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Yemen, Conflict

### **Yemen: Addressing the Hunger Crisis Amidst Conflict**

Rich in history and cultural heritage, Yemen is a Middle-Eastern country just off the southernmost point of the Arabian Peninsula. Yemen is bordered by Oman, Saudi Arabia, and the Indian Ocean, and has a population of approximately 32 million people. Yemen's official language is Arabic, and 99.1% of the population practices Islam (*Yemen*, 2022). In spite of the vibrant culture present within the country, Yemen has faced ongoing political strife for many years, which has led to an increasingly alarming humanitarian crisis, with significant impacts on healthcare, infrastructure and agriculture. The conflict began in 2014, when rising tensions between Yemen's government and the Houthi rebel forces finally reached a breaking point, and the Houthis overtook the capital of Yemen, Sanaa. The conflict worsened as American and Saudi Arabian forces attempted to intervene, bringing the majority of Yemen's population to the brink of starvation, with little resources to aid their recovery (Zeidan, 2024). In order to restore livelihood in Yemen, there must be efforts made to end the war, and revitalize agricultural practices in order to ensure a more sustainable economy and quality of life for the Yemeni people.

A typical Yemeni family generally consists of 7-8 members, oftentimes with multiple generations living under the same roof. Yemeni families tend to take on more "traditional" roles in the home, with women being responsible for household chores and caregiving, whereas men are typically seen as the "primary providers" for a household. Depending on the region in which a person lives, daily routines could consist of working in private or government sectors in more urbanized areas, or agricultural work and trading in more rural areas. Meals are a very social time in Yemeni households, with food being served communally, often consisting of rice, bread, stews, and meat when available (*Popular Yemen Recipes. Yemen Diet | - CountryReports*, n.d.). A large percentage of people in Yemen rely entirely on subsistence farming for their food, meaning they grow and harvest food solely for their family's needs. However, in recent years this practice has become incredibly difficult as a result of the civil war.

With Yemen being one of the poorest and most underdeveloped countries in the world, the long-running conflict between the Yemeni government and the Houthi forces has exacerbated an

already dire crisis. The war has led to mass destruction and the displacement of millions, and driven over 18 million people—more than half the population, into severe hunger and malnutrition (*Yemen*, 2022). The destruction of commercial farms, along with desertification, water scarcity, and climate related challenges has essentially wiped out Yemen's agricultural sector. Farms that were once vibrant and thriving, have been transformed into battlefields, leaving farmers unable to grow crops and receive income. In 2017, a household survey concluded that yields of sesame, cotton, and tobacco had been reduced by 59%, vegetables by 53%, and fruits by 44% compared to pre-conflict yields (*CEOBS*, 2020). As previously mentioned, a large portion of the population relies on subsistence farming for survival, yet the same environmental and conflict-related factors affecting commercial farms have also devastated small-scale agriculture. This leaves families that rely on subsistence farming without food or resources, forcing them to rely on the scarce amount of humanitarian aid that is available. With 48.6% of the population living below the poverty line, many households lack the basic income necessary for buying food, and even for those with sufficient income, market disruption, inflation, and supply chain collapses have made food scarce and unaffordable.

While rural areas of Yemen have been greatly affected by the conflict, urbanized areas have been equally, if not more affected, by the war. A large portion of essential infrastructure has been completely destroyed, making daily life a struggle for those living in urban areas. Over  $\frac{1}{3}$  of the educational centers in the capital, Sanaa, have been destroyed. Along with that, 40% of all residential structures have been reduced to rubble, exacerbating the already severe housing crisis. In addition, 40% of water and sanitation systems have been damaged, affecting both the quality and quantity of water available. This scarcity leaves families with no choice but to turn to unsafe and costly methods of acquiring water, such as buying it from mobile tanks. With almost half of the country's population living below the poverty line, this is not only incredibly financially unstable, but also poses severe health risks, as contaminated water caused a detrimental cholera outbreak within Yemen. The effects of the war have been absolutely devastating on Yemen's population, with food scarcity and economic fragility accounting for 60% of all conflict-related casualties (Mohammed, 2023). With the combination of conflict, economic instability, and urgent humanitarian crises, Yemen continues to move closer and closer towards the brink of famine, making urgent intervention and implementation of long-term solutions more crucial than ever before.

While ending the Yemeni civil war is an essential prerequisite to achieving long-term socioeconomic stability for the country, war is a very complex and multifaceted issue that cannot be solved with one policy recommendation. Nevertheless, this war continues to have detrimental effects on Yemen's infrastructure, health care, and most importantly: food security. For this reason, it is imperative to explore options for immediate relief and long-term solutions that can be implemented as soon as the war concludes.

Historically, agricultural sectors of Yemen have primarily relied on spate irrigation to water their crops. Spate irrigation is a method in which water from rain, rivers, and flood water in ponds and lakes is captured, stored, and used for controlled release to crops (*CEOBS*, 2020). This method is an ancient and sustainable method of irrigation, however it poses significant risk of flooding. Another solution that could be implemented post-war would be the restoration and modernization of irrigation systems. Because Yemen is currently experiencing an intense drought, transitioning to drip irrigation could possibly be beneficial, as drip irrigation is a water-efficient technique that would maximize crop yields and make the most of the scarce water available to Yemeni farmers. Similarly, Jordan has faced ongoing issues with water scarcity—some of the worst on earth. They recently began to modernize their irrigation systems, and as of August 2023, over 95% of irrigated agriculture depends on drip irrigation. This change has resulted in the agricultural share of their water balance dropping from 70% to 50%, while crop yields have doubled, showing that implementation in Yemen could have the same effects (*Agriculture's Share of the Water Balance Decreased from 70% to 50%.*, 2023). Along with that, funding the reparation of water reservoirs, wells, and other rainwater harvesting systems, would further the conservation of scarce water resources, and allow farmers to increase crop yields, stimulating the economy and providing food for families. In order to further develop Yemen's agricultural sector, this solution could be paired with investing in drought-resistant crops (*Global Food Crisis Demands Support for People, Open Trade, Bigger Local Harvests*, 2022). Crops such as millet and sorghum are incredibly resistant to heat and need little water to thrive, making them ideal for the current state of Yemen's climate.

Revitalizing Yemen's agricultural sector will not only provide food for their population, it will also create thousands of new employment opportunities in farming, irrigation installation, water management, renewable energy, as well as milling, packing, transportation and distribution of the increased food supply. The Yemeni government, along with financial assistance from the World Bank or the International Monetary Fund, would be the central authority coordinating the modernization of their irrigation systems, investing in new crops, and overseeing reconstruction. They could further incentivize farmers to adopt these more modern and sustainable practices by offering tax breaks, subsidies, or reduced seed prices. Furthermore, by providing farmers with proper tools, seeds, and training programs on efficient water use, farmers will be well equipped for their vital role in reconstruction. Unfortunately, these solutions possess a few limitations, with the largest being that this war is still ongoing. That being said, even post-war, the damage to infrastructure in Yemen is simply too great to ignore. There needs to be a large influx of foreign aid in order to rehabilitate the infrastructure and implement sustainable socioeconomic development prior to modernizing their agricultural sector.

While the act of rebuilding Yemen can seem futile, with the complexities of war and politics, and costs of infrastructure, it is not impossible. A multifaceted plan will need to be constructed in order to begin repairs, involving immediate humanitarian aid, combined with the

implementation of sustainable, long-term solutions. By investing in more sustainable agricultural practices such as drip irrigation and planting more drought-resistant crops, Yemen will be able to regrow their agricultural sector, feeding hungry families and stimulating the economy. However these plans can not be carried out until the war has been resolved, and there is enough international support to properly rebuild essential infrastructure and aid the struggling population. The recuperation of Yemen requires extensive collaboration from international operations and small communities alike, so that the population of Yemen can receive the basic human right of food security.

## References