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Yemen, Factor 14: Conflict Resolution

Yemen is a Middle Eastern country bordering Saudi Arabia, Oman, and the Indian Ocean with a population of approximately 27.4 million people. According to the CIA World Factbook, Yemen has a total land area of around 530,000 square kilometers, with the center of the population lying in the more temperate west and on the coasts in the two largest cities, Sanaa and Aden. While agriculture tends to thrive in these regions, the arable land is restricted due to deserts spanning the country. Yemen also happens to have a largely Muslim population (99.1%). Divisions between Muslim sects have led to the country's militant Shia Houthi rebels and Yemen's current Sunni, Saudi Arabia-backed regime engaging in mass conflict, leading to concerns such as ineffective education (around 1600 schools are now unfit for use because of war damage), and poor healthcare (1900 out of 3500 hospitals are either partially or completely out of commission, from a BBC report called "Yemen Crisis: Who Is Fighting Whom?"). Most importantly, this culture clash has put the population of Yemen and its land in grave danger. In a recent BBC report, "Yemen conflict: How bad is the humanitarian crisis?," the lack of resources such as food and water, was described in depth, detailing its impact on half of the country's population. The imports that the country relies on have additionally become very expensive due to blockades and deteriorating infrastructure. To assist the people of Yemen, the Yemeni Civil War must come to an end through diplomacy and the encouragement of post-conflict sustainable agricultural tactics.

During ideal conditions, Yemen's family structure is tightly knit and much larger than the typical American's. The average family in Yemen has extensive connections with extended family through kin groups according to tribal descent and a patrilineal structure. The typical household is large (especially in rural areas), containing an average of 6.7 people. Their diet makeup consists of three meals a day, with grains such as sorghum and barley making up a large portion through bread and porridge. Vegetables, dates, and occasionally meat are consumed during the evening, and varieties of tea and coffee husk brews are common. As for education, according to "Countries and their Cultures," priority is given to men in society, and all schools are gender-segregated, including universities. However, Yemen's education system is currently very poor, as is its healthcare. Based on data from USAID in a report called "Education," only 63% of primary school-aged students completed school here in 2010, and current statistics say that only 1/4 of third graders in Yemen have any ability to read. Medical care as a whole is also extremely limited in Yemen as a result of the current armed conflict. In a report due to bombings and a lack of resources, only 45% of medical centers are currently operational at all, limiting access to quality care and future opportunity.

Agriculture is a key to providing some of these resources to Yemen's starving people. It is also incredibly important to Yemen's economy, as the majority of the country's population is somehow involved in agriculture or herding, while these industries themselves make up approximately 17.5% of the country's gross domestic product (or GDP; other sectors, such as service-based industries and commerce, make up less than one-fourth of the overall job and employment opportunities, while the government is also one of the country's largest employers). As such, this field is incredibly important to solving food insecurity issues in addition to providing employment in rural areas. Yemen has five distinct agricultural regions.

The western mountain region and the highland plains region of the country are the most frequently rainfed, especially during the rainy seasons of the spring and the summer. This climate is influenced by three major bodies of water around Yemen: the Indian Ocean, the Red Sea, and the Mediterranean Sea. These are the sources for much of the environment's moisture during this time, and ultimately are the reasons why these regions are by far the most farmed areas. Farms in Yemen typically focus on cultivating livestock and grains, such as wheat, barley, and sorghum. According to the Food and Agriculture Organization's Country Pasture/Forage Resource Profiles on Yemen, cereals and tropical fruit (such as bananas, mangoes, and varieties of citrus) are very common in the coastal regions of the country, but the majority of the grains are grown on terraces in the highlands.

Farming practices in Yemen are fairly primitive overall, which contributes to the country's susceptibility to starvation during such a crisis. One great example is terrace farming, which is an ancient agricultural practice in Yemen where unusable mountain land in the more fertile highlands is made into patches that are useful for agriculture. In Daniel Martin Varisco's "The Future of Terrace Farming in Yemen: A Development Dilemma," he describes how farmers who practice this take into account the location of springs, steepness of the slopes, and other factors to prevent erosion. Additionally, subsistence farming is common in Yemen, with many farmers either owning small plots of land or acting as landless tenant farmers on large, commercial farms. The majority of the crops grown are used by the farmers for personal use and consumption overall.

Unfortunately, Yemen has a multitude of extensive limiting factors with developing its agricultural sector and increasing food security. While rainwater-based regions have generally solid output, the use of groundwater is a highly contentious issue in Yemen to this day. Some aquifers are being depleted of one to four meters of water annually, while some even lose up to seven meters per year, according to a report issued by the United Nations Development Programme (UNDP) for Yemen, entitled their "National Agriculture Sector Strategy" (or NASS in future reference). Additionally, only 1.61 million of Yemen's 45.55 million hectares (ha) are considered to be arable. This has led to increased terrace farming in heavily populated areas. Because of limited space, farm production here can only expand through increasing productivity of farming methods, which is complicated by traditional inheritance laws. Finally, production of qat, a stimulant that causes psychological dependence and is a traditional cash crop in Yemen, is rapidly increasing, which has led to it taking up close to a fifth of irrigated land in Yemen (22.3%), again based on the UNDP's NASS. However, qat requires a great deal of water to cultivate, taking up slightly less than a third of the country's groundwater and agricultural water uses. Despite having a negative economic impact, qat is a source of income and cultural value for lower-class farmers across Yemen, making it a sensitive subject to tackle.

The war began in late 2014, after an uprising to replace the authoritarian president of Yemen led by a Shia group called the Houthis. In retaliation, Saudi Arabia and a coalition of eight other Middle Eastern Sunni countries launched an air campaign to restore Abdrabbuh Mansur Hadi's (the president of Yemen) Sunni-focused government. The conflict between the Houthis and the Hadi's combination of pro-government forces and a Sunni alliance has led to mass shortages of goods across the country. While food insecurity was already an issue, data from a BBC report entitled "Yemen Crisis: Who Is Fighting Whom?" states that the systematic deprivation of food has led to 82% of the country's population requiring humanitarian aid, with approximately 14 million of those being specifically from food-related causes.

These insecurity issues stem from several conflict-related factors. According to a report written by Robert Fisk of "The Independent," there is evidence of Saudi airstrikes targeting agricultural land in Yemen, with data collected by the country's agricultural administration showing a clear focus on water and food storage systems. This increasingly puts Yemen's limited amount of arable land (2.8% of the country) out of commission, limiting both food and employment for much of the country, decreasing the ability of people to pay for goods. According to the International Committee of the Red Cross's (or, the ICRC) compilation of recognized international humanitarian laws, this practice is in clear violation of Rule 156 regarding war crimes, as "The conduct endangers protected persons or objects" (ICRC). Even if the Saudi government is not intentionally attacking citizens, the evidence that it is making efforts to hurt them by destroying the means of producing food constitutes an offense the aforesaid law. Additionally, Yemen imports around 90% of total staple foods according to the UNDP'S NASS. The enforcement of a naval embargo by the Saudi-led coalition has led to a lack of fuel, which, when coupled with the continued damage to infrastructure such as roads and bridges, has severely limited transportation of goods to both rural and urban families. To make matters worse, the war does not appear to be ending, with United Nations-led peace talks breaking down in four months. This, in fact, lead to increased casualties, exemplified by the 3.3 million pregnant women and children now suffering from acute malnourishment. This is a 63% increase from when the war began, showing that the severity of the situation continues to increase in Yemen. It is clear that this conflict must end as soon as possible for the good of Yemen's people.

In the end, the war's resolution would lead to several positive effects in Yemeni society. The destruction of viable farmland in the country's coastal and highland regions would end, and farmers would also be able to safely return to their fields, allowing Yemen to continue to produce agricultural goods. The rebuilding of infrastructure could create new jobs that would allow Yemen's people to afford the imports that they currently rely on. The ending of the Saudi-controlled embargo in Yemen's Red Sea ports would also let these imports into the nation, opening the country up to supplies of fuel to increase transport of goods and allow healthcare and education to run more efficiently. These improvements, however, will soon become out of reach. According to the CIA, with the 31st highest population growth rate (2.37% annually) in the world, and over half of the population of the country at or under 18 years of age, Yemen's relatively young population continues to expand as resources dwindle. The habitual trade deficit of Yemen leads them to rely on goods with massive price swings, keeping an entire generation of youth, approximately 14 million Yemenis, stunted from malnutrition. Ending the war would, in short, lead to an influx of supplies that could feed the country's millions of starving and internally displaced people, increase economic opportunity, and open the door for shifts in the agricultural output and food supply of the nation. As for how to end it, there are multiple ways that a conclusion to the war can be achieved diplomatically.

Ultimately, while this is a complex issue, the crisis in Yemen can be resolved through additional foreign intervention and the prioritization of agricultural sustainability by the legitimate government regime. First and foremost, the Yemeni Civil War must end. While prior peace talks have failed, the United Nations (UN) must continue to push them to promote understanding between the Saudis/pro-Hadi forces and the Houthi rebellion in an effort to re-establish Hadi's government as legitimate in Yemen. The conflict seems endless unless the Houthis submit to UN Security Council Resolution 2216, as described in the

UN's transcript of the proceedings entitled "'Security Council Demands End to Yemen Violence, Adopting Resolution 2216 (2015), with Russian Federation Abstaining," ordering them to lay down arms and evacuate their controlled areas. It is currently extremely difficult for the government to get involved in enforcing said resolution due to the geographical distance from the center of the rebellion (Yemen's government is centered in the east, while the rebellion is focused in the fertile west of the country). The ties of Hadi's regime to the Saudis also lessens their authority due to the food-related war crimes perpetuated by the latter. As such, in an effort to create a stable government satisfactory to all parties, in negotiations, civilian representatives from affected cities (such as Sa'ana, Taiz, etc.) should have the opportunity to attend negotiation sessions. Non-profits such as Civilians in Conflict that have proven experience in democratic conflict solutions can integrate the true victims of this war into finding equitable solutions for the restructuring of the government and its priorities. This can be used to hopefully shape future agricultural policy, strengthening this sector of the economy for the future. In the event that Yemen's status remains unresponsive to such aid, as the nation with the world's most powerful military, the United States should itself initiate talks with the rebels and the Saudis, putting its own military intervention on the table. To force the case, the US or a partner nation could bring bombings of fields by the Saudis to the World Court in reference to violations of commonly recognized international humanitarian laws (ICRC). Relief will ultimately be a slow process, but threats of further action by such a world power could hasten the process.

In the meantime, organizations such as the United Nations, NGOs, and world leaders such as the United States must continue to supply crucial financial aid to the country. This financial aid would come in two forms for separate purposes. First, NGOs should work to supply humanitarian aid intended to fix superficial issues hindering the country's health and growth as a result of the civil war, such as infrastructure, food transportation, and funding groups such as Doctors without Borders to assist with health concerns. This funding will allow Yemen to move past the conflict to focus on its underlying issues regarding the sustainability of its agricultural market that deepened the nation's crisis. This next step will be orchestrated through multilateral aid, in which multiple nations will submit funds to assist Yemen's economic growth. The World Bank will then collect and redistribute these funds back to the country for the purpose of aiding the Ministry of Agriculture and Irrigation. Due to the war, Yemen obviously will not have the resources immediately to focus on agriculture development, and contributions from other countries made solely for this purpose will bolster its future food security by developing agriculture-specific infrastructure destroyed in the conflict, putting funding into government-controlled agricultural sectors (such as the wheat and potato industries), restarting subsidy programs (more information below), and replenishing funds in the Agriculture and Fisheries Production Promotion Fund (or AFPPF) to create irrigation systems to lessen the country's dependence on critical aquifers. Having this aid be multilateral gives it an important distinction from bilateral aid. The United States would not be the only country contributing to Yemen's success, which would hopefully assuage some concerns regarding our foreign aid spending. Our economy is in excellent shape right now, with an extremely low unemployment rate (4.3%, according to a Reuters article by Lucia Mutikani) and relatively low/stable inflation (1.7%, according to the Bureau of Labor Statistics). As our contribution is multilateral and therefore would be smaller than our typical aid packages given to countries (for example, under a new pact settled in 2016, according to Fortune Magazine, \$38 billion over 10 years, and therefore \$3.8 billion a year, will now be given to Israel in bilateral aid for military defense; with recent cuts in funding to many federal programs, funds to Yemen would ultimately be a drop in the bucket), looking at the escalation of

starvation and medical issues as published by groups such as Doctors without Borders and BBC, it should be quite easy to understand the positive consequences of such a financial gift. This is not even to mention the vast reserves of oil and natural gas that Yemen currently owns. Aid to the country (especially after smoothing over the conflict with the Saudis) could be beneficial for the American economy and energy sector in the long run, as we could potentially gain a new partner in trade. As such, there are both moral and practical reasons to invest aid into Yemen.

Fortunately, this aid already seems to be pouring into Yemen from multiple sources. Recently, from a report issued by the United Nations News Center called "Yemen: UN, Partners Seek \$2.1 Billion to Stave off Famine in 2017," the UN and associated humanitarian groups launched an international appeal to acquire \$2.1 billion to provide assistance and supplies to civilians throughout the country. This is the largest contribution ever sought for the war in Yemen, going a long way to bring medical supplies through the World Health Organization and food and water through UNICEF to those caught in the middle of the conflict. Additionally, the United States, despite assisting the Saudis in the war with intelligence, have given generous aid to the Yemeni people, including a gift of \$137 million in April of 2016. The United States (US) and the United Kingdom (UK), influential countries which have a stake in giving the Saudis intelligence, should take a stand against Saudi Arabian human rights abuses by ending these intelligence efforts and working to supply further monetary assistance to groups such as the UN to combat this conflict while ensuring that our supply of goods such as oil from the Saudis remains secure through negotiations and an amicable ending of US involvement. The UN could additionally deploy peacekeeping troops alongside these supply drops to both curb the spread of conflict and to mediate between pro- and anti-government forces in besieged cities such as Taizz.

However, even after the conflict has ended, the situation regarding food supplies will remain the same. Yemen must prioritize increasing crop yield, limiting groundwater usage, and working to stop production of qat. The Ministry of Agriculture and Irrigation, which only receives 1% of the Yemeni government's budget, previously used government subsidies operating through the AFPPF that allowed limited numbers of farmers to access more advanced irrigation and water control implements. These subsidies not only brought this irrigation equipment down to 30% of its normal cost for farmers, but the Ministry also constructed 2967 water structures (with another 413 on the way) in 2012, including dams, levees, and diversion canal, based on the findings of the UNDF's NASS. This investment, while expensive, needs to continue, as it heavily limits the continuous usage and depletion of groundwater aquifers in favor of sustainable, surface-based water reservoirs. The Yemeni government should divert funds to this department as a method of constructing a more sustainable agricultural lifestyle for the people of Yemen to prevent setbacks such as desertification in Yemen's limited farmland.

Qat production also must be greatly restricted. While it causes both health and economic concerns due to its status as a stimulant and its addictive properties, qat realistically has a cultural and economic value to especially rural farmers that is too large to allow for immediate action. Negative advertising campaigns administered by the federal government could gradually show Yemeni society the disadvantages of qat growth and consumption. Because only a small segment of Yemen's population, as seen in the findings of the CIA's World Factbook, has regular internet access (25.1%), posters, billboards, while advertising via technology could be used, speaker tours with representatives from the Ministry of Agriculture and Irrigation, pamphlets with information distributed in government buildings and in schools, and other

advertising methods using minimal technology are essential to ending Yemen's reliance on qat. Tax cuts on property could additionally be given to farmers who put a focus on commonly farmed resources such as barley and wheat. These factors would gradually both reduce the demand and the supply of qat at the same time, making it economically advantageous to place the agricultural factors of production in the hands of government-controlled farm industries, such as the wheat and potato businesses, as described in the UNDP's NASS. Such tax cuts would also make it easier for farmers to transition back to the life of a civilian in the wake of a political uprising on the scale of the Houthi rebellion. Ultimately, this would lead to both a decreased output of qat and an increased output of food, limiting Yemen's dependence on imports whose price swings put them out of the reach of the subsistence farming base of the country.

Despite the best efforts of nonprofits and foreign nations that have generously contributed, the situation in Yemen continues to be an increasingly complex political and humanitarian issue that is worsening by the day. A recent article by Stephanie Nebehay of Reuters describes Oxfam's current predictions describing the cholera outbreak that has recently surfaced in the Middle East, projecting over 600,000 people to possibly be affected. With the rainy season from July to September increasing the likelihood of this, parents are being forced to choose between treatment for their sick children and purchasing the limited food that is still available. With such a hostile political climate, the time is now to settle this humanitarian crisis, stabilize the political regime of Yemen, and begin to implement sustainable changes and aid programs to decrease the country's reliance on qat, develop infrastructure to transport resources (notably foodstuffs) and provide jobs, and save the country's aquifers through reservoir and irrigation construction. The international community must strive for progress on this issue before the situation again changes or more lives are lost.

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