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Jordan, Water Scarcity

Jordan: Water Crisis

According to the article “Water Scarcity” found on the United Nations Water website, the definition of Water scarcity can be “scarcity in availability due to the physical shortage, or scarcity in access due to the failure of institutions to ensure a regular supply or due to a lack of adequate infrastructure.” Water scarcity is an ever-evolving and growing issue that affects *billions* of people across every inhabited continent.

Water scarcity alone is far more complicated and extensive than most definitions hint towards. According to Tabinda Athar in the article “Water Scarcity and Factors Affecting its Availability” a number of factors such as climate, geographical location, and knowledge of water renewability play a crucial role in the establishment and continuation of quality water sources and supplies. Millions of people across various countries feel the effects of water scarcity on a regular basis. In the Middle East, water availability and water quality are becoming a growing concern as populations rise and resources are depleted. The main focus of this paper will be to highlight and propose a few solutions to this ongoing crisis in the Middle East, particularly the country of Jordan.

Jordan is a moderately sized country of approximately 10.5 million people located between Israel, Iraq, and Saudi Arabia. Due to its relative location and intricate history, Jordan has emerged as a tourist hotspot, providing a much-needed source of revenue. As stated by the Central Intelligence Agency, since its establishment in the 1920s, Jordan has possessed one of the smallest economies in the Middle Eastern transcontinental region. With the bulk of its income coming from services and industry along with limited agriculture, Jordan relies heavily upon foreign aid. Adding insult to injury, while it is receiving help from

other countries with their internal issues, Jordan is being flooded with refugees and those seeking asylum from the civil wars in Syria. According to “Water Resources & Environment | Jordan” and the U.S. Agency for International Development, the unrest in the neighboring country has resulted in the influx of over a half million people in the last five years (per July 2018). I will delve deeper into the extent to which this will hurt Jordan in the long run and how it can be prevented. With little internal support, a high unemployment rate, and geographical restrictions, Jordan is a country in desperate need of water reform.

The first solution to this unfortunate dilemma is education. In general, the basic education of adolescents through adults in Jordan is adequate. The CIA World Factbook presents information pertaining to general education and education standards. In total, between males and females, the average Jordanian receives 13 years of schooling from primary to tertiary. This is a strong platform to build off of when it comes to alerting a nation about underlying yet current issues that affect people’s lives. The type of education we want to shed light upon, however, is instruction pertaining to water conservation and methods of rendering. With limited domestic knowledge, the best move for the country is to bring in an outside, non-profit development team. One such organization that specializes in the intervention and education of water scarcity is Splash. According to Splash’s website, “Splash works with foreign governments & builds local businesses to create safe water projects, at scale, in resource poor cities.” Additionally, Splash strives to implement fundamental and sustainable technology with the use of quality materials. Education is the key to prevention; therefore, Splash makes it their duty to educate children worldwide about personal hygiene and just how critical it is to maintain proper cleanliness. Though the majority of Splash’s aid is found in countries of Africa and Eastern Asia -- including Nepal, China, India, Ethiopia, Cambodia, Bangladesh, Thailand, and Vietnam -- there is still plenty of room and time to extend its hand of generosity into the desperate Middle East. Through independent donations, collective funds, and a country support request, Splash could soon be an integrative part of the country of Jordan -- strengthening their fight for water. The important aspect to pay attention to, in regards to international aid, is that once viable education has been achieved, Jordanians will not be dependent upon these organizations for their

help. This idea of self-sufficiency is why education is the essential primary need before other changes can follow.

Now, we know that there is a lack of water education in Jordan; however, education isn't the *entire* picture. Other key elements to consider when working with foreign countries are International Resource and Trade Agreements. In particular, we need to discuss Jordan's policies of its International Water Agreements. Agreements such as these are pulling native dollars and resources away from Jordanian homes and into foreign countries. According to Shlomi Dinar and Ariel Dinar in the article "Lessons from International Water Sharing Agreements for Dealing with Climate Change," since the 1950s, Israel and Jordan have had a dispute and legislation surrounding a transboundary water treaty. In October of 1994, Israel and Jordan came to an official agreement covering a number of points. In regards to water, the treaty allows both countries to equally share water from the Jordan and Yarmouk rivers. According to the Israel Ministry of Foreign Affairs in the article "Main Points of Israel-Jordan Peace Treaty," by agreeing to their deal, the country of Israel will allot 50 million cubic meters of water to Jordan every year. Now, many discrepancies about the legitimacy and ethics of this trade are still being discussed today. Whether or not each country is holding up its end of their deal is a rather gray area that needs to be addressed by foreign secretaries and ministers alike. Regardless, a new deal needs to be formed taking into consideration the flows of the specific rivers and how much each country is *actually* receiving. This will, without a doubt, take a number of years to make possible and a plethora of information to support claims on both sides. While Israel is sharing much of Jordan's water, a future potential problem looms to the north. As mentioned earlier, Syria is in the midst of a civil war, ravaging resources from top to bottom. The idea of needing to allocate water to Syria and further lowering water availability within the country of Jordan is a situation that is certainly possible in the future. Jordan needs to revisit current agreements and recognize future issues that may arise in order to ensure national security and the health of its civilians.

Finally, if civilians are educated accordingly and certain agreements are met, the final step to ending the water crisis in Jordan is sustaining water supply and water quality for years to come. The most effective way to do this is by implementing new agricultural techniques, such as better irrigation, that will not only affect rural lifestyles but the urban production of goods as well. Though the country of Jordan's agriculture only makes up for only 2% of their labor (The World Factbook: Jordan), small savings will eventually pay off in the long run. One technique in particular that stands above the rest is hydroponics. Hydroponics is a method of cultivation by which crops and plants are grown without soil but rather in nutrient-rich water. In the past few decades hydroponics have grown in popularity -- and for good reason. Sara Wambua outlines a few major benefits of hydroponics in her article "Hydroponics vs Soil," some of which can be applied to the situation at hand in Jordan. To begin with, hydroponics offer a chance for produce to be grown without soil, allowing it to be grown virtually anywhere, cutting the cost of soil prices and demand for land availability. Additionally, hydroponics do not require the heavy doses of fertilizer that so many soil-based crops due -- once again saving money. With extra nutrients and constant water supply, plants will grow faster and appear healthier. Now, how does this help solve the water crisis? Would not it use even more water? The simple answer is no. Because crops are constantly embedded in water that is recycled and doesn't need to be changed excessively, savings will be made on the pumping, distribution, and search of said water. Also, by not using any soil, "it only uses 10 percent of the water used on the ordinary planting." In general, this will lower crop production prices having a trickle-down effect to items commonly sold in inner cities thus distributing the wealth. That is why this idea will not only benefit those working with hydroponics but all Jordanians. Couple the notion of improved agricultural techniques with the idea of proper education and Jordanians will see results that will accelerate the country for the better. With proper hydroponic improvements and installation, Jordan could very well be self-sufficient and thriving within the next decade.

In conclusion, there is a lot of work that needs to be accomplished in order for the livelihood and well being of the civilians of Jordan to be restored. There is an obvious issue at hand. Every day, millions of

people feel the effects of water scarcity and while basic needs are neglected. We cannot directly control the climate of our region nor the unrest in the neighboring country Syria. However, by linking together education and improved agricultural techniques while revisiting foreign trade agreements, we should be able to serve and protect Jordan and its essential water interests. Everyone deserves access to an abundance of high-quality water with affordable prices that will not put a country out of commission. With the solutions I have outlined, I firmly believe that these goals can be achieved and water scarcity in Jordan can be ended once and for all.

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