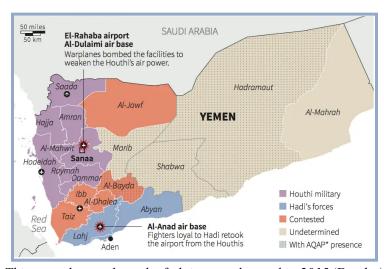
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Conflict and Hunger in Yemen

In 2014, a civil war in Yemen broke out. Conflict reigns to this day, and it has triggered a famine considered to be one of the largest humanitarian crises in the world by IRC Economic Recovery and Development Manager, Ebtihal Ghanem ("Crisis in Yemen").

The Internationally Recognized Government (IRG) was established in May, 1990, when the Yemen Arab Republic (North Yemen) merged with the People's Democratic Republic of Yemen (South Yemen). Previously, North Yemen had been using a republic system that was created with a constitution. This constitution was adopted in 1970 and held until the merger of 1990. South Yemen, also a republic, resembled a Marxist regime¹. When the two republic governments combined, they established a multiparty representative democracy (Wenner). The Southern Transitional Council (STC) didn't accept the new government. Backed by the United Arab Emirates, the STC claimed it would self-govern some of the southern provinces ("Yemen: What"). The IRG has been fighting the STC, and its claim to Yemen, for the last eight years.

The Yemeni Civil War has since escalated. The 2015 map below shows areas in conflict; violence has currently spread to the governorates² of Marib and Shabwa. Meanwhile, tensions continue to deepen between the IRG and the STC ("Crisis in Yemen"). This has left 16 million people food insecure, 20 million in need of humanitarian assistance, over 50 thousand living in famine, and 5 million on the brink of famine in Yemen. Malnutrition rates among women and children in Yemen remain among the highest in the world ("Yemen Emergency"). Considering Yemen's population of just under 31 million people, these issues are affecting over 66% of the population ("Yemen Population"). This war has also killed and injured over 18,400 civilians as of 2020 ("World Report").



This map shows where the fighting was located in 2015 (Bender)

Also contributing to food availability, economic inflation is pushing prices higher (Barrington). Prices of products, like cooking fuel, seeds, and fertilizer, have suffered under inflation ("Yemen: This"). In 2017,

¹Marxist regime: a society with no social classes; the belief that there should be no social classes (Betts) ²Governantes: administrative division of a country, similar to state or province

the inflation rate caused prices to rise 30.4% ("Yemen Economic"). The heavy economic decline has left affordable food for the people scarce while they also deal with sheltering from constant fighting (Barrington).

Before the Yemeni Civil War started, 25% of food was produced from inside the country with the other 75% coming from imports ("Yemen: This"). The main crops grown in Yemen pre-war included millet, corn, wheat, barley, and sorghum (Wenner). At that time, the average farm size was about five acres ("Yemen" *LankLinks*). Yemen has always had a climate lacking in the necessities to make for good farmland (Wenner) and the amount of food produced from within the country has seen a significant decline since the war started ("Yemen: This"). Airstrikes, shells, and other effects of the war have ravaged those tiny farms ("Yemen: 900 Airstrikes"). In 2017, three years into the war, 90% of Yemen's food was imported. The imported food prices have skyrocketed because of the low supply of food coming from both inside and outside the country. This leaves most citizens with no hope of being able to afford it ("Missiles and Food").

Qat, or khat, is a popular cash crop in Yemen. Coffee, cotton, and fishing are also resources Yemen produces. Khat is the most prominent, grown to be chewed by Yemeni citizens. Khat is made from an evergreen shrub whose leaves contain an alkaloid. When chewed, it is a mild stimulant. People are growing khat in the same areas they could grow coffee because both crops need the same growing conditions. Coffee can be exported for financial gain while khat cannot because it is easily perishable. Because of this, the use of this crop has been discouraged by the government, yet their efforts have not been successful (Wenner). 90% of men and 25% of women chew khat. Most use it daily, and it may become addictive after an extended period of use (Butters).

Most of northern Yemen is a large desert peninsula called Rub' al-Khali, or the Empty Quarter. Yemen is a coastal country with the western border connecting with the Red Sea and the south touching the Gulf of Aden and the Arabian Sea (Wenner). Yemen has a subtropical dry climate. Winters are cooler with some rainfall. Summers are extremely hot and almost never have rain. Days will easily reach 104 degrees Fahrenheit at their peak temperature ("Yemen: Climate").

The typical family size is 7.4 members with an average of about 2-3 rooms for sleeping/living in each household (Taylor and Holtrop). Currently, no Yemeni law exists to specify a minimum marrying age. Approximately 40% of girls are married before the age of 18 (Hunersen et al). Gender roles in the typical Yemeni family place women under the man of the household, with children under women (Taylor and Holtrop). Before the conflict, women had been fighting to lessen the gap in gender roles, though the cause was sidelined when the war started. When the Civil War began, most men and boys were pulled to fight, leaving the women to fill the roles they had left behind. Instead of an empowerment act, as seen in the United States during World War II, many Yemeni women found it difficult to adapt to their new roles and tasks (Gressmann).

While Yemen has many issues currently ravaging the country, the main priority should be eradicating hunger. Food insecurity in Yemen demands the attention of everyone and anyone who can help.

Humanitarian efforts and nonprofits like <u>Doctors without Borders</u>, <u>Baitulmaal</u>, <u>Islamic Relief Worldwide</u> and others are all present in Yemen, but their access is restricted making it difficult to provide a significant amount of aid ("Crisis in Yemen"). They are limited by the amount of places they may go that will provide safety for them and the civilians they are assisting as attacks increase ("IRC Calls"). The <u>World Food Programme</u> has been providing food for the citizens of Yemen almost since the conflict began affecting the economy. However, the WFP had reduced rations to over eight million people due to funding shortages (Barrington). These cuts lead to the affected people receiving barely half of the recommended daily minimum ration ("Yemen: UN Reduces"). However, in early August, a shipment of

wheat was sent from the WFP to the 'horn of Africa', which includes the countries of Afghanistan, Ethiopia, Somalia, South Sudan, and Yemen (WFP Staff Writers).

Additional financing is the first piece of the solution. The charities helping in Yemen are in urgent need of more donations. While this issue is tremendous, the public is largely unaware of the crises in Yemen. Starting a social media campaign to engage the general public could bring in money from individuals; starting a 'help Yemen' trend could bring in company money and larger contributors. Connecting people with sites they can donate to will be a critical part of the social media campaign. Pages like Go-Fund-Me and Global Giving already have hundreds of online nonprofits set up to donate directly to Yemen.

Stanford Social Innovation Review posted an article modeling different ways nonprofits may raise money. Ten different models were shown but three were shown as efficient ways a nonprofit can receive financial backing:

- 1. The Member Motivator, which has people paying for membership of a 'club.' There is a cause for the club to donate money, and anyone who donates gains membership. Membership will allow invitations to banquets and other events. This stood out as effective because, if made lucrative enough, it could attract people. This also allows for connections to build between the donators and the recipients.
- 2. The Big Bettor uses grants from governments and other organizations as funding. This would need solid evidence and statistics to back up why the cause is an actual problem. If the grant is big enough, it could provide substantial financial support.
- 3. The Public Provider, similar to the Member Motivator, provides a service for the public in exchange for a fee. All fees are donated. Public services provided may range from an organized dance to a store. Depending on the service provided and the fee, it could bring in a significant amount of money if harnessed properly (Foster et al).

These are short term solutions to a long term problem. The goal is for Yemen to get to the point where it will no longer need help from charities and will be able to produce its own food. Some funding should be set aside to pay for education and resources to help build an environment where sustainable agriculture might thrive in Yemen. The two ways the citizens of Yemen may farm their own food: through agriculture and livestock.

In order to obtain food through animals, educational services can be implemented that will teach how to raise livestock for subsistence farming. An example would be simple instructions in the variety of languages spoken in Yemen printed in handouts for those interested in farming. Those languages are different dialects of Arabic, including the Modern Standard variety, Sanaani, Ta'Izzi-Adeni, Hadrami, Gulf, and Judeo-Yemeni (Pariona). For those who cannot read, step-by-step pictured instructions can be printed out on how to care for the specific stock they are looking to raise.

Providing small animals that will survive in arid climates will help provide protein to malnourished families. Animals such as chickens and guinea pigs will not only survive in arid climates but are easy to raise and breed. After learning how to raise smaller animals efficiently, large livestock should be added into the mix. For example, a drought and heat tolerant cow was bred at Oklahoma State University in 2014, called a Brahman (Fears).

The main religion in Yemen is Islam (Wenner). Muslims will only eat permitted food, called halal. They will not eat or drink anything considered forbidden, called haram. In order for any meat to be halal, Allah's name must be invoked when the animal is killed and prayer offered to their god, Allah. The animal must also be killed by a Muslim. Any pork item, regardless of the rituals that make other meats halal, are considered haram. This means that raising pigs is not an option for a large portion of Yemen.

However, other animals may be used as long as the method invoked when laying the animal to rest respect the people's beliefs ("Islam").

The animals will also need food, which will be provided from plants. Education must also be provided on how to grow drought and heat resistant plants. Vegetation like pearl millet, cluster bean, mung bean, moth bean, sesame, and mustard can be used as feed for animals because they are easy to grow but do not provide a lot of nutrients (Behera and France). Nutritious plants that are tolerant to arid climates would also need to be introduced to feed people. Lima beans, pole beans, black-eyed peas, field peas, edible amaranth, quinoa, mustard greens, okra, summer squashes, sunflowers, heatwave II tomatoes, black diamond watermelon, and most herbs are included in this list (Ly). In addition, the manure from the animals can be used as fertilizer for the plants.

Once hunger in Yemen is under control, other issues may be addressed. The lack of marriage law, the widespread addiction to khat, and others will be brought to light as societies all over the world work together to make a difference. When the Yemeni Civil War and its plague upon its country has been eradicated, the spread of growth and new dawns will bring Yemen into a new hopeful era.

Works Cited

- Barrington, Lisa. "Yemeni Family Lives in Abandoned Shop as War, Hunger Drags on." Edited by Janet Lawrence. Reuters, 19 Jan. 2022,

 www.reuters.com/world/middle-east/yemeni-family-lives-abandoned-shop-war-hunger-drags-202

 2-01-19/. Accessed 12 Mar. 2022.
- Behera, U. K., and J. France. "Arid Zones: Advances in Agronomy." *ScienceDirect*, Elsevier B.V., RELX, 2016, www.sciencedirect.com/topics/agricultural-and-biological-sciences/arid-zones. Accessed 12 Mar. 2022.
- Bender, Jermey. "These Maps Show What Could Happen Next in Yemen and How It Could Impact Global Politics." *Insider*, Business Insider, 27 Mar. 2015, www.businessinsider.com/these-maps-show-where-yemens-conflict-could-be-heading-2015-3. Accessed 13 Mar. 2022.
- Betts, Jennifer. "What Is Marxism? Explanation in Simple Terms." YourDictionary,
 examples.yourdictionary.com/what-is-marxism-explanation-in-simple-terms.html. Accessed 15
 Mar. 2022.
- Butters, Andrew Lee. "Is Yemen Chewing Itself to Death?" Time, 25 Aug. 2009, content.time.com/time/world/article/0,8599,1917685,00.html#:~:text=Khat%20is%20popular%2 0in%20many,saliva%20and%20enters%20the%20bloodstream. Accessed 15 Mar. 2022.
- "Crisis in Yemen: Protracted Conflict Pushes Yemenis Deeper into Need." *International Rescue Committee*, 21 Jan. 2022,

 www.rescue.org/article/crisis-yemen-protracted-conflict-pushes-yemenis-deeper-need. Accessed 12 Mar. 2022.
- Fears, Robert. "Breeding a Drought-Adapted Cow." Progressive Cattle, Progressive Publishing's

 Magazine, 24 Aug. 2014,

 www.progressivecattle.com/topics/reproduction/breeding-a-drought-adapted-cow. Accessed 13

 Mar. 2022.

- Foster, William Landes, et al. "Ten Nonprofit Funding Models." *Ssir*, Stanford Social Innovation Review, 2009, ssir.org/articles/entry/ten nonprofit funding models. Accessed 12 Mar. 2022.
- Gressmann, Wolfgang. "Conflict and Gender Relations in Yemen." *CARE, Oxfam*, Nov. 2016, pp. 1-50, www.care-international.org/files/files/YemenGenderReport171116.pdf. Accessed 12 Mar. 2022.
- Hunersen, Kara, et al. "Child Marriage in Yemen: A Mixed Methods Study in Ongoing Conflict and Displacement." *Journal of Refugee Studies*, Oxford UP, Dec. 2021, academic.oup.com/jrs/article/34/4/4551/6126388. Accessed 12 Mar. 2022.
- "IRC Calls for Urgent and Renewed International Efforts to De-escalate Violence in Yemen." ReliefWeb, OCHA, 26 Jan. 2022, reliefweb.int/report/yemen/irc-calls-urgent-and-renewed-international-efforts-de-escalate-violenc e-yemen. Accessed 13 Mar. 2022.
- "Islam." Western Area Help, NHS,
 www.waht.nhs.uk/en-GB/NHS-Mobile/Our-Services/?depth=8&srcid=2004. Accessed 13 Mar.
 2022.
- Ly, Linda. "Vibrant Gardens Using Drought Tolerant Vegetables." *Gilmour*, 2021, gilmour.com/drought-tolerant-vegetable-garden. Accessed 12 Mar. 2022.
- "Missiles and Food." ReliefWeb, Oxfam, 2017, pp. 1-16. PDF.
- Pariona, Amber. "What Languages Are Spoken in Yemen?" WorldAtlas, 3 Aug. 2017, www.worldatlas.com/articles/what-languages-are-spoken-in-yemen.html. Accessed 5 Sept. 2022.
- Taylor, Jacquelyn Y., and Teresa G. Holtrop. "Yemeni Families and Child Lead Screening in Detroit." NCBI, 26 May 2010,
 - www.ncbi.nlm.nih.gov/pmc/articles/PMC2877136/#:~:text=The%20average% 20size%20of%20a,are%20included%20in%20the%20population. Accessed 12 Mar. 2022.
- Wenner, Manfred W. "Yemen." Britannica, www.britannica.com/place/Yemen. Accessed 12 Mar. 2022.

- WFP Staff Writers. "Bulk Carrier Sets off from Ukraine with Grain for WFP in First since Start of War."

 World Food Programme, 16 Aug. 2022,
 - www.wfp.org/stories/bulk-carrier-sets-ukraine-grain-wfp-first-start-war. Accessed 8 Sept. 2022.
- "World Report 2021: Yemen, Events of 2020." *Human Rights Watch*, 2021, www.hrw.org/world-report/2021/country-chapters/yemen#:~:text=Six%20years% 20into%20an%20armed,at%20the%20beginning%20of%202020. Accessed 12 Mar. 2022.
- "Yemen." LandLinks, www.land-links.org/country-profile/yemen/. Accessed 12 Mar. 2022.
- "Yemen: Climate." Weather Online,
 www.woeurope.eu/reports/climate/Yemen.htm#:~:text=The%20Climate%20of%20Yemen%20ca
 n,September)%20is%20very%20low%20rainfall. Accessed 15 Mar. 2022.
- "Yemen Economic Outlook." Focus Economics, 8 Mar. 2022, www.focus-economics.com/countries/yemen. Accessed 27 Mar. 2022.
- "Yemen Emergency." *World Food Programme*, 2022, www.wfp.org/emergencies/yemen-emergency.

 Accessed 12 Mar. 2022.
- "Yemen: 900 Airstrikes and Shells Hit Farms in Less than Three Years." ReliefWeb, OCHA, 24 Sept. 2020, reliefweb.int/report/yemen/yemen-900-airstrikes-and-shells-hit-farms-less-three-years. Accessed 13 Mar. 2022.
- "Yemen Population." *World-o-Meter*,
 www.worldometers.info/world-population/yemen-population/#:~:text=The%20current%20popula
 tion%20of%20Yemen,the%20latest%20United%20Nations%20data. Accessed 12 Mar. 2022.
- "Yemen: This Is the World's Largest Food Crisis." *ReliefWeb*, OCHA, 30 Mar. 2019, reliefweb.int/report/yemen/yemen-worlds-largest-food-crisis. Accessed 12 Mar. 2022.
- "Yemen: UN Reduces Food Aid over Lack of Funds." *DW*, Deutsche Welle,
 www.dw.com/en/yemen-un-reduces-food-aid-over-lack-of-funds/a-60220998. Accessed 12 Mar.
 2022.

"Yemen: What Is the Southern Transitional Council?" *Al Jazeera*, Al Jazeera Media Network, 26 Apr. 2020,

www.aljazeera.com/news/2020/4/26/yemen-what-is-the-southern-transitional-council. Accessed 16 Mar. 2022.