratory syndrome (SARS), similar to its predecessor, SARS-CoV, that emerged in 2002.[3] Since the initial outbreak of COVID-19, the disease has spread globally. Almost every country implemented some measure to limit the spread of COVID-19, including but not limited to travel restrictions, government imposed stay-at-home orders, and non-essential business closures.[4] The World Health Organization (WHO) has been continuously conducting research regarding COVID-19 and has been providing guidance to government health organizations regarding how to respond to the pandemic.[5] As of July 2020, while some countries saw decreases in their COVID-19 cases and are slowly reopening, other countries are seeing record numbers of cases.[6]

Although there is international attention on COVID-19, it is not the only disease outbreak of 2020. Ebola and measles have resurged in the Democratic Republic of Congo.[7] Cholera is devasting populations in Yemen and Somalia and is exacerbated by the ongoing COVID-19

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[1] The New York Times. "Coronavirus in the U.S.: Latest Map and Case Count." The New York Times. July 12, 2020. https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html.
[2] National Institute of Allergy and Infectious Diseases. "COVID-19, MERS & SARS." National Institute of Allergy and Infectious Diseases. July 11, 2020. https://www.niaid.nih.gov/diseases-conditions/covid-19.
[3] Ibid.
[4] World Health Organization. "Coronavirus Disease (COVID-19) Pandemic." World Health Organization. July 10, 2020. https://www.who.int/emergencies/diseases/novel-coronavirus-2019.
[5] World Health Organization. "Timeline of WHO's Response to COVID-19." World Health Organization. June 29, 2020. https://www.who.int/news-room/detail/29-06-2020-covidtimeline.
[6] World Health Organization. "COVID-19 Pakistan." World Health Organization. July 9, 2020. https://covid19.who.int/region/emro/country/pk.
[7] Al Jazeera. "'Great concern' as new Ebola outbreak grows in western DR Congo." Al Jazeera. July 14, 2020. https://www.aljazeera.com/news/2020/07/concern-ebola-outbreak-grows-western-dr-congo-200714034610314.html.

pandemic.[8] Additionally, Middle East respiratory syndrome (MERS), also caused by a coronavirus, has seen a recent emergence of cases in Saudi Arabia.[9]

B. History in the Arab World

Countries in the MENA region were not immune to the spread of COVID-19. Some countries, such as Jordan, Palestine, Tunisia, and Lebanon, kept their numbers of confirmed cases relatively low.[10] Other countries, however, were heavily impacted by the pandemic. In June 2020, the Institute for Health Metrics and Evaluation at the University of Washington predicted that approximately 53,366 people in Egypt will die from COVID-19 through October 1.[11] That number is more than twice the projections of 21,722 deaths and 19,455 deaths in Iraq and Saudi Arabia, respectively.[12] In addition, nearby countries, such as Iran and Pakistan, lead the world in confirmed COVID-19 cases.[13]

The League of Arab States has not been successful in coordinating a meaningful response to COVID-19. According to the United Nations Development Program (UNDP), the region is set to lose $42 billion in revenue due to the pandemic.[14] In April, following a video conference with fourteen Arab experts and other international experts, the Assistant Secretary General of Social Affairs mentioned that China "said that their country is completely ready to provide advice and consultation."[15] Chinese state media has since reported sending expert teams, providing medical aid, and sharing experience with Arab League member nations and other nearby countries.[16]

In addition to new diseases like COVID-19, it is critical to evaluate the Arab League's capabilities regarding outbreaks originating in the Middle East. Specifically, MERS was first identified in Saudi Arabia in 2012, and has since infected approximately 2,000 people in over 20

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[8] World Health Organization. "Cholera Outbreak Updates." World Health Organization. July 12, 2020. http://www.emro.who.int/fr/health-topics/cholera-outbreak/outbreaks.html.
[9] World Health Organization. "Middle East respiratory syndrome coronavirus (MERS-CoV) – Saudi Arabia." World Health Organization. May 5, 2020. https://www.who.int/csr/don/05-may-2020-mers-saudi-arabia/en/.
[10] Institute of Health Metrics and Evaluation. "New IHME COVID-19 Forecasts for Arab League Nations Find More than 50,000 Deaths in Egypt." Institute of Health Metrics and Evaluation. June 24, 2020. http://www.healthdata.org/news-release/new-ihme-covid-19-forecasts-arab-league-nations-find-more-50000-deaths-egypt.
[11] Ibid.
[12] Ibid.
[13] World Health Organization. "WHO Coronavirus Disease (COVID-19) Dashboard." World Health Organization. July 14, 2020. https://covid19.who.int/.
[14] Chris Alden and Charles Dunst. "COVID-19: Middle East and the Arab League." London School of Economics and Political Science. No Date. http://www.lse.ac.uk/international-relations/centres-and-units/global-south-unit/COVID-19-regional-responses/Middle-East-and-COVID-19.
[15] Ibid.
[16] Xinhua News. "Spotlight: China continues to show solidarity as COVID-19 cases exceed 200,000 in Middle East." Xinhua News. April 18, 2020. http://www.xinhuanet.com/english/2020-04/18/c_138987616.htm.

countries.[17] While MERS is less contagious than SARS-CoV-2, approximate one-third of confirmed cases resulted in death.[18] Although unconfirmed, it is believed by scientists that this disease originated in dromedary camels.

C. Finding a Solution to the Problem: Past, Present, and Future

It is important for countries in the Arab League to analyze disease outbreaks and formulate methods to prevent potential disease outbreaks from occurring. Although the Arab League has released a statement of solidarity regarding COVID-19, there has not been league-wide action to lessen the impact of the pandemic. The pandemic will have a huge impact on vulnerable populations, like Palestinian prisoners and Syrian refugees.[19] In addition, those in conflict zones, such as in Yemen and Libya, are at greater risk of COVID-19 and other diseases, like cholera and measles.[20]

To address potential solutions, the Council could consider ways for the Arab League to cooperate to prevent the spread of disease. This might include information sharing regarding scientific research, League-wide regulations to prevent the spread of disease or coordinated medical efforts to ensure people are tested and treated for disease. Almost all Arab states took precautions by closing borders, schools, and public places, and encouraging telecommuting.[21] Saudi Arabia even cancelled the annual pilgrimage to Mecca to discourage disease spread.[22]

In addition, the Council could discuss the necessity of relief measures during a pandemic. The COVID-19 pandemic has impacted the economies of member nations of the Arab League significantly, and many members created mitigation measures to counter the negative economic effect. The UAE announced a US$27 billion stimulus plan to help boost the economy, including subsidies to water and electricity for citizens and commercial and industrial activities.[23] Qatar

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[17] European Centre for Disease Prevention and Control. "Threats and outbreaks of Middle East respiratory syndrome coronavirus (MERS-CoV)." European Centre for Disease Prevention and Control. No Date. https://www.ecdc.europa.eu/en/middle-east-respiratory-syndrome-coronavirus/threats-and-outbreaks.
[18] World Health Organization. "Middle East respiratory syndrome coronavirus (MERS-CoV) – The Kingdom of Saudi Arabia." World Health Organization. February 24, 2020. https://www.who.int/csr/don/24-february-2020-mers-saudi-arabia/en/.
[19] Chris Alden and Charles Dunst. "COVID-19: Middle East and the Arab League." London School of Economics and Political Science. No Date. http://www.lse.ac.uk/international-relations/centres-and-units/global-south-unit/COVID-19-regional-responses/Middle-East-and-COVID-19.
[20] Ibid.
[21] United Nations Development Program. "Arab states step up response to coronavirus." United Nations Development Program. March 30, 2020. https://www.undp.org/content/undp/en/home/stories/arab-states-step-up-response-to-coronavirus.html.
[22] Ibid.
[23] Ibid.

will invest US$23 billion to provide financial and economic incentives to the private sector.[24] And, Egypt has unveiled a US$6 billion plan combat the coronavirus and support economic growth.[25]

The Council could also discuss the potential of foreign and international aid regarding future pandemics and disease outbreaks. The UNDP has been working within some member states' borders to support health systems, spread awareness of COVID-19, create contingency measures, and make masks.[26] As mentioned, China has been supporting health efforts in Arab countries as well. In April 2020, China sent boxes of medical aid, including test kits, to Syria.[27]

Lastly, the Council may consider the potential of a coordinated, League-wide response to disease outbreaks and pandemics. Unlike the Arab League during the COVID-19 pandemic, the European Union (EU) has backed up their promise of solidarity with coordinated action. For example, the EU closed its external borders to non-essential travel, while ensuring essential goods moved across the EU through the introduction of green lanes.[28]

II. Questions to Consider in Your Research

- What actions did my member state take in response to COVID-19?
- What considerations, including social, political, and economic considerations, did my member state take in formulating its COVID-19 response?
- What type of assistance did my member state accept to adequately respond to COVID-19? Did my state offer any assistance to other countries?
- How has my member state addressed outbreaks of other diseases such as cholera, Ebola, measles, and MERS? What actions did my state take to prevent their spread?

III. Questions a Resolution Might Answer

- In what ways can League members increase their preparedness and capabilities regarding new or current diseases?
- What League-wide actions should be taken to help prevent disease outbreaks?
- What level of foreign and international aid should be received by either individual League members or the Arab League as an institution?

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[24] United Nations Development Program. "Arab states step up response to coronavirus." United Nations Development Program. March 30, 2020. https://www.undp.org/content/undp/en/home/stories/arab-states-step-up-response-to-coronavirus.html.
[25] Ibid.
[26] Ibid.
[27] Middle East Monitor. "China Sends 2 Boxes of Aid to Coronavirus Hit Syria." Middle East Monitor. April 17, 2020. https://www.middleeastmonitor.com/20200417-china-sends-2-boxes-of-aid-to-coronavirus-hit-syria/.
[28] European Council. "COVID-19 Coronavirus Pandemic." European Council. July 14, 2020. https://www.consilium.europa.eu/en/policies/coronavirus/.

- How can the Arab League best support vulnerable populations from disease outbreaks?
- What League-wide measures can be taken to mitigate the emergence and prevent the outbreak of a new disease, such as MERS?

IV. Additional Resources

- COVID-19 Crisis Response in MENA Countries
  This paper from the Organization for Economic Cooperation and Development is extremely detailed and delves into how individual countries in the MENA region addressed the COVID-19 pandemic. It discusses medical solutions in depth, as well as economic impacts of the disease. It also addresses vulnerable populations and social challenges, such as refugees, youth and education, and gender inequality.

- 10 Things the EU is Doing to Fight COVID-19
  This article from the European Union is a great way to familiarize oneself with the collective actions the European Union are undertaking to address the pandemic. It discusses specific policies that were successful for the EU and provides data, numbers, and additional links.

- Refugees Across Arab World Feel Economic Pain of Coronavirus
  This article from the United Nations Refugee Agency provides many interviews and stories of those who are suffering from the impacts of the disease in the MENA region. It also further discusses the role of the UN in mitigating these impacts, and the international aid the organizations are providing to support vulnerable populations.

- MERS: Progress on the Global Response, Remaining Challenges, and the Way Forward
  This journal article was written by the FAO OIE WHO MERS Technical Working Group and is a comprehensive and detailed article describing research into MERS. It outlines five major knowledge gaps regarding MERS and discusses which research initiatives should be prioritized regarding the disease.

Topic II: Evaluating existing water rights and improving agreements between states concerning fair and equal access to rivers and below ground water resources.

I. Introduction

A. General Background

Water rights in the context of international law are typically defined as the legal rights of a country, city, or group to access water resources. Access to water is critical for human survival, and a lack of water can lead to increased susceptibility to disease and increase the likelihood of conflict over water resources. Addressing water rights on an international level ensures that everyone has access to water, which has been recognized as a fundamental human right by the UN. The human right to safe drinking water was first recognized by the UN General Assembly and the Human Rights Council as part of binding international law in 2010.[29] In addition, the human right to sanitation was explicitly recognized as a distinct right by the UN General Assembly in 2015.[30] That same year, the UN adopted the 2030 Agenda for Sustainable Development which set out 17 distinct goals for countries to strive towards. Sustainable Development Goal 6, known as Clean Water and Sanitation, specifically outlines the goals of universal and equitable access to safe and affordable drinking water for all and access to adequate and equitable sanitation and hygiene for all.[31]

Despite almost universal acceptance of water as a human right and a goal to strive towards, over 2 billion people do not have access to safe drinking water.[32] In addition, 4.5 billion people have no safely managed sanitation facilities.[33] These statistics do not include the many disparities. Firstly, there are major discrepancies between richer and poorer countries. On a global scale, half of the people who drink water from unsafe sources live on continental Africa.[34] Secondly, refugees and internally displaced people often face severe barriers to the access of water supply and sanitation services.[35] The number of refugees has increased significantly in the past decade, and the number is expected to raise further due to the effects of climate change.

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[29] United Nations. "Human Rights to Water and Sanitation." United Nations. No Date. https://www.unwater.org/water-facts/human-rights/.
[30] Ibid.
[31] United Nations Department of Economic and Social Affairs. "#Envision2030 Goal 6: Clean Water and Sanitation." United Nations Department of Economic and Social Affairs. No Date. https://www.un.org/development/desa/disabilities/envision2030-goal6.html.
[32] UNESCO. "Billions Deprived of the Right to Water." UNESCO. March 19, 2019. https://en.unesco.org/news/billions-deprived-right-water.
[33] Ibid.
[34] Ibid.
[35] Ibid.

In order to ensure accessible water rights for all, countries have used treaties and agreements to determine rights to specific bodies of water. Although water should be accessible to all, the unfortunate reality is that most bodies of water are within the territorial boundaries of multiple countries. As a result, it is difficult to determine which countries have rights to these bodies of water.

The world has 261 river basins that are shared by more than one nation, covering about 45 percent of Earth's land surface.[36] There are many bilateral agreements between countries to govern transboundary surface waters, such as Agreement on Cooperation in the Field of Transboundary Water Management signed by Romania and Ukraine.[37] However, it is difficult to determine equitable distributions specifically for riparian nations.

International customary law indisputably recognizes that riparian nations, nations across which a river flows, have legal right to use the river that flows through their territory. However, some nations are downstream or upstream of other nations, which influences their claims to the rivers, and how international bodies view their claims. The upper-riparian nations initially base their claims on absolute territorial sovereignty, typically claiming the right to do whatever they choose with the water regardless of its effect on other riparian nations.[38] Downstream nations, on the other hand, have a claim to the absolute integrity of the river, claiming that upper-riparian nations can do nothing that affects the quantity or quality of water that flows in the watercourse.[39]

To address the incompatibility of the claims, international bodies tend to use a concept known as the rule of equitable utilization. The rule of equitable utilization, based on the concept that an international drainage basin is a coherent legal and managerial unit, embodies a theory of restricted sovereignty under which each nation recognizes the right of all riparian nations to use water from a common source and the obligation to manage their uses so as not to interfere unreasonably.[40] Because of this custom, nations often allocate water under this theory according to historic pattern of use, although occasionally they use metrics, such as population, area, or arable land.[41]

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[36] Water Encyclopedia. “Law, International Water.” Water Encyclopedia. No Date. http://www.waterencyclopedia.com/La-Mi/Law-International-Water.html.
[37] United Nations Economic Commission for Europe. “Implementation: Recent Bilateral and Multilateral Agreements on Transboundary Waters.” United Nations Economic Commission for Europe. No Date. https://www.unece.org/env/water/text/text132-.html.
[38] Water Encyclopedia. “Law, International Water.” Water Encyclopedia. No Date. http://www.waterencyclopedia.com/La-Mi/Law-International-Water.html.
[39] Ibid.
[40] Ibid.
[41] Ibid.

The United Nations General Assembly codified this rule of equitable utilization in Article 5 of its United Nations Convention on the Non-Navigational Uses of International Watercourses (UN Convention).[42] Article 5 of the UN Convention requires watercourse nations to utilize an international watercourse in an equitable and reasonable manner with a view to attaining optimal and sustainable utilization and benefits consistent with adequate protection in the watercourse.[43] In addition, Article 5 also provides that watercourse nations shall participate in the use, development, and protection of an international watercourse in an equitable and reasonable manner.[44]

The UN Convention also established a second principle in regard to water rights, termed the "no-harm rule," in Article 7. This article requires watercourse nations, in utilizing an international watercourse, to take all "appropriate measures" to prevent the causing of significant harm to other watercourse nations.[45] During the drafting process, Article 7 was very controversial because it seemed to contradict the rule of equitable utilization in Article 5.[46] The final version of Article 7 makes clear that the "no-harm rule" is subordinate to the rule of equitable utilization.

In regard to “equitable” sharing, Article 6 of the UN Convention outlines a list of relevant factors and standards to consider. There are as follows: the geographic, hydrographic, hydrologic, climatic, ecological, and other factors of a natural character; the social and economic needs of the watercourse nations concerned; the effects of the use or uses of the watercourse in one watercourse nation on other watercourse nations; the existing and potential uses of the watercourse; the conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect; and the availability of alternatives, or corresponding value, to a particular planned or existing use.[47]

However, despite the existence of the UN Convention, its applications are limited to mostly surface waters, so it does not address groundwater at all. Groundwater comprises about 97 percent of the world's fresh water apart from the polar ice caps and glaciers but has received little international attention relative to the sharing of surface waters.[48]

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[42] Water Encyclopedia. “Law, International Water.” Water Encyclopedia. No Date. http://www.waterencyclopedia.com/La-Mi/Law-International-Water.html.
[43] United Nations General Assembly. “Convention on the Law of the Non-Navigational Uses of International Watercourses.” United Nations General Assembly, Resolution 49/52. December 9, 1994. https://www.internationalwaterlaw.org/documents/intldocs/UN_Watercourses_Convention-English.pdf.
[44] Ibid.
[45] Ibid.
[46] Water Encyclopedia. “Law, International Water.” Water Encyclopedia. No Date. http://www.waterencyclopedia.com/La-Mi/Law-International-Water.html.
[47] United Nations General Assembly. “Convention on the Law of the Non-Navigational Uses of International Watercourses.” United Nations General Assembly, Resolution 49/52. December 9, 1994. https://www.internationalwaterlaw.org/documents/intldocs/UN_Watercourses_Convention-English.pdf.
[48] Water Encyclopedia. “Law, International Water.” Water Encyclopedia. No Date. http://www.waterencyclopedia.com/La-Mi/Law-International-Water.html.

B. History in the Arab World

Water scarcity and lack of sanitary water is a growing issue in the Arab world. The region's climate and environment are changing rapidly because of desertification. The Middle East requires water resources and suitable land for agriculture, and much of the land that is available for producing food is destroyed by increasing desertification.[49]

Because of the already scarce water resources and the potential for conflict, it is critical to have strong agreements in regard to water. In the MENA region, there are 23 international rivers. At one time or another, there have been disputes between countries over most of them, but the most contentious remain the Nile, Euphrates, Tigris, Yarmouk, and Jordan.[50] Specifically, the Nile River has been the subject of international water disputes for years. In 1959, Egypt and Sudan established the Nile Waters Agreement that divided the usage of water, agreed on certain construction projects, and established the Permanent Joint Technical Commission to secure the technical cooperation between them.[51] In addition, in 1999, the Nile Basin Initiative (NBI) was created as a partnership among the Nile Riparian states that "seeks to develop the river in a cooperative manner, share substantial socioeconomic benefits, and promote regional peace and security."[52] The nine countries in this initiative include Egypt, Sudan, Ethiopia, Uganda, Kenya, Tanzania, Burundi, Rwanda and the Democratic Republic of Congo, with Eritrea as an observer.[53] The Jordan River has also been the subject of international water disputes. Israel created water diversion projects for the Jordan River, decreasing Jordan's water access at the Jordan River basin.[54] As a result, in 1994, Jordan and Israel created a peace accord to address water rights to the Jordan River.[55]

The Tigris and Euphrates Rivers also constitute a large part of international water disputes in the last century. Both rivers originate in Turkey and flow through Syria first, and then Iraq. Although tensions in the region have existed for centuries, in the 1960s, each country pursued unilateral development of water resources in regard to these rivers. Turkey started building the Keban Dam in 1965 and Syria built its Tabqa Dam between 1965 and 1973.[56] Despite some negotiations, no

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[49] Alexandra Barton. "Water in Crisis – Middle East." The Water Project. No Date. https://thewaterproject.org/water-crisis/water-in-crisis-middle-east.
[50] Peter Rogers. "Water Crisis in the Middle East and North Africa." Britannica. No Date. https://www.britannica.com/topic/water-crisis-381196.
[51] Kefyalew Mekonnen. "The Defects and Effects of Past Treaties and Agreements on the Nile River Waters: Whose Faults Were They?" Media Ethiopia. No Date. http://www.ethiopians.com/abay/engin.html.
[52] Nile Basin Initiative. "Who Are We." Nile Basin Initiative. No Date. http://www.nilebasin.org/index.php?option=com_content&task=view&id=13&Itemid=42.
[53] Ibid.
[54] Peter Rogers. "Water Crisis in the Middle East and North Africa." Britannica. No Date. https://www.britannica.com/topic/water-crisis-381196.
[55] Ibid.
[56] Aaron Wolf. "Middle East Water Conflicts and Directions for Conflict Resolution." International Food Policy Research Institute. Food, Agriculture, and the Environment Discussion Paper 12. March 1996. http://pdf.usaid.gov/pdf_docs/PNABY541.pdf.

formal agreements were in place when the two dams became operational.[57] As the dams began to fill, downstream water flow decreased significantly, affecting mainly Iraq. In 1974, Syria granted an Iraqi request and allowed additional water to flow from the Tabqa Dam.[58] However, in the following year, Iraq asked for Arab League intervention, citing concerns that the flow of water reaching Iraq had fallen to an intolerable level.[59] Syria then withdrew from an Arab League committee tasked with resolving the dispute and closed its airspace to Iraqi flights, and both countries amassed troops on their borders.[60] Saudi Arabian intervention, however, defused the situation and helped both sides come to a private agreement.[61] Although the terms of the agreement were never made public, Iraqi sources have privately said that Syria was permitted to keep 40% of the water in the Euphrates flowing through its country, while 60% of the water was to be allowed to flow south through Iraq.[62]

More recently in regard to the Tigris and Euphrates Rivers, Turkey's Southeastern Anatolia Project, also known as GAP, has led to increased tensions in the region. This project will result in 21 dams and 19 hydroelectric facilities, all of which will provide water resources and electricity for Turkey. In 1987, Turkish Prime Minister Turgut Ozal reportedly signed an agreement guaranteeing a minimum flow of 500 cubic meters per second into Syria.[63] In January 1990, Turkey shut off the flow of the Euphrates into Iraq by closing the Ataturk Dam, which forced talks to resume.[64] Iraq insisted that Turkey allow a minimum of 500 cubic meters per second to pass into Syria, but negotiations were suspended due to the outbreak of the first Gulf War.[65] Unfortunately, at the end of the first Gulf War in 1992, an agreement could not be reached and Turkish Prime Minister Demirel declared at a press conference closing the summit that "there is no need for Syria to be anxious about the water issue… the waters of the Euphrates will flow to that country whether there is an agreement or not."[66]

Most recently, conflicts also have arisen from the use of groundwater aquifers that cross national boundaries, notably between Israel and the Palestinians and between Jordan and Saudi Arabia.[67] Egypt, along with Libya, Chad, and Sudan, have begun development of the Nubian Aquifer,

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[57] Aaron Wolf. "Middle East Water Conflicts and Directions for Conflict Resolution." International Food Policy Research Institute. Food, Agriculture, and the Environment Discussion Paper 12. March 1996. http://pdf.usaid.gov/pdf_docs/PNABY541.pdf.
[58] Ibid.
[59] Ibid.
[60] Ibid.
[61] Ibid.
[62] Ibid.
[63] Ibid.
[64] Ibid.
[65] Ibid.
[66] Ibid.
[67] Peter Rogers. "Water Crisis in the Middle East and North Africa." Britannica. No Date. https://www.britannica.com/topic/water-crisis-381196.

which they are calling the "Great Man-Made River."[68] Although no conflict has arisen from this aquifer yet, there are worries that, because of a lack of international law and treaties on groundwater, these aquifers will become the subject of debate in the near future.

C. Finding a Solution to the Problem: Past, Present, and Future

There are many different approaches to take to address water rights as the Arab League. First, the Council can discuss past bilateral treaties and other international treaties to develop a League-wide standard on the use of bodies of water. As discussed, the UN Convention provides ideas of equitable utilization and the "no harm rule" that can be applied to conflicts over water resources in the MENA region. In addition, bilateral agreements between Arab League members has led to the creation of different commissions and initiatives that focus on regional cooperation and equity regarding water rights. The discussed examples provide a background and foundation for a League-wide standard on equitable use of bodies of water.

Second, this Council may discuss existing conflicts regarding rights to bodies of water, specifically focusing on the Nile River, Jordan River, and Tigris/Euphrates Rivers, and finding solutions to existing tensions. Many of the discussed tensions and disagreements regarding water resources are ongoing or paused. The Council could act as an intermediary and serve to address these conflicts directly and develop cooperative and codified solutions to these tensions.

Third, this Council could address approaches to consider water rights with non-Arab League member states, specifically with countries that share water resources with Arab League member states. Many of the discussed tensions include countries that are not members of the Arab League, such as Chad or Ethiopia. This Council could discuss ways for the Arab League to address these concerns as a unified international body, and how it can serve as an intermediary to mitigate any potential conflict.

Fourth, the Council can focus on applying past solutions regarding river basins and surface water on groundwater resources. As discussed, there is no international agreements that discuss groundwater use, despite it constituting most of the world's freshwater. The Council should build upon existing treaties, conventions, and bilateral or multilateral agreements and develop a League-wide solution regarding the sharing of groundwater resources.

Fifth, the Council could serve as a start of additional developmental and technological cooperation between member states to continue to share and utilize groundwater resources. As discussed, the Nubian Aquifer is a $30 billion-dollar development project aimed at providing

[68] International Atomic Energy Agency. "Transboundary Aquifers and River Basins: Nubian Sandstone Aquifer System." International Atomic Energy Agency Water Resources Program. January 2011. http://www-naweb.iaea.org/napc/ih/documents/factsheetsPosters/Nubian%20-%20Transboundary%20Aquifers%20and%20Rivers%20Basins.pdf.

fresh water to the countries involved.[69] Groundwater will likely play an immense role in the future of water in the MENA region, so countries in the Arab League may consider discussing the development and financing of shared aquifers, similar to that of the Nubian Aquifer.

II. Questions to Consider in Your Research

- What bodies of water does my country have rights to?
- What other countries share these bodies of water with my country?
- How has my country addressed water issues in the past? Are there any current agreements my country has with other countries?
- Does my country get enough water? What water source(s) is my country dependent on?

III. Questions a Resolution Might Answer

- What standards should the Arab League employ regarding shared water resources?
- How should the Arab League address shared groundwater resources, and what standards should the League employ to ensure equitable distribution of water?
- What is the role of the League in addressing bilateral disagreements on shared water resources?
- How should the Arab League address potential water conflicts with countries that are not member states? What role should the League play?

IV. Additional Resources

- International Water Law for the 21st Century: The Contribution of the UN Convention
  This paper focuses on the UN Convention, its content, and its legacy for future water disputes. It provides a very comprehensive overview on the importance of the UN Convention, and its future role in prevent water conflict. It goes in further detail into the ideas of equitable utilization and the "no harm" rule.

- Everything You Need to Know About the UN Watercourses Convention
  This report was published by the World Wildlife Fund and discusses the UN Watercourses Convention, which was passed in 2014. This background guide does not discuss the Watercourses Convention, but this document provides a comprehensive overview about the convention and why it is important. It focuses on the use of shared

[69] International Atomic Energy Agency. "Transboundary Aquifers and River Basins: Nubian Sandstone Aquifer System." International Atomic Energy Agency Water Resources Program. January 2011. http://www-naweb.iaea.org/napc/ih/documents/factsheetsPosters/Nubian%20-%20Transboundary%20Aquifers%20and%20Rivers%20Basins.pdf.

water bodies for trade and economic purposes, rather than for water flow, as the UN Convention does.

- Modern Water Rights: Theory and Practice
  This study was conducted by the Food and Agricultural Organization and provides an extremely in-depth look into the international developments of water rights. It provides more detail on the theories behind existing laws and customs, as well as addresses potential future issues with current understandings of water rights. It describes contrasts between "traditional" approaches to water rights governance, and advocates for a "modern" approach for the future.

- Water Disputes in the Middle East: An International Law Analysis of the Israel-Jordan Peace Accord
  This article describes in great detail the Israel-Jordan Peace Accord, the agreement that was made in regard to the Jordan River, and how it influences international water agreements. This delves into great detail about the conflict regarding the Jordan River, and provides a comprehensive example of water conflict and disagreement in the MENA region.

Topic III: Promoting cooperation between Member States and the scientific community in order ameliorate food insecurity across the region, with special attention towards the proliferation of genetically modified crops and their associated benefits and ethical disputes.

I. Introduction

A. General Background

Food security, as defined by the United Nations Committee on World Food Security, means that all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life.[70] Food insecurity is a major international issue that will take more lives and increase tensions as environmental concerns like climate change, desertification, and ocean acidification worsen.

There are four aspects and dimensions of food security, as discussed by the Food and Agriculture Organization. First, food availability, which focuses on the availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports, which includes food aid.[71] Second, food access, which describes the access individuals have to adequate resources, also known as entitlements, for acquiring appropriate foods for a nutritious diet.[72] Specifically, entitlements are defined as the "set of all commodity bundles over which a person can establish command given the legal, political, economic and social arrangements of the community in which they live."[73] Third, utilization, which addresses the utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all physiological needs are met, illustrating the importance of non-food inputs in achieving food security.[74] And fourth, stability, which describes how a population must have access to adequate food at all times in order to be food secure.[75] This includes having constant access to food despite potential economic recession, climatic crisis, or cyclical or seasonal events.

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[70] International Food Policy Research Institute. "Food Security." International Food Policy Research Institute. No Date. https://www.ifpri.org/topic/food-security.
[71] Food and Agriculture Organization. "Food Security Policy Brief." Food and Agriculture Organization. June 2006, Issue 2. http://www.fao.org/fileadmin/templates/faoitaly/documents/pdf/pdf_Food_Security_Cocept_Note.pdf.
[72] Ibid.
[73] Ibid.
[74] Ibid.
[75] Ibid.

Worldwide, around 820 million people are undernourished as of 2018.[76] In addition, the number of undernourished people in the world has been on the rise since 2015.[77] The prevalence of undernourishment is also increasing, rising to 10.8% globally, and 19.9% on the African continent.[78]

To address issues of food insecurity, there are many international organizations that work to alleviate malnourishment. The United Nations created the Sustainable Development Goals in 2015, one of which was Sustainable Development Goal 2: Zero Hunger. Within this, member nations of the United Nations pledged to achieve a litany of goals before the year 2030. The goals include ending hunger and ensuring access by all people to safe, nutritious and sufficient food all year round; ending all forms of malnutrition; doubling the agricultural productivity and incomes of small-scale food producers; ensuring sustainable food production systems and implementing resilient agricultural practices that increase productivity and production; maintaining the genetic diversity of seeds, cultivated plants, and farmed and domesticated animals and their related wild species; increasing investment; correcting and preventing trade restrictions and distortions in world agricultural markets; and adopting measures to ensure the proper functioning of food commodity markets.[79]

In addition to the United Nations goals, other international organizations provide humanitarian assistance and cooperation to help address food insecurity. The World Food Program (WFP) is one example. The WFP was developed in the 1960s by the United Nations to provide immediate food assistance to those in need.[80] Now, the WFP assists almost 100 million people in around 83 countries each year, distributing more than 15 billion rations at an estimated average cost per ration of US$ 0.61.[81] It focuses its efforts on emergency assistance, relief and rehabilitation, development aid and special operations, with two-thirds of their work being in conflict-affected countries.[82]A second example international organization is the Food and Agriculture Organization (FAO). The FAO is a specialized agency of the United Nations that leads international efforts to defeat hunger.[83] With over 194 member states, FAO works in over 130 countries worldwide.[84]

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[76] Food and Agriculture Organization. “The State of Food Security and Nutrition in the World.” Food and Agriculture Organization. 2019. http://www.fao.org/state-of-food-security-nutrition.
[77] Ibid.
[78] Ibid.
[79] United Nations Sustainable Development Goals. “Goal 2: Zero Hunger.” United Nations Sustainable Development Goals. No Date. https://www.un.org/sustainabledevelopment/hunger/#tab-6f500e1aa274b23d96d.
[80] United Nations World Food Program. “History.” United Nations World Food Program. No Date. https://www.wfp.org/history.
[81] United Nations World Food Program. “Overview.” United Nations World Food Program. No Date. https://www.wfp.org/overview.
[82] Ibid.
[83] Food and Agriculture Organization. “About FAO.” Food and Agriculture Organization. No Date. http://www.fao.org/about/en/.
[84] Ibid.

As countries tackle issues of food insecurity, it is critical to address the use of genetically modified organisms (GMOs) in agricultural practices. Because of extensive urbanization, agricultural land is decreasing day by day, decreasing the amount of land that is used for food production.[85] In order to increase food production and efficiency, many farmers have been turning to scientific advancements, such as the use of GMOs.[86] Not only do GMOs help farmers increase productivity and yields, but also help provide essential nutrients to malnourished populations.

One impressive example of this is golden rice. Approximately 140 million children in low-income groups in 118 countries, especially in Africa and South-East Asia, are deficient in Vitamin A.[87] The situation was a public health challenge. The World Health Organization reported that an estimated 250,000 to 500,000 Vitamin A-deficient children became blind every year, half of them dying within 12 months of losing their sight.[88] Then, researchers in Germany and Switzerland developed golden rice, a rice that contained three new genes that helps it to produce provitamin A.[89] As a result, many children received the nutrients they needed to survive.

However, there are some issues regarding the use of GMOs. Firstly, there are some ethical issues, raised by many nongovernmental organizations (NGOs) like Greenpeace, claiming that the use of GMOs is unnatural.[90] Although there is no concrete evidence to support any of these views, these claims distract from technological progress and intergovernmental cooperation.[91] Secondly, there are concerns about a technological landscape controlled almost exclusively by the private sector and defined by patent protection. Patents allow large, private firms substantial control over plant genes, which has worrisome implications.[92] The biotechnology industry, including biotechnology giants such as Monsanto and AstraZeneca, collectively owns at least three dozen patents that control either seed germination or essential plant germination processes.[93] This privatization of a plant's genetic resources puts not only agricultural research in developing nations at a disadvantage, but might ultimately threaten the livelihoods of a majority of small farmers in Africa, Latin America, and Asia who largely depend on seed saved from one

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[85] Mala Trivedi, Rachana Singh, Manish Shukla, and Rajesh Tiwari. "Chapter 23 – GMO and Food Security." Ecofriendly Pest Management for Food Security, pages 703-726. 2016. https://www.sciencedirect.com/science/article/pii/B9780128032657000233.
[86] Ibid.
[87] Kaiser Jamil. "Biotechnology – A Solution to Hunger?" United Nations Chronicle. No Date. https://www.un.org/en/chronicle/article/biotechnology-solution-hunger.
[88] Ibid.
[89] Ibid.
[90] Mala Trivedi, Rachana Singh, Manish Shukla, and Rajesh Tiwari. "Chapter 23 – GMO and Food Security." Ecofriendly Pest Management for Food Security, pages 703-726. 2016. https://www.sciencedirect.com/science/article/pii/B9780128032657000233.
[91] Ibid.
[92] Kaiser Jamil. "Biotechnology – A Solution to Hunger?" United Nations Chronicle. No Date. https://www.un.org/en/chronicle/article/biotechnology-solution-hunger.
[93] Ibid.

crop to sow in the next.[94] GMOs like golden rice have successfully helped decrease malnutrition because it is available for mass distribution, which could only happen because the biotechnology company who developed it waived their patent rights.[95] Many developing countries have not yet invested in biotechnology, and the growing number of patents makes it difficult for said countries to catch up and address food insecurity.[96]

B. History in the Arab World

In the Arab world, household food insecurity is most severe in rural areas and concentrated within Iraq, Sudan, and Yemen.[97] Approximately 25% of the MENA population is poorly nourished, and approximately 7% of the population is undernourished.[98] As climate change leads to increased desertification and worsened agricultural yields, these numbers are expected to increase.[99] In addition, conflict, such as the civil war in Yemen, has led to increased malnutrition and starvation, exacerbating disease spread as well. Almost half of Yemen's population is food insecure and many have fled their homes to areas with no functioning health facilities.[100] Nearly 2.2 million Yemeni children are acutely malnourished, and an estimated 462,000 children suffer from severe acute malnutrition.[101]

As the COVID-19 epidemic continues, the MENA region remains one of the areas most vulnerable to a food crisis. MENA countries are among the world's largest food importers and most countries depend on imports for over half their needs.[102] Saudi Arabia, for example, imports most of its cereals and red meat and is expected to import all of its domestic needs by 2050.[103] The MENA region continues to also be the world's most water-stressed region with

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[94] Kaiser Jamil. "Biotechnology – A Solution to Hunger?" United Nations Chronicle. No Date. https://www.un.org/en/chronicle/article/biotechnology-solution-hunger.
[95] Ibid.
[96] Ibid.
[97] Hans Lofgren and Alan Richards. "Food Security, Poverty, and Economic Policy in the Middle East and North Africa." International Food Policy Research Institute. February 2003. http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/87844/filename/87845.pdf.
[98] Ibid.
[99] Sajid Fiaz, Mehmood Ali Noor, and Fahad Owis Aldosri. "Achieving food security in the Kingdom of Saudi Arabia through innovation: Potential role of agricultural extension." Journal of the Saudi Society of Agricultural Sciences, Volume 17, Issue 4, Pages 365-375. October 2018. https://www.sciencedirect.com/science/article/pii/S1658077X16300996.
[100] UNICEF. "In Yemen, Conflict and Poverty Exacerbate Child Malnutrition." UNICEF. February 14, 2017. https://www.unicef.org/nutrition/yemen_94543.html.
[101] Ibid.
[102] Omer Karasapan. "Middle East food security amid the COVID-19 pandemic." Brookings Institute. July 14, 2020. https://www.brookings.edu/blog/future-development/2020/07/14/middle-east-food-security-amid-the-covid-19-pandemic/.
[103] Sajid Fiaz, Mehmood Ali Noor, and Fahad Owis Aldosri. "Achieving food security in the Kingdom of Saudi Arabia through innovation: Potential role of agricultural extension." Journal of the Saudi Society of Agricultural Sciences, Volume 17, Issue 4, Pages 365-375. October 2018. https://www.sciencedirect.com/science/article/pii/S1658077X16300996.

massive subsidies for water and agriculture, preventing production as well.[104] The MENA region also faces conflicts in Libya, Syria, and Yemen and sustained political protests in Algeria, Iraq, and Lebanon, with periodic outbursts in Iran.[105]

According to the International Monetary Fund, regional growth will be negative 3 percent in 2020 because of the sharp drop in oil demand and prices due to the pandemic.[106] Because of this, all countries will see a sharp drop in tourism and remittances, leading to increased unemployment and poverty numbers.[107] Large countries like Egypt and Iran are buying more wheat as a precaution against social unrest.[108] In addition, Morocco will also import more as a drought decreases their 2020 wheat production by over 50 percent.[109] The pandemic has also put a strain on health systems, as many systems are not adequate to confront the disease spread. In Palestine, over 1.7 million people, mostly in the Gaza Strip, are food insecure and need assistance.[110] A further 841,000 are marginally food secure.[111] As the pandemic continues, this situation will only worsen.

C. Finding a Solution to the Problem: Past, Present, and Future

To address the issue of food insecurity for member states, it is important to emphasize the need for cooperation. As mentioned, Arab League members are mostly importers of food products. It is critical to discuss the need for League-wide cooperation to discover solutions for food insecurity and malnutrition, especially in conflict zones and in response to COVID-19.

First, the Council can discuss ways to ensure food security in conflict. Focusing on conflict areas like Yemen and Palestine, the Council can discuss ways to ensure all members reach higher levels of food security through regional cooperation.

Second, the Council can address how to increase self-sufficiency in regard to food products. Through regional cooperation and development, it is possible to create new solutions to increase self-sustainability.

Third, the Council can consider regional organization of humanitarian relief for food insecurity, as well as to increase self-sufficiency. The European Union, for example, has widespread

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[104] Omer Karasapan. "Middle East food security amid the COVID-19 pandemic." Brookings Institute. July 14, 2020. https://www.brookings.edu/blog/future-development/2020/07/14/middle-east-food-security-amid-the-covid-19-pandemic/.
[105] Ibid.
[106] Ibid.
[107] Ibid.
[108] Ibid.
[109] Ibid.
[110] Ibid.
[111] Ibid.

regional development initiatives and investments to achieve food security for all their member nations. The European Union also has a development index and has committed more than €8.8 billion to stopping food insecurity worldwide, corresponding to 20% of the EU development portfolio.[112] The Council can also consider working with other international organizations to ensure humanitarian resources and emergency assistance. For example, the EU also works with the United Nations, FAO, and World Food Program to help over 26 million food-insecure people through social transfers or livelihood support[113]

Fourth, the Council can consider ways to cooperate and work together on scientific or technological development, as well as research and information sharing. This research can be conducted with specific focus on improving agricultural yields and increase food production, such as through the use of GMOs. The Council can also consider ways to ensure technology in rural areas that are the ones primarily responsible for agriculture.

II. Questions to Consider in Your Research

- Is my country food secure? Where does my country get its food from?
- What is my country's stance on GMOs? Does my country produce any?
- What cooperation does my country do in regard to agriculture?
- What scientific partnerships are my country in? Does my country prioritize scientific research to improve its agriculture and food security?

III. Questions a Resolution Might Answer

- What are ways that member nations can cooperate to prevent food security in conflict areas?
- What humanitarian assistance should the Arab League provide to help those in need as a result of conflict or as a result of COVID-19?
- What is the future of GMOs in the Arab League?
- What scientific partnerships and research can members of the Arab League cooperate on? Is there a role for information sharing?

[112] European Commission. "EU Achievements in Food and Nutrition Security and Sustainable Agriculture 2014-2018." European Commission. March 2019. https://ec.europa.eu/international-partnerships/system/files/p3293-euachievements-brochure-web_en.pdf.
[113] Ibid.

IV. Additional Resources

- Water and Food Security Strategies in the MENA Region
  This report created by the European Union's Horizon 2020 Research and Innovation program is a great, short resource that talks about different strategies the MENA region can take to address the future of water and food security in light of climate change. This provides a great overview on the issue, and why it is important to address immediately.

- 2020 Global Report on Food Crises
  This report was put together by the Global Network Against Food Crises and the Food Security Information Network. Although this report is long, it is extremely comprehensive and was published during the COVID-19 pandemic, so it takes the pandemic into account. It also discusses the many different food crises during 2019 and makes predictions for the rest of 2020 and on.

- Near East and North Africa Regional Overview of Food Security and Nutrition
  This report was published by the FAO last year and is a comprehensive discussion on issues with food security and nutrition in the MENA region. It discusses existing policies on food security in different governments in the MENA region and how to improve government policies going forward. It also provides some potential solutions to ensure food security in the future.

- Genetically Modified Crops and Food Security
  This scientific study focuses on how GMOs can provide additional food security for developing nations. The study found that GMOs could contribute to food production increases and higher food availability and may also have impacts on food quality and nutrient composition. In addition, this technology has reduced food insecurity by 15–20% among cotton-producing households. This is a great resource for anyone looking for scientific research on GMOs to supplement their research on this topic.

Topic IV: Devising ways to increase nuclear power in the region, while addressing responsible methods for nuclear waste disposal, and developing plans to counter potential meltdowns or weaponization.

I. Introduction

A. General Background

Nuclear power describes the power generation using nuclear fission. It is a clean and efficient way of boiling water to make steam, which turns turbines to produce electricity.[114] Specifically, nuclear power plants use low-enriched uranium fuel to produce electricity through fission, which is the splitting of uranium atoms in a nuclear reactor.[115] This fuel consists of small, hard ceramic pellets and even though a single uranium pellet is only slightly larger than an eraser, each one contains the same energy as a ton of coal, 3 barrels of oil, or 17,000 cubic feet of natural gas.[116] This means that each fuel pellet provides up to five years of heat for power generation.[117]

The use of nuclear power offers many environmental benefits. Because nuclear power plants do not burn any materials, they produce no combustion by-products.[118] Additionally, because they do not produce greenhouse gases, nuclear plants help protect air quality and mitigate climate change.[119]

The first commercial nuclear power stations started operation in the 1950s.[120] Currently, nuclear energy supplies 12 percent of the world's electricity.[121] As of 2018, a total of 30 countries worldwide are operating 450 nuclear reactors for electricity generation.[122] In addition, nuclear power is the world's second largest source of low-carbon power, making 29% of the total low-carbon power in 2017.[123]

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[114] GE Hitachi Nuclear Energy. "Nuclear Power Basics." GE Hitachi Nuclear Energy. No Date. https://nuclear.gepower.com/company-info/nuclear-power-basics#:~:text=Nuclear%20power%20is%20a%20clean,atoms%20in%20a%20nuclear%20reactor.
[115] Ibid.
[116] Ibid.
[117] Ibid.
[118] Ibid.
[119] Ibid.
[120] World Nuclear Association. "Nuclear Power in the World Today." World Nuclear Association. August 2020. https://www.world-nuclear.org/information-library/current-and-future-generation/nuclear-power-in-the-world-today.aspx.
[121] GE Hitachi Nuclear Energy. "Nuclear Power Basics." GE Hitachi Nuclear Energy. No Date. https://nuclear.gepower.com/company-info/nuclear-power-basics#:~:text=Nuclear%20power%20is%20a%20clean,atoms%20in%20a%20nuclear%20reactor.
[122] Ibid.
[123] World Nuclear Association. "Nuclear Power in the World Today." World Nuclear Association. August 2020. https://www.world-nuclear.org/information-library/current-and-future-generation/nuclear-power-in-the-world-today.aspx.

Despite the many environmental benefits of nuclear power, some environmentalists have concerns about specifically radioactive waste disposal and the risk of nuclear accidents. There have been two international accidents in recent history that have raised major concerns over nuclear power use. The first example is the Chernobyl nuclear power plant accident in 1986 in Ukraine. The accident was the result of a flawed reactor design that was operated with inadequately trained personnel, and the resulting steam explosion and fires released at least 5% of the radioactive reactor core into the environment, with the deposition of radioactive materials in many parts of Europe.[124] Two Chernobyl plant workers died due to the explosion, and a further 28 people died within several weeks as a result of acute radiation syndrome.[125] In addition, 350,000 people were evacuated as a result of the accident.[126] Despite this, the United Nations Scientific Committee on the Effects of Atomic Radiation has concluded that, apart from some 6500 thyroid cancers, "there is no evidence of a major public health impact attributable to radiation exposure 20 years after the accident."[127]

The second example of a nuclear accident was in 2011 in Fukushima, Japan. A tsunami damaged the backup generators at the Fukushima nuclear power plant. Although all the reactors that were operating were successfully shut down, the loss of power caused cooling systems to fail in each of them within the first few days of the disaster.[128] Rising heat in the reactors created holes that exposed the nuclear material in the cores, resulting in explosions. Because of concerns over possible radiation exposure, government officials established an 18-mile no-fly zone around the facility, and a land area of a 13-mile radius around the plant was evacuated.[129] In the days that followed, some 47,000 residents left their homes, while many people in areas adjacent to the evacuation warning zone also prepared to leave.[130]

Concerns about nuclear waste storage are being addressed by advancing technology, but there are still concerns about the sustainability of waste solutions. For example, the United States has proposed digging a tunnel under Yucca Mountain in Nevada to store nuclear waste. However, the Nevada government opposes this because they fear the location's susceptibility to terrorism and the possibility of nuclear waste contaminating water resources.[131] Despite environmental challenges to finding safe ways to dispose nuclear waste, some countries continue to create plans to dispose waste within natural elements. For example, the United States created the U.S. Waste

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[124] World Nuclear Association. "Chernobyl Accident 1986." World Nuclear Association. April 2020. https://www.world-nuclear.org/information-library/safety-and-security/safety-of-plants/chernobyl-accident.aspx#ECSArticleLink0.
[125] Ibid.
[126] Ibid.
[127] Ibid.
[128] Encyclopedia Britannica. "Fukushima Accident Japan 2011." Encyclopedia Britannica. No Date. https://www.britannica.com/event/Fukushima-accident.
[129] Ibid.
[130] Ibid.
[131] Nevada Attorney General Aaron Ford. "The Fight Against Yucca Mountain." Nevada Attorney General Aaron Ford. No Date. http://ag.nv.gov/Hot_Topics/Issue/Yucca/.

Isolation Pilot Plant near Carlsbad, New Mexico that stores low-level and transuranic military waste.[132] In addition, because the waste is stored in a 2-kilometer-thick bed of crystalline salt that extends from southern New Mexico all the way northeast to southwestern Kansas, this location has enough space to store the entire world's nuclear waste for the next thousand years.[133] Another example is Finland's plan to store waste in granite bedrock 400 meters under Olkiluoto, an island in the Baltic Sea off the nation's west coast.[134] Although this waste repository is still under construction, it expects to begin permanent waste storage in 2023.[135]

B. History in the Arab World

Although the Middle East is known for their production of oil and natural gas, many countries in the Middle East are considering investments in nuclear power in recent years. As of July 2020, countries including Saudi Arabia, Qatar, Kuwait, Yemen, Syria, Jordan, Egypt, Tunisia, Libya, Algeria, Morocco, and Sudan are considering, planning, or starting nuclear programs.[136] In addition, countries like the UAE and Turkey have power plants under construction, Egypt has contracts signed and legal and regulatory infrastructure developed, and Jordan has committed plans to develop infrastructure.[137] And, as of late July 2020, the UAE became the first Arab country to open a nuclear power plant, which raised international concerns about the long-term consequences of introducing more nuclear programs to the Middle East.[138]

Specifically, the UAE's controversial Barakah plant raises concerns about nuclear power in the region. A senior consultant at the Nuclear Consulting Group, Paul Dorfman argued in an op-ed last year that the UAE's plant was "not safe enough ... it wouldn't be allowed to be built in Europe, and the Gulf region is militarily volatile, as we've seen with the attack on Saudi oil."[139] He continued, saying that four plants under construction in the UAE were being built without emergency containment features that are required in Europe, and that cracks had been previously found in two of the concrete structures housing the reactors.[140]

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[132] Richard Rhodes. "Why Nuclear Power Must Be Part of the Energy Solution." Yale Environment 360. July 19, 2018. https://e360.yale.edu/features/why-nuclear-power-must-be-part-of-the-energy-solution-environmentalists-climate.
[133] Ibid.
[134] Ibid.
[135] Ibid.
[136] World Nuclear Association. "Emerging Nuclear Countries." World Nuclear Association. July 2020. https://www.world-nuclear.org/information-library/country-profiles/others/emerging-nuclear-energy-countries.aspx.
[137] Ibid.
[138] Vivian Yee. "U.A.E. Becomes First Arab Nation to Open a Nuclear Power Plant." The New York Times. August 1, 2020. https://www.nytimes.com/2020/08/01/world/middleeast/uae-nuclear-Barakah.html.
[139] Tom Allinson. "UAE: Arab World's First Nuclear Power Plant Raises Stakes in the Persian Gulf." DW. February 18, 2020. https://www.dw.com/en/uae-arab-worlds-first-nuclear-power-plant-raises-stakes-in-the-persian-gulf/a-52411432.
[140] Ibid.

Other states in the Arab League have likewise expressed concern over the UAE's nuclear program. In 2019, Qatar wrote a letter to the International Atomic Energy Agency asking them to intervene over UAE's Barakah plant. Qatar wrote that the Barakah plant poses a serious threat to regional stability and the environment and, instead, called for a framework to ensure the safe operation of nuclear energy in the Gulf.[141] Qatar expressed concern about a nuclear accident, writing that discharge could reach Doha in 5 to 13 hours and a radiation leak would have a devastating effect on the region's water supply because of its reliance on desalination plants.[142] The letter also stated that "Qatar believes that the lack of any international cooperation with neighboring states regarding disaster planning, health and safety and the protection of the environment pose a serious threat to the stability of the region and its environment."[143] Concerns about safety also extend beyond the potential for accidents; in 2017, Houthis in Yemen fired a cruise missile towards the Barakah plant, although it did not reach its intended target.[144]

C. Finding a Solution to the Problem: Past, Present, and Future

It is clear that as more countries in the Arab League begin investing in nuclear power and building nuclear power plants, it is critical to come up with a framework to address these developments. Although there are international standards, it may be needed for the Arab League and this Council to develop regional standards for its member nations.

Looking to the European Union can provide some guidance on how to develop a method of regional cooperation and framework on nuclear energy. The European Union is the largest energy importer in the world, importing 55% of its energy, and began to look to ways to increase energy efficiency.[145] In 2012, the European Union created the Energy Efficiency Directive which established a set of binding measures to help member states reach a 20% energy efficiency target.[146] In 2015, the European Commission adopted its vision for the creation of an European Energy Union.[147] Specifically, the Energy Union aims to integrate and strengthen the EU's internal energy market by prioritizing the security of energy supply, the creation of a single integrated energy market, the increasing of energy efficiency, the decarbonization of the

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[141] Geert De Clercq. "Exclusive: Qatar Asks IAEA to Intervene Over 'Threat' Posed by UAE Nuclear Plant." Reuters. March 20, 2019. https://www.reuters.com/article/us-qatar-emirates-nuclearpower-exclusive/exclusive-qatar-asks-iaea-to-intervene-over-threat-posed-by-uae-nuclear-plant-idUSKCN1R120L.
[142] Ibid.
[143] Ibid.
[144] Reuters. "Yemen's Houthi group says fires missile toward Abu Dhabi nuclear reactor." Reuters. December 3, 2017. https://www.cnbc.com/2017/12/03/yemens-houthi-group-says-fires-missile-toward-abu-dhabi-nuclear-reactor.html.
[145] World Nuclear Association. "Nuclear Power in the European Union." World Nuclear Association. February 2020. https://www.world-nuclear.org/information-library/country-profiles/others/european-union.aspx#:~:text=The%20EU%20depends%20on%20nuclear,to%20an%20EU%20Energy%20Union.
[146] Ibid.
[147] Ibid.

economy, and the boosting of research and innovation.[148] Although the European model might not match what countries in the Arab League need, it provides an example of regional cooperation on nuclear power, specifically using solutions such as technology sharing and regional goal setting. This example provides some evidence on the feasibility of solutions.

There are many solutions this Council could consider regarding nuclear power. First, this Council could discuss ways to cooperate on the development of nuclear power, including infrastructure building, placement of nuclear power plants, energy sharing, and more. As shown through Qatar's response to UAE's Barakah plant, the lack of a framework may lead to accidents. Discussing a specific framework for nuclear power plants can decrease the risk of accidents and prevent tensions. Second, this Council could consider methods of technology, research, and information sharing. Scientific cooperation can help make the Arab League and the MENA region a leading region in nuclear power. Third, this Council could discuss best practices regarding nuclear waste. This ensures that the environmental effects of the waste will not be too harmful and sets standards for countries to enforce this environmental protection. After all, water is too precious of a resource in the MENA region to be contaminated with nuclear waste. Fourth, this Council could discuss additional safeguards, specifically from non-state actors or threats to the Arab League. This would guarantee that our region's technology is safe from those who could threaten the Arab League.

II. Questions to Consider in Your Research

- Does my country rely on nuclear power? What percentage of my country's energy is from nuclear sources?
- How does my country feel about nuclear power? Is the population in favor of using nuclear power?
- Is my country currently developing any nuclear power plants?
- What safeguards does my country have towards preventing nuclear accidents? How does my country plan on dealing with nuclear waste?

III. Questions a Resolution Might Answer

- How can member nations of the Arab League cooperate on existing nuclear power plants and current plans to develop additional plants?
- Is there room for nuclear technology sharing?
- How can the Arab League cooperate and share best practices regarding nuclear waste disposal?

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[148] World Nuclear Association. "Nuclear Power in the European Union." World Nuclear Association. February 2020. https://www.world-nuclear.org/information-library/country-profiles/others/european-union.aspx#:~:text=The%20EU%20depends%20on%20nuclear,to%20an%20EU%20Energy%20Union.

- What safeguards can the Arab League create to address nuclear technologies? Should there be league-wide regulations on the use of this technology?

IV. Additional Resources

- Economics of Nuclear Power and Climate Change Mitigation Policies
  This study, published by the National Academy of Science in the United States of America, specifically discusses the economic investments of nuclear power. It discusses in depth the tradeoffs between safety and monetary investment, describing in detail the economic effect of the Fukushima accident. This study is a great resource for anyone looking to understand the economic commitments of nuclear power and the impacts nuclear power has on climate change.

- The Nuclear Fuel Cycle and the Proliferation "Danger Zone"
  This study discusses the risks of nuclear proliferation after the development of nuclear power plants. It describes "horizontal proliferation," a term it uses to describe when outside actors gain access to the technology used in power plants or the uranium itself. In addition, it identifies the Middle East and East Asia as the two regions most at risk for horizontal proliferation. This study provides a lot of context about potential safeguards the Council can implement to ensure the protection of potential nuclear power plants.

- Nuclear Energy in the Middle East? Regional Security Cooperation Needed
  This article was published by the Harvard Kennedy School's Belfer Center for Science and International Affairs. It outlines many ways that member nations of the Arab League can cooperate to develop nuclear energy, specifically describing cooperation on safety, security, non-proliferation, and foundations of growth. This article is extremely policy-focused and provides a lot of evidence for potential avenues of cooperation between members of this Council.

- Gulf Nuclear Ambition: New Reactors in United Arab Emirates
  This study was published by Paul Dorfman of the Nuclear Consulting Group and was mentioned earlier in this background guide. This was written and published last December in 2019 and discusses the development of UAE's first nuclear power plant. It questions the standards of the power plant that was eventually built and further inquires whether the UAE's power plant will destabilize the Gulf region and the safety, security, and environmental risks of the power plant.