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Yemen: Transforming Agriculture Destroyed by Conflict

Introduction

Hidden behind the violent conflict in Yemen is a war of greater consequence. Since 2011, civil war has ravaged the country and created noticeable impacts on food security. Hunger is a harsh reality in Yemen with 12 percent of Yemenis saying they occasionally go full days without food (Hossain et al., 2025). Furthermore, the World Food Programme reported that 62 percent of households in Yemen were unable to meet minimum dietary requirements (World Food Programme, 2025). Experts have deemed this situation a crisis that is in dire need of assistance--assistance that is undermined without analyzing the ramifications of civil unrest. Understanding this ever-changing political climate in Yemen is crucial for developing solutions to fighting hunger.

Country Background and Family Life

As of 2025, Yemen's population sits at a staggering 41.8 million people ("Yemen Population 2025", 2025). Seventy percent of the population resides in rural areas (Breisinger et al., 2020, as cited in Khalil and Thompson, 2024). The civil war has impacted virtually all areas of the lives of Yemenis. Jessica Sowers and Erika Weinthal, leading experts on environmental infrastructure in conflict, condense the basis of the war as being between the Houthi rebels and the Yemeni government. The Yemeni government is supported by the Saudi Arabian Coalition, which involves countries such as the United States and the United Kingdom. On the other hand, the Houthis are assisted by Iran (Sowers and Weinthal, 2021).

Many people in Yemen rely on the agricultural sector as a source of employment. The Food and Agriculture Organization of the United Nations states that "agriculture employs more than 50 percent of the workforce and livelihoods for around 70 percent of the population" (Al-Basha, 2026). The agricultural business is a key pillar of income for many families in Yemen. Unfortunately, the war has affected both the agricultural and healthcare industries. According to a study led by Ahmed Salem, a researcher at the University of Pardubice, more than half of the population lacks access to basic healthcare (Salem et al., 2025). The barriers placed on Yemeni families do not stop at healthcare. Climate change and water scarcity have proven to impair people's quality of life. In 2022, there was extensive flooding throughout Yemen, which caused 72 deaths and affected 73,854 families (Khalil and Thompson, 2024). A study led by Yahia Alwathaf, a hydrology and water resource specialist, described how families are unable to access safe drinking water due to excessive groundwater withdrawal and a lack of rainwater harvesting (Alwathaf, 2024).

Many families take advantage of traditional methods of gathering food, with 58 species of wild edible plants commonly eaten in South Yemen (Al-Fatimi, 2021). While this method of food collection is resourceful, it is not able to provide an adequate source of nutrition in a country

where many citizens face food insecurity. Expanding on the lives of Yemenis, Manfred Wenner, professor of political science, and Robert Burrowes highlight that Yemen is considered highly tribal. The importance of the tribe is second only to one's devotion to their family (Wenner et al., 2026). The importance placed on tribal culture and loyalty speaks to the wide array of communities throughout the country.

The Destruction of Infrastructure

Traditionally, during times of conflict, warring parties have a mutual understanding that targeting civilians is impermissible. In the case of the Yemen civil war, civilian targets appear to be the primary objective. Many experts attribute this destruction to the Saudi Arabian coalition's concentrated attacks on agricultural infrastructure. This is evident in the Tuban district which has seen a striking decrease in agricultural land since the start of the war. A study by the Food and Agriculture Organization of the United Nations found that from 1993 to 2023, the annual cropland decreased from 13.29 percent to 9.28 percent. They attribute this to the conflict, which has disrupted agricultural systems (Mekonnen et al., 2024). Martha Mundy, a professor of anthropology at the University of London, asserts that "to target agriculture in Yemen requires a certain precision in aiming" (Mundy, 2018, p. 12). She bases this claim on the fact that agricultural land is a very small portion of overall land in Yemen. The destruction of agriculture is anything but accidental; it is a deliberate attack on food security.

These findings are consistent with the research of Jessica Sowers, professor of political science and international affairs at the University of New Hampshire, and Erika Weinthal, a professor at Duke University. They note that in May of 2020, 67 percent of the conflict-related incidents targeted agriculture. Attacks on infrastructure, such as irrigation, energy, roads, and bridges, were excluded from this data, despite having critical impacts on the agricultural sector (Sowers and Weinthal, 2021). This damage has had notable impacts on food security by disrupting food distribution and production (Mundy, 2018). The war has had a broader impact than simply destroying agricultural land. Agriculture is a key source of food, and dismantling the systems that support it has put many Yemenis at risk.

The conflict has also affected fisheries in Yemen. Fishing communities have long suffered at the hands of the Saudi Arabian coalition's direct attacks on fishing boats and markets. This has resulted in lost earnings and food insecurity. (Sowers and Wienthal, 2021). Mundy supports this view, highlighting that the General Authority of Fishing in the Red Sea recorded the deaths of 146 fishermen due to coalition airstrikes (Mundy, 2018). By considering both stances, it becomes clear that the coalition's destruction of fishing in Yemen mirrors the upheaval of the agricultural industry. Both show that the civil war has devastated livelihoods and important food sources.

Aid and Food Imports Restriction

Yemenis also rely on humanitarian aid as a food source, but due to restrictions placed on aid assistance is severely restricted. According to the Human Rights Watch, an organization devoted toward investigating rights abuses, the Houthis created 385 instructions intended to regulate aid groups from 2019 to 2020 ("Deadly consequences..., 2020). They proceed to describe how these limitations have prevented the delivery of aid to those in desperate need. In an interview with an aid official, they highlighted how the Houthis' refusal to approve project agreements resulted in thousands of women and children not receiving assistance ("Deadly consequences…", 2020).

The Houthis took this a step further by creating the Supreme Council for Management and Coordination for Humanitarian Affairs (SCMCHA). The purpose of the SCMCHA is to control aid flowing into the country. Michael Makara, PhD., and professor of comparative politics and international relations at the University of Central Missouri, suggests that the Houthis are intentionally controlling aid. He draws attention to how the creation of the SCMCHA has allowed Houthis to divert aid to their allies. With this level of control, the Houthis have made money through the deliberate diversion of relief supplies (Makara, 2023). The Houthis diversion of aid makes the efforts of humanitarian organizations futile. This policy aggravates food insecurity and prevents the enactment of future solutions. A survey performed by the National Health Institute confirms that humanitarian aid is of great importance to Yemenis with 10.9 percent of families relying on humanitarian assistance (Dureab et al. 2019). The food insecurity crisis in Yemen is catastrophic, and the restriction of aid is only exacerbating this issue.

The Houthis are not the only side that is guilty of restricting food imports in Yemen; the Saudi Arabian coalition is equally responsible. Yemen is heavily reliant on imports for food, with imported food making up 70 percent of household consumption (Food and Agriculture Organization of the United Nations, 2019, as cited in Sowers and Wienthal, 2021). Jeffery Bachman, associate professor at American University, argues that the Saudi Arabian coalition has hampered food imports by imposing blockades (Bachman, 2019). The little amount of food that families have access to is imported; intentionally restricting food imports is preventing families from reaching their dietary requirements.

Exploring Solutions

The Food and Agriculture Organization of the United Nations has been present in Yemen since the 1990s, and since then, has been integral to fighting food insecurity in Yemen and proposing solutions. In their 2019 plan, the objective in Yemen was to restore livelihoods, improve the availability of food, and strengthen the capabilities of national institutions. To accomplish this objective, they proposed distributing seeds to food-insecure households and repairing boat engines (Yemen Emergency Livelihoods Response Plan, 2019). Distributing seeds to households in need helps to rectify the devastation of agriculture and could restore farmer income, while repairing boat engines improves the fishing sector.

Children have been disproportionately affected by the conflict, causing higher levels of food insecurity amongst youth. This is particularly concerning because children make up a large percentage of the Yemeni population. A study regarding food insecurity among migrants found that children under 18 had higher levels of hunger (36.20 percent) than adults who migrated due to conflict (Hossain et al., 2025). To counteract this predicament, certain experts have underscored the importance of school feeding programs. Lilia Bliznashka, a professional in the field of nutrition, and researchers at the New York Academy of Science highlight that school feeding programs feed over 2 million children in Yemen. The situation in Yemen is dire, but it appears nutrition programs have offered relief through child nutrition improvements and increased community security (Bliznashka, 2024).

Recommendation

The best way to target food insecurity in Yemen is to focus on reviving the agricultural industry. This can be accomplished through a community gardening initiative in rural Yemen. Small

household gardens are optimal because they supply food while also being less vulnerable to attacks than large farms. Families can then consume their yields or sell them at local markets. Despite these gardens being subject to one household, it still earns the title of a community gardening initiative, as the individuals and individual families in rural communities will be connected through local leaders. These local leaders can guide gardeners, guarantee proper implementation, and secure sustainable production. Andres Flores, professor at the University of Sussex, upholds this idea by stating that when neighbors also practice gardening, it encourages the spread of knowledge and resources (Flores et al., 2025).

To implement these gardens, it is imperative that rural communities receive adequate education on sustainable farming. Ali Khalil and Shirley Thompson from the University of Minnesota described that agricultural extension workers were having difficulties educating farmers. They reported that 95 percent of agricultural extension workers believe that farmers struggle with implementing climate-smart practices, and 65 percent said that farmers did not trust public extension services. This provides a reason as to why many agricultural extension offices were abandoned (Khalil and Thompson, 2024). Yemenis find it hard to trust public services because their own government is the perpetrator of their plight; to be successful, community leaders must have active roles in services to educate people.

A majority of Yemenis support the idea of community leaders having a greater part in leading their communities than humanitarian aid organizations have previously allowed. Moosa Elayah and Rawan Al-Mansori, researchers at the Doha Institute for Graduate Studies, illustrate the importance of involving local leaders: “Cultural sensitivity and understanding play a vital role in humanitarian collaboration, particularly in conflict-ridden countries like Yemen…While the UN system prioritizes standardized procedures and international norms, [Local Non-Governmental Organizations] operate within diverse cultural landscapes influenced by local norms and values” (Elayah and Al-Mansori, 2024). By combining the efforts of local and foreign organizations, each community can be served in a way that addresses its unique needs. Rather than utilizing a blanket response that remains stagnant for all areas (similar to current initiatives that have been unsuccessful), this plan allows for a fluid response that can be changed over time and responsive to community.

As for the construction of a household garden it is crucial to ensure water access. This can be done in a number of ways, one being through rainwater harvesting. Many farmers already use rainwater to water their crops, but few are utilizing it to its full potential. According to the University of Science and Technology in Sana’a, Yemen, road rainwater harvesting has the potential to help farming in Yemen. This is accomplished by diverting water from ditches and culverts into a field (Al-Maswari et al., 2020). Of course relying on one system would make these gardens vulnerable, so in addition to these systems groundwater can also be used. Aside from water access, other resources must be provided. As part of the Yemen Food Security Response and Resilience Project, households were given tools to build and maintain these gardens such as seeds, a water tank, an iron structure and netting (“Home Gardens…”, 2026). Using similar resources for this plan would provide households with enough resources to begin their own gardens.

These gardens will consist of a variety of nutrient dense vegetables that are common in Yemeni cuisine. Examples of potential crops that are popular in the Yemeni diet include sweet potatoes, tomatoes, and okra (Burrowes et al., 2026). Not only will this ensure the longevity of the initiative, but it also increases overall enthusiasm to continue gardening. Andres Flores supports this in his review of multiple studies surrounding household gardens in low and middle income countries. He describes how using indigenous vegetables for a garden in a community in Cameroon led to people being more eager to participate (Ebile et al., 2022, as cited in Flores et al., 2025).

In order to fund this plan the World Bank and the International Development Association (IDA) could extend their funding for the Yemen Food Security Response and Resilience Project (FSRRP). This project has been made possible through the United Nations Development Programme (UNDP), but it is set to end in December of 2026. The overall objective of this programme is to improve agriculture in rural Yemen by providing aid to small farms (Yemen Food Security Response and Resilience Project, 2026). If funding was extended and the FSRRP pivoted their efforts towards strictly implementing a network of household gardens, then the program could continue to address food insecurity. The UNDP would be able to carry out all aspects of this initiative as evidenced by their past involvement in Yemen.

Ultimately, this plan will strengthen rural livelihoods and improve food security. This is exemplified in the case of Zamzam, a mother in Yemen that received education and tools to build her own household garden from the UNDP. She was able to produce food for her household while selling the surplus at a local market (“Home Gardens…”, 2026). A network of household gardens can potentially replicate this effect which would strengthen food security for rural families. Unfortunately, there are limitations to this proposal. Due to the fragile nature of the Yemeni government collaboration could prove incredibly difficult. In addition, unpredictable blockades may prohibit the delivery of resources. It is crucial to collaborate with the UNDP because they have experience delivering aid in conflict ridden areas.

Conclusion

The civil war in Yemen has wreaked havoc on the food industry. Encouraging agriculture in Yemen will help to repair broken systems that have lessened Yemenis quality of life. Creating auxiliary irrigation systems will mend the wreckage created by the war. The best way to have this plan come to fruition is to educate people on food insecurity. Creating an open dialogue about the injustices that the people of Yemen face is the most crucial step to ensuring that no Yemeni has to go to bed hungry.

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