

# HOW DOES CIVIL WAR AFFECT FOOD SECURITY? A CASE OF YEMEN<sup>11</sup>



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## ABSTRACT

This article aims to examine the impact of the ongoing civil war in Yemen on severe food insecurity. The conflicts in Yemen have deepened food security issues through economic collapse, loss of agricultural production, and the destruction of infrastructure. The war economy has diverted resources away from civilian needs, prioritizing conflict-related expenditures. Rising inflation and currency devaluation have increased food prices and further deepened poverty. Humanitarian efforts, however, face numerous challenges such as limited access, political interference, and lack of funding. The article suggests long-term solutions, such as increasing humanitarian aid, rebuilding agricultural capacity, and restoring economic stability, while highlighting the particular needs of vulnerable groups, including women and children. Emphasizing the importance of international cooperation, it calls for coordinated efforts to address Yemen's food crisis.

**Keywords:** Yemen, food security, civil war, conflict, humanitarian crisis

**JEL Codes:** Q18, D74, F35

**Scope:** International relations

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# İÇ SAVAŞ GIDA GÜVENLİĞİNİ NASIL ETKİLER? YEMEN ÖRNEĞİ



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**ÖZ** | Bu makale, Yemen'deki iç savaşın şiddetli gıda güvensizliği üzerindeki etkilerini incelemeyi amaçlamaktadır. Yemen'deki çatışmalar, ekonomik çöküş, tarımsal üretim kaybı ve altyapı tahribatı ile gıda güvenliği sorunlarını derinleştirmiştir. Savaş ekonomisi, kaynakları sivililerin ihtiyaçlarından uzaklaştırarak çatışma harcamalarını öncelik haline getirmiştir. Enflasyonun artması ve para birimi değer kaybı, gıda fiyatlarını yükseltmiş ve yoksulluğu daha da derinleştirmiştir. İnsani yardım çabaları ise sınırlı erişim, siyasi müdahaleler ve finansman eksiklikleri ile karşı karşıyadır. Makale, insani yardımların artırılması, tarımsal kapasitenin yeniden inşa edilmesi ve ekonomik istikrarın sağlanması gibi uzun vadeli çözümler önererek, özellikle kadınlar ve çocuklar gibi savunmasız grupların ihtiyaçlarına dikkat çekmektedir. Uluslararası iş birliğinin önemine vurgu yaparak, Yemen'deki gıda krizinin çözülmesine yönelik koordinasyon çağrısı yapmaktadır.

**Anahtar Kelimeler:** Yemen, gıda güvenliği, iç savaş, çatışma, insani kriz

**JEL Kodları:** Q18, D74, F35

**Alan:** Uluslararası ilişkiler

**Türü:** Araştırma

## **1. INTRODUCTION**

According to the 1996 World Food Summit, food security is achieved when every individual has constant and unrestricted availability of sufficient nutritious and secure food that meets their nutritional needs and preferences, enabling them to lead an active and healthy life (FAO, November 1996). Food security includes four main dimensions: the presence of food, the ability to afford and physically obtain food, the proper utilization of food, and the overall stability of these factors. In order to achieve food security objectives, all four aspects must be fulfilled simultaneously (World Bank, 2023).

Conflict is seen in many reports (FAO et al. 2017, 2021) as one of the main drivers of food insecurity. According to United Nations (1993), conflict frequently undermines the capacity to produce, trade, and obtain food. Food security frequently turns into a weapon and a victim during armed conflict. Millions of people's everyday lives are disrupted by wars, not just because of the violence but also because they target the food supplies that are essential to human survival. Conflict zones are characterized by despair and starvation, whether as a result of direct military action, economic blockades, or the collapse of local infrastructure. One terrible and much ignored aspect of the larger drama of war is the story of food shortages in conflict areas.

Previous academic studies also reveal a relationship between conflicts and food insecurity. According to Messer and Cohen (2017), conflict increases food insecurity by reducing food availability and access through disruptions in food production, markets, and infrastructure. Koren and Bagozzi (2016) empirically demonstrate a systemic relationship between conflict and food security at both global and local levels. In their study, they show that food insecurity, as measured by highly fragmented agricultural landscapes, significantly impacts the frequency of both inter- and intra-state armed conflicts worldwide. Scanlan and Jenkins (2001) found that conflicts often lead to increased military expenditures (especially arms imports), which crowd out other social expenditures and lead to food insecurity and child hunger. Hendrix and Brinkman (2013) highlight in their study that violent conflict is a major driver of acute food insecurity. Mitchell et al. (2015) suggest that food insecurity is a multiplier, or facilitator, of the opportunities for and benefits from conflict. It has been observed that during conflicts, food frequently turns into a strategic weapon that is used to impose control or cause suffering. Food security is severely compromised by the devastation of agricultural infrastructure, extensive deforestation, and the placement of land mines. The International Committee of the Red Cross demonstrates how conflict-related crises force millions of people into severe food insecurity by upsetting food supply networks and utilizing

strategies like blockades and sieges that keep people from getting food. Furthermore, the devastation of vital infrastructure brought about by conflict has a permanent impact on food delivery and agricultural productivity, making recovery a difficult and drawn-out process (Zeith, 2023). Moreover, the 65% of people experiencing acute food insecurity live in fragile or conflict-affected countries, with a 40% increase in conflict by 2023 compared to 2020 (WFP, n.d.).

In their study assessing the impact of Boko Haram attacks on food security in Nigeria, George, Adelaja, and Weatherspoon (2019) combined general household survey (GHS) data with data on Boko Haram terrorist incidents. Their findings show that higher conflict intensity, measured by fatalities, leads to more days when households have to (1) rely on less preferred foods, (2) reduce food variety, and (3) cut back on meal portion sizes. In summary, they concluded that the food insecurity resulting from conflict is primarily driven by shocks to agricultural inputs and household income. Rudolfsen, Bartusevičius, Leeuwen, and Østby (2024) found that one in three Ukrainians reported being food insecure in their study conducted during the early stages of the Russian invasion of Ukraine in 2022. Both direct exposure to military attacks and indirect exposure—such as attacks on family members, acquaintances, or local municipalities—were linked to increased food insecurity. According to Islam, Kokash, Babar, Uday, Hasan, Rackimuthu, Essar, and Nemat (2021) Afghanistan, long plagued by war and conflict, has faced significant challenges, particularly in terms of food security. War and conflict, the COVID-19 pandemic, combined with political instability and reliance on neighboring countries for food imports, has worsened food shortages. The economic recession and rising poverty have further compounded the problem, making it difficult for people to access basic provisions.

The Food and Agriculture Organization of the United Nations (FAO) and the World Food Programme (WFP) have issued a warning that acute food insecurity is expected to worsen in 18 high-risk areas. One of these, Yemen is ranked among the 2024 “hunger hotspots” of very high concern by the World Food Programme and Food and Agriculture Organization (WFP and FAO, 2024). As of 2024, hunger and food insecurity in Yemen continue to be a serious humanitarian crisis. The United Nations (UN) and other international organizations have described the hunger crisis in Yemen as one of the largest humanitarian crises in the world. In Yemen, 17.6 million people are food insecure, a crisis affecting more than half of the population of 33.7 million (WFP, n.d.). Food insecurity in Yemen has been worsening since the civil war began in 2014. Burke, Hsiang, and Miguel (2009) have noted that armed conflicts within nations have had catastrophic humanitarian consequences across much of the

world. Food insecurity is one of these devastating consequences.

In this respect, the objective of this article is to examine the Yemeni Civil War and its effect on the country's food insecurity. The scope of the study is restricted to examining the effects of the civil war in Yemen on the food security of the Yemeni population. The impact of civil war on food security is analyzed in the specific case of Yemen. This analysis focuses exclusively on the time frame between 2014 and 2024, which encompasses the onset of the civil war and its subsequent escalation up until the present. Due to the difficulties associated with collecting data in areas affected by conflict, this study exclusively relies on secondary data. The study used a qualitative methodology to obtain comprehensive understanding of the complex effects of the ongoing conflict on food security in Yemen. The research was designed as a case study to explore the complex and context-specific phenomena associated with the impact of war on food security. The study employs secondary data from various sources, including academic literature, reports from international organizations, government publications, news coverage, NGOs, and UN reports and assessments, to ensure a thorough and comprehensive analysis.

The originality of this research lies primarily in its focus on the specific relationship between civil war and food insecurity, particularly in the context of Yemen. While the topic of food insecurity in conflict zones is not new, the approach of this article provides an in-depth, case-specific analysis of how the Yemeni Civil War has exacerbated food insecurity. The article narrows the broader issue of food insecurity in conflict zones to the specific case of Yemen, offering a targeted exploration of how the Yemeni Civil War (2015-2024) has directly impacted food security. This localized analysis adds value to existing global studies by providing a detailed case study that explores the dynamics of war and food security in one of the world's most severe humanitarian crises.

This article is structured into four chapters. The first chapter examines the dynamics of civil war in Yemen. The second chapter explores the consequences of civil war, particularly highlighting economic instability, disruptions to agriculture, the collapse of the healthcare system, and the displacement of people. The third chapter focuses on the effect of civil war on food security in Yemen. Finally, the fourth chapter evaluates role of humanitarian assistance in addressing food insecurity, while also presenting the challenges encountered in delivering aid.

## **2. UNDERSTANDING YEMEN CIVIL WAR DYNAMICS**

Since 2011, Yemen has faced intense political upheaval and conflict. The Arab Spring sparked mass protests against President Ali Abdullah Saleh's 33-year rule, leading to his resignation in 2012. His vice president, Abd Rabbuh Mansur Hadi, took over but struggled with numerous challenges, including political instability, economic problems, and the resurgence of the Houthi movement (Mounassar, 2012). In 2014, the Houthi rebels, capitalizing on widespread dissatisfaction with the government, seized the capital, Sanaa, and later forced Hadi into exile (Amnesty International, 2014). This escalation prompted a Saudi-led coalition to intervene in 2015, aiming to restore Hadi's government (ACLED, 2024). This intervention was in response to a joint request from Yemeni President Abd Rabbuh Mansur Hadi, aimed at pushing back the Houthis forces and preventing them from taking control of Aden city. The conflict in Aden involved the Houthis and Yemen Army forces aligned with previous president Ali Abdullah Saleh on one side, and Yemen Army units aligned with Abd Rabbuh Mansur Hadi backed by Saudi Arabia and Southern Movement militias backed by the United Arab Emirates on the other side (Mukhashaf, 2015). The alliance achieved victory by seizing control of Aden and halting the Houthis' progress. Although the alliance achieved success in Aden, the situation in northern Yemen continued to present difficulties. Additionally, in late 2016, Yemen saw the most severe occurrence of cholera ever recorded (WHO, 2016). In late 2017, Saleh severed ties with the Houthis by expressing his willingness to engage in negotiations with the Saudi-led coalition in order to bring an end to the war. The Houthis expelled the pro-Saleh forces from Sanaa, and on December 4th, they assassinated Saleh near his residence in Sanaa (Robinson, 2023).

The ensuing conflict has caused widespread destruction, a severe humanitarian crisis, and significant civilian casualties. In December 2018, a cease-fire was facilitated by the United Nations (UN) as part of the Stockholm agreement, with the objective of enabling aid monitoring (Robinson, 2023). However, the situation remained delicate and unstable. In April 2020, the Southern Transitional Council (STC) backed by the UAE following its establishment in 2017 declared self-rule in the south of Yemen taking Aden as its capital till present day. In April 2020, Saudi Arabia declared a unilateral ceasefire during the global COVID-19 outbreak, but the conflict in Yemen continued. The Houthis intensified their efforts to control Marib, a key city with significant oil resources and historical importance in Yemen's unification. Their advance faced strong resistance (Guardian, 2020). A hopeful development occurred in April 2022 with a ceasefire that brought the lowest levels of political violence since January 2015 (Roy, 2022). On April 7, 2022, the Presidential Leadership Council

(PLC) was formed, replacing President Hadi (Salem & Kolirin, 2022). Led by Rashad Muhammad Al-Alimi, the PLC includes eight members, with four representing the Southern Transitional Council (STC).

The ceasefire was extended but eventually expired in October 2022. Despite this, no large-scale offensives have resumed. In 2023, Saudi Arabia began direct negotiations with the Houthis, focusing on the contentious issue of Yemen's oil revenue. In September, Houthi representatives visited Saudi Arabia for face-to-face talks, with oil money distribution remaining unresolved (Aljazeera, 2023). However, progress was disrupted on October 7, 2023, by the outbreak of war between Hamas and Israel. In response, the Houthis launched missile and drone attacks on Israel and increased assaults on ships in the Bab El-Mandeb Strait, asserting their dominance in Yemen and regional affairs. The United States (US), along with the UK, Bahrain, and other Western allies, conducted airstrikes against the Houthis in January 2024, targeting their attacks on ships that disrupted global trade (Reuters, 2024). Historically, the Houthis had been designated as a Foreign Terrorist Organization (FTO) and Specially Designated Global Terrorists (SDGT) by the U.S. in January 2021. President Biden revoked these designations shortly after taking office but re-listed the Houthis as SDGT in January 2024 due to their continued attacks on commercial shipping (U.S. Department of State, 2024).

The ongoing hostilities between the Houthis and the U.S./Israel, combined with military tensions and disrupted peace negotiations with Saudi Arabia, leave Yemen's future stability uncertain. As of 2024, Yemen remains fragmented, with key factions such as the Houthis (DAF), the Internationally Recognized Government (IRG), and the STC controlling different regions.

### **3. THE CONSEQUENCES OF CIVIL WAR IN YEMEN**

#### **3.1. Economic Instability**

In conflict settings, the existence of armed conflict does not eradicate economic activity; instead, it frequently alters economic behaviors in manners that might exacerbate harm to the state, while simultaneously favoring specific actors (Huddleston, 2021). The accumulation of long-standing economic grievances and conflicts in Yemen has fostered an environment conducive to the emergence of a thriving war economy. This economy is characterized by complex networks of participants competing for economic power and influence. The fundamental emphasis of Yemen's war economy is on the allocation, coordination, and deployment of resources, mostly targeted at maintaining the conflict. Consequently, the act of making excessive profits from war and taking advantage of different facets of the conflict have prolonged the war and impeded

the achievement of long-lasting peace and stability. Furthermore, the pervasive impact of the war economy has been transforming the country's physical and socioeconomic structure in intricate ways (Wennmann & Davies, 2020).

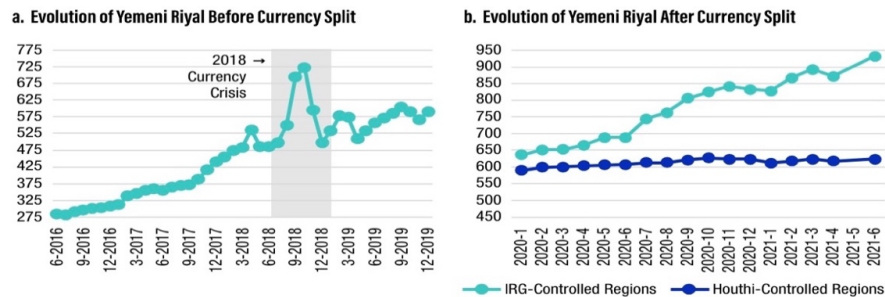
Furthermore, the conflict has had a profound effect on the country's economy, including disruptions in trade routes, infrastructure destruction, and a substantial decrease in foreign investments. The effects encompass extensive forced migration and a reduction in domestic agricultural output and economic efforts. Despite the current ceasefire between the warring factions, the situation remains volatile and continues to negatively impact people's livelihoods, decrease incomes, and severely impede the country's economy (Aghajanian & Mele, 2023). The COVID-19 pandemic in 2020 worsened the existing catastrophe, overwhelming rural households and significantly increasing the demand for humanitarian assistance (Rahmat, Zarmina Islam, & Parvathy Mohanan, 2022).

The ongoing conflict in Yemen has severely impacted food security due to economic disturbances that have led to the creation of two separate economies in the Northern and Southern regions. Key features of Yemen's war economy include dual tariffs and customs charges, distinct currency exchange rates, oil income disputes, divergent aid distribution, and reliance on extractive industries. The Internationally Recognized Government (IRG) relocated the Central Bank to Aden in 2016, facing challenges from inadequate foreign exchange reserves. Meanwhile, Sanaa, controlled by the Houthis (DFA), benefited from increased remittances and foreign aid (Aghajanian & Mele, 2023). A temporary stabilization of the Yemeni rial in 2019 due to a Saudi deposit was followed by the depletion of reserves, leading Sanaa to reject new IRG-printed banknotes and resulting in inconsistent monetary policies. This division created a parallel economy with contrasting exchange rates between IRG and DFA-controlled areas. The continued issuance of banknotes by both factions has led to a significant decrease in the rial's value in IRG regions (Favari, Krishnaswamy, Tandon, Aghajanian, & Almoayad, 2023, p. 41).

The below time window (Figure 1) provided by the World Bank shows the affect since the currency split (Favari et al., 2023). The figures illustrate the severe economic impact of Yemen's conflict, particularly the 2019 currency split between IRG and Houthi-controlled regions. Before the split, the Yemeni rial experienced gradual depreciation, with a sharp decline during the 2018 currency crisis, temporarily stabilized by a Saudi deposit. After the split, two parallel economies emerged: the IRG-controlled regions saw rapid depreciation due to continued issuance of new banknotes, while the Houthi-controlled regions maintained a more stable exchange rate by banning these notes. This monetary



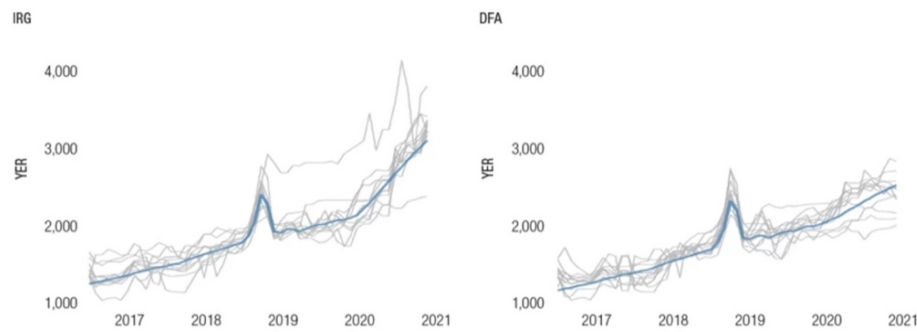
division exacerbated food insecurity, increased import costs, and deepened economic disparities across Yemen.



**Figure 1:** Evolution of Yemeni Riyal Before and After the Currency Split.

**Source:** (Favari et al., 2023).

The macroeconomic conditions have caused severe microeconomic consequences. Since 2015, the average cost of essential food products has significantly risen in all districts. However, the various monetary policies have led to economic disparities, such as price divergence, between territories controlled by the IRG and the DFA, as shown in Figure 2 below (Aghajanian & Mele, 2023). It illustrates the increasing cost of essential food products in Yemen from 2017 to 2021, highlighting the economic disparities between IRG-controlled and DFA (Houthi-controlled) regions. Both areas experienced rising food prices due to macroeconomic instability, but the divergence became more pronounced after the 2019 currency split. In IRG areas, the sharp depreciation of the rial led to steeper price increases, while in DFA regions, monetary restrictions helped maintain relatively more stable prices. This disparity has worsened food insecurity, making basic goods unaffordable for many Yemenis, especially in IRG-controlled territories.



**Figure 2:** Cost of Food Products in DFA And IRG Controlled Area (From 2017 To 2021).

**Source:** (Aghajanian & Mele, 2023).

The industrial sector of the country has been severely damaged, resulting in a significant loss of jobs in the private sector for many Yemenis. Those employed in the public sector are facing irregular and inadequate compensation. Additionally, the value of the currency is continuously declining, making it difficult for many Yemenis to afford essential food products. Based on a study conducted by R. Joseph Huddleston, out of the 801 homes examined, 62% of the participants had resorted to selling their belongings in order to finance basic necessities such as food and water since 2015 (Huddleston, 2021).

### 3.2. Agriculture Disruptions

Prior to the conflict, agriculture accounted for 18 to 27% of the country's gross domestic product and the sector serves as a primary means of generating money for over 50% of Yemen's population (Direct or Indirect) and is a crucial foundation of the country's economy (FAO, 2018). However, the humanitarian crisis has severely impacted agricultural livelihoods, resulting in a significant decline in cereal and livestock production compared to levels before the crisis. The contributing issues encompass a workforce that is emigrating, displacements, a scarcity of public resources allocated to the agriculture sector, poor research and extension services, and restricted availability of high-quality inputs and services (FAO, 2019). The conflict has directly impaired crucial agricultural infrastructure, such as irrigation systems, storage facilities, and rural transit routes, rendering farming activities difficult to execute. In addition to the existing complexities, some fields remain uncultivated, scattered with land mines and unexploded ordnance, which present life-threatening hazards to farmers and

restrict the amount of land available for use.

The economy's volatility has resulted in widespread inflation, impacting both the prices of raw materials and the market values of agricultural goods. Markets are frequently inaccessible as a result of persistent war and blockades, which hinder farmers from selling their agricultural products and purchasing essential supplies. Domestic food production accounts for 30% of Yemen's total supply, with grain crops being the most affected. Despite this, 73% of Yemenis rely on agriculture and fisheries for their livelihoods. The price of locally produced wheat is higher than imported wheat, making it difficult for farmers to compete. This reduces their income while making domestic food less affordable for consumers. Additionally, water scarcity—exacerbated by climate change and conflict over water sources—limits irrigation, forcing many farmers to abandon their land. Humanitarian aid, covering 10% of total food imports, is a critical lifeline. A survey found that 65% of recipients could only meet some basic needs without assistance. Food insecurity is primarily driven by reduced purchasing power, with the Minimum Food Basket cost increasing by 483% in IRG areas and 188% in DFA areas (in Yemeni rials) due to currency depreciation, inflation, and global price shifts (FAO, IOM, ark, Acaps, & Join SDG-fund, 2023). In addition, the conflict has caused the displacement of a large number of agricultural workers, resulting in labor shortages that further decrease the productivity of the sector. Exacerbating these difficulties are heightened occurrences of pests and diseases, which proliferate unhindered as a result of the breakdown of agricultural assistance services.

The water scarcity situation in Yemen is one of the most severe globally, and the ongoing conflict has exacerbated the problem of accessing water. The destruction of infrastructure and the scarcity of fuel, which is essential for operating water pumps, severely impede irrigation, a crucial lifeline for agriculture in Yemen's dry terrain. Moreover, the diminished supply chains have resulted in a scarcity of crucial farming inputs such as seeds and fertilizers, causing a rise in expenses and a decline in agricultural production.

Following 2015, the war significantly exacerbated the problems faced by the agricultural industry. Agricultural areas and infrastructure were frequently targeted in conflicts, particularly in regions such as Sa'dah Governorate. The war resulted in a 50% decrease in the number of agricultural laborers and substantial migration from rural areas. The devastation of the food production infrastructure severely incapacitated the sector, intensifying dependence on imports and leading to Yemen experiencing the most severe food crisis in the world (Mundy, 2017).

### **3.3. Forced Displacement**

The continuous conflict has not only resulted in extensive damage to infrastructure but has also sparked widespread fear and instability, forcing millions of people to flee their homes. As the conflict has decimated the economy, resulting in rampant inflation, widespread unemployment, and the complete breakdown of governmental services, a significant number of Yemenis, who were already experiencing extreme poverty, have been compelled to abandon their residences in pursuit of improved economic prospects and basic needs elsewhere, frequently ending up in equally unstable circumstances. Many families frequently have to relocate several times in order to obtain the necessary resources for their survival (Anaam, 2021). By December 2015, there were approximately 2.5 million internally displaced people (IDPs), marking an eightfold increase since the conflict began (IOM, 2015). The displacement crisis has persisted, as of March 2024, there are almost 4.5 million people in Yemen are internally displaced (WFP, 2024). In 2022 alone, there were 234,000 new displacements, underscoring the ongoing severity of the situation (UNHCR, 2024).

Moreover, the occurrence of disease outbreaks such as the widespread COVID-19, cholera, and diphtheria has significantly increased due to the breakdown of sanitary systems and healthcare services. As a result, many individuals have been forced to move in order to seek medical treatment and find safer living conditions. These health emergencies highlight the severe circumstances in displacement camps and other improvised shelters, where a significant number of Yemeni individuals who have been displaced ultimately reside (Abdullah et al., 2020).

### **3.4. Collapse in Healthcare System**

On top of all, the healthcare system in the country is on the brink of collapse as a result of ongoing violence, an ongoing economic crisis, escalating food insecurity, and recurring disease outbreaks such as COVID-19 (NRC, July 2020), and Cholera (Lopour, 2017), all of which are worsened by climate-related incidents. Prior to the war, Yemen's healthcare system, despite its inherent weaknesses, was far superior to its current state. The infrastructure exhibited greater functionality, while health metrics, including immunization rates, child nutrition, and maternal health, demonstrated comparatively superior performance (Central Statistical Organization, The Pan Arab Program for Family Health, & ICF International, 2015). Examining a brief timeframe prior to and following the conflict, research has indicated that the occurrence of underweight children rose from 39% to 45%, while wasting increased from 16.3% to 20.4% between 2013

and 2016. Additionally, the proportion of children under the age of 5 who experienced recent diarrhea escalated from 31.2% to 42.7%. Moreover, the percentage of children aged 12-23 months who received complete vaccinations decreased from 38.2% to 22.4% during the same period (Bcheraoui, 2018).

The situation in Yemen has been deteriorating on all aspects including the health system and the response. The Yemen Health Cluster Bulletin for May and June 2023 emphasizes the critical state of the country's health sector, which is burdened by a multitude of issues. With the ongoing conflict, the healthcare infrastructure in Yemen is deteriorating, with a mere 56% of health facilities operating at full capacity and an additional 39% functioning partially (HeRAMS, 2023). This is primarily due to limitations in staff, funds, and power, as well as a lack of drugs, supplies, and equipment. This deterioration is exacerbated by severe funding shortages; in 2022, the system received only 25.8% of the required \$398 million, resulting in inadequate resources and excessive strain. The problems are exacerbated by economic volatility. The inflation of the Yemeni Rial has had a substantial influence on the economy, further complicating the ability of the delicate health system to operate efficiently. Although fuel is present in the market, exorbitant prices hinder the ability to obtain healthcare, especially in remote and conflict-ridden regions (Yemen Health Cluster, 2023).

#### **4. THE EFFECT OF CIVIL WAR ON FOOD SECURITY IN YEMEN**

Since the onset of the ongoing Yemeni Civil War, the conflict has caused extensive damage to civil infrastructure, resulting in the displacement of millions of people, disrupting the agricultural system, worsen the health system, and triggering an economic crisis. Consequently, there has been a widespread and severe shortage of food, leading to acute food insecurity. Yemen's economy has been severely damaged by the war, resulting in rampant inflation and high levels of unemployment. The Yemeni Rial has experienced a significant decline in its value, resulting in challenges for families to afford essential items. Economic system failures have direct repercussions on the accessibility and cost of food (Lackner, 2019). According to data from the World Food Programme (WFP) in 2024, approximately 18.6 million people require humanitarian assistance. Out of this number, around 17 million people, which is approximately 60% of the population, are experiencing food insecurity. They are classified as being in Crisis (IPC Phase 3) or worse (WFP, 2024). Approximately 16 million Yemenis lack access to clean water sources, with rural regions experiencing the greatest impact (OXFAM, 2024).

The consequences of the civil war have been severed on children and

women. Currently, there is a total of 9.8 million children that require humanitarian aid. Out of this number, 2.7 million children are experiencing acute malnutrition, with hundreds of thousands of them suffering from severe acute malnutrition, which is a critical condition that requires immediate treatment to prevent loss of life (UNICEF, 2024). Based to the 2022 UNFPA Humanitarian Response in Yemen report (UNFPA, 2022), over 77% of the 4.3 million displaced individuals in Yemen are women and children. Almost 26% of households that have been forced to leave their homes were led by women. This is a significant increase compared to the 9% of households headed by women before the violence intensified in 2015. Reported malnutrition in pregnant and breastfeeding mothers had significant consequences. The consequences included elevated rates of maternal and newborn death, reduced birth weight, and enduring developmental challenges for children. Reports indicate that a large number of Yemenis, including a significant proportion of children under the age of five and pregnant or lactating mothers, are experiencing severe malnutrition. The cause of this situation can be attributed to a confluence of factors including violence, economic instability, and insufficient humanitarian assistance, all of which have a detrimental impact on both the availability of food and the ability to address and control malnutrition and its related health issues (UNICEF, 2022).

The Saudi-led coalition's military action in Yemen against the Houthis resulted in a blockade of key ports in Yemen, which greatly contributed to the worsening of the country's humanitarian catastrophe. Commenced in 2017, this embargo was an integral component of the coalition's military strategy against the Houthis, with the objective of severing their supply routes. Nevertheless, the embargo has had extensive consequences on the civilian population, significantly impeding the distribution of food, fuel, medical supplies, and other vital commodities (Ratcliffe, 2017). As of early 2022, the United Nations estimated that the ongoing conflict in Yemen, which had been raging since 2015, had resulted in over 377,000 deaths, with approximately 60% of those fatalities attributed to indirect factors such as hunger, inadequate healthcare, and lack of access to clean water (BBC, 2023). In addition, as of December 2020, the war had already caused over 130,000 deaths due to similar indirect causes, including food shortages and the collapse of infrastructure (UN, 2020). Furthermore, Save the Children (Kara Fox, November 2018) had previously reported that nearly 85,000 children under the age of 5 had died from acute malnutrition between April 2015 and October 2018, highlighting the devastating impact of the conflict on the youngest and most vulnerable populations.

The extended war has inflicted significant harm on the country's economy. This led to a considerable decrease in household earnings and an

increase in joblessness. In the past, families that were able to maintain a comfortable standard of living with their salary are now seeing challenges in being able to acquire basic necessities such as flour and rice. In 2018, the price of a food basket in Yemen witnessed an increase of 60%, resulting in average food prices that are now 150% higher compared to the pre-conflict period. A significant proportion of the population, specifically 67%, face challenges in consistently obtaining an adequate amount of food due to either limited access or financial constraints (Imperial War Museums, 2018). High inflation rates present difficulties for persons who lack a source of income, as it amplifies the struggle of affording many expenses. Consequently, the increasing expense of living is leading to a rise in needs (Hassan, 2024).

Food insecure families employ various coping mechanisms to address food insecurity, these mechanisms range from reducing food intake to selling assets. Several households decide to decrease the frequency of meals and give priority to more affordable, but less nourishing, food options. This is a typical immediate reaction to a shortage of food and increased food costs (FAO, IOM, ark, Acaps, & Join SDG-fund, 2023). Many families frequently turn to borrowing money or food from their family, neighbors, or nearby stores. This establishes a recurring pattern of indebtedness that can prove challenging to break free from (Oxfam, 2021). In order to get food, families resort to selling their assets such as livestock, land, jeweler, and household items. While this may offer momentary relief, it poses a risk to one's long-term financial security (FAO, IOM, ark, Acaps, & Join SDG-fund, 2023; FAO, 2020).

Occasionally, children are employed to help improve the family's financial resources. In addition, early marriage is occasionally perceived as a means to decrease the number of individuals that a family is responsible for providing sustenance to (OXFAM, 2019). Families relocate to different regions, either inside Yemen or to neighboring countries, in pursuit of improved living circumstances and more reliable food provisions (FAO, 2020). A significant number of Yemenis heavily depend on food aid provided by international organizations such as the World Food Programme (WFP) and other non-governmental organizations (NGOs). This assistance is crucial, however sometimes inadequate as a result of funding deficits and accessibility challenges (FAO, IOM, ark, Acaps, & Join SDG-fund, 2023). Many families frequently reduce non-essential expenses, such as education, healthcare, and other fundamental services, in order to allocate additional cash to food (FAO, 2020).

These coping mechanisms reflect the critical circumstances in Yemen, where millions of people are experiencing acute food poverty and are compelled to make challenging decisions in order to stay alive. The ongoing humanitarian

response remains crucial in mitigating certain acute demands; however, it is imperative to implement long-term solutions to tackle the underlying causes of food insecurity in the region.

## **5. RESPONDING TO THE CRISIS: HUMANITARIAN EFFORTS AND CHALLENGES**

Yemen was already among the most impoverished nations in the Arab region, struggling with persistent problems such as limited access to water, lack of food security, and inadequate economic progress. Humanitarian non-governmental organizations (NGOs) have been operating in Yemen since the 1920s, although their numbers have significantly increased in the last thirty years. Prior to 2014, humanitarian aid mainly concentrated on providing developmental assistance, healthcare initiatives, and emergency relief in response to occasional conflicts and natural calamities such as floods (Elayah & Matilda, 2021). Based on the 2014 Yemen Humanitarian Needs Overview report, which was published in late 2013, around 14.7 million individuals, accounting for 58% of Yemen's population, are involved in a humanitarian crisis and are in need of help. The origins of this susceptibility can be attributed to a combination of factors including inadequate economic progress, ineffective governance, environmental strains, population pressures, and persistent political instability. Severe destitution, worsened by a lack of chances for earning a living, leads to a pervasive lack of access to food and malnutrition affecting people of all ages. Among the individuals experiencing food shortages, 4.5 million are categorized as food insecure. Furthermore, over 1 million Yemeni children under the age of five were suffering from acute malnutrition, and out of these cases, 279,000 were classified as severe (OCHA, 2014).

International efforts to address the food insecurity crisis in Yemen are multifaceted, involving numerous organizations and strategies to mitigate one of the world's most severe humanitarian challenges. These efforts are recorded in diverse papers that offer valuable perspectives on both the efficacy and the obstacles of these initiatives. The humanitarian assistance initiatives aimed at alleviating the food insecurity situation in Yemen are vast and involve a wide range of foreign and local organizations. These efforts are of utmost importance considering the magnitude of the situation. During the second half of 2022, humanitarian food assistance has increased following the improved access facilitated by the truce (FAO, 2023), however, the humanitarian actors faced and continue to face daily hurdles such as access limits, bureaucratic impediments, and insecurity. The imposition of specific limitations on the mobility of female humanitarian workers significantly impedes the effective distribution of



assistance (European Commission, 2024). The delivery of humanitarian aid in Yemen is hindered by numerous constraints, greatly affecting the efficiency of missions. The issues stem from a confluence of persistent war, limitations on access, financial constraints, political intricacies, and logistical obstacles.

The ongoing conflict and frequent changes in control of territories hinder access to many areas. Airstrikes, ground battles, and blockades make it hard for those in need to receive aid. In addition, humanitarian workers face significant dangers, including kidnappings and assaults, which obstruct their efforts (NRC, 2024). In 2023, 3,300 incidents negatively affected aid distribution to over 5 million people, often due to bureaucratic delays, especially in Houthi-controlled regions (OCHA, January 2023). Indiscriminate attacks on civilian infrastructure and blockades worsen the crisis, making aid delivery challenging (ACF, 2019). Political constraints and safety risks further hinder the effectiveness of aid (Harvey, Stoddard, Czwarno, & Breckenridge, March 2022), while ongoing violence, including targeted attacks on health workers and abductions by groups like AQAP, exacerbate the situation (Reuters, August 2023). Weak governance and political interference also delay aid efforts and increase risks for humanitarian staff (United Nations, 2023).

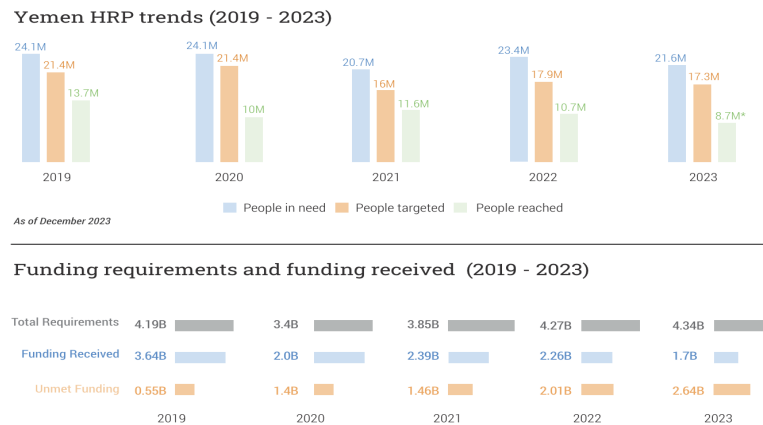
The funding situation for tackling food insecurity in Yemen has been dire and frequently inadequate to adequately address the extensive demands of the population. Insufficient finance is a major obstacle that hampers the size and efficiency of humanitarian aid efforts, notwithstanding the severity of the crisis.

In 2023, there has been a huge change in the landscape of humanitarian aid for Yemen, as big donors have significantly reduced their commitments (Save The Children, September 2023). Indeed, other worldwide conflicts have had an impact on the financial resources allocated to humanitarian efforts in Yemen. The escalating worldwide problems, such as the COVID-19 pandemic and the conflicts in Syria, Ukraine, Sudan, and Gaza, have resulted in a reallocation of monies that were previously designated for Yemen. The emergence of these new emergencies has diverted international attention and resources from Yemen, further worsening its funding challenges (Al-Qaoud, 2024).

Yemen's humanitarian aid has experienced a reduction of 62% within a span of five years (Save The Children, 2023). The consequences of these funding constraints are immediate and severe: in the absence of adequate financial backing, food distribution programs are unable to function at their maximum capacity, potentially resulting in reduced food rations or complete lack of help for millions of individuals. Examining the 2024 Humanitarian Response Plan (UNOCHA, 2024), and comparing it with 2023 plan, we notice that the total number of people in need in the food security and agriculture sector has increased

from 17.4M to 17.6M, while the total number of people targeted has reduced from 14.8M to 12.8M, and consequentially the financial requirement reduced by 38% from 2.2B USD in 2023 to 1.36 M USD in 2024.

The below figure presents the humanitarian response plan trends within the timeframe from 2019 to 2023, in addition, the funding requirements and received (UNOCHA, 2024).



**Figure 3:** The Humanitarian Response Plan Trends and Funding Status from 2019 to 2023.

**Source:** (UNOCHA, 2024).

Humanitarian aid has generated widespread skepticism and cynicism globally due to the frequent failure of humanitarian organizations to accomplish their objectives and assist both vulnerable citizens and relief workers. Humanitarian aid is often seen as a readily available resource that may be used to provide financial support to different groups involved in conflicts in unstable countries. This can inadvertently contribute to the establishment of war economies, where the charity money ends up funding combat activities and supporting the front lines of these conflicts (Findley, 2018). The UN Inter-Agency Humanitarian Evaluation Steering Group conducted a report in July 2022 that provided a negative assessment of the humanitarian response in Yemen. The report emphasized that the quality of aid provided was frequently deemed unacceptable. Yemeni individuals who were impacted expressed a lack of clarity regarding the methods to obtain aid and the procedures required to be included in the assistance program. The widespread discontent has been expressed through a social media movement using the hashtag #WhereIsTheMoney, in which

Yemenis have called for increased openness and raised doubts about the effectiveness of the relief provided. All of this criticism suggests that in order to actually reduce human suffering in Yemen, the international humanitarian community must address a number of major problems. A weak approach that prioritizes short-term solutions, unhelpful neutrality and impartiality positions, a reluctance to speak out against the mistreatment of relief and humanitarian workers by warring parties, and insufficient participation of Yemeni professionals are among the issues (Nasser, 2022).

## **6. CONCLUSION**

The conflict in Yemen has severely damaged the country's agriculture sector, economy, and overall welfare, leading to one of the world's worst humanitarian crises. The war has devastated agricultural infrastructure, reduced productivity, and displaced many farmers, exacerbating food insecurity. Yemen's economy, already fragile before the war, has deteriorated significantly. Destruction of infrastructure disrupted trade, and loss of foreign investment have caused inflation and devaluation of the Yemeni Rial. The conflict has split Yemen into two separate economies, increasing living costs and deepening poverty. Now, there are around 4.5 million Yemenis are internally displaced, struggling to access food, water, sanitation, and healthcare. Many rely on coping mechanisms like reducing food intake, borrowing, or selling assets, which undermine long-term stability. The war has also crippled the healthcare system, leading to malnutrition and worsening food insecurity, particularly among vulnerable groups such as mothers and children. Humanitarian efforts are hampered by restricted access, political interference, and reduced international funding, limiting aid distribution and aggravating food insecurity. It's critical to highlight the severe economic damage that the war has caused, noting that it has destroyed vital infrastructure needed for trade and agricultural productivity and has ultimately affected food supplies directly. Although aid provides temporary relief for certain aspects of food insecurity and that's what the actors have been focusing on in the past period, however, now it is essential to implement durable solutions that target the root causes of the problem.

To address the pressing food security crisis in Yemen and in similar context, policymakers and humanitarian aid workers should consider the following recommendations:

- Enhance Humanitarian Funding: International donors should augment and guarantee the consistency of humanitarian funding. Sufficient and prompt funding is essential for the sustenance and development of food assistance programs.

- **Improve Access to Aid:** It is critical to engage in negotiations with all parties implicated in the conflict, aiming to secure unrestricted access to humanitarian supplies. Streamlining bureaucratic and logistical impediments is crucial for efficient aid delivery. To promote agricultural recovery, it is crucial to invest in the restoration of agricultural infrastructure and provide farmers with essential resources, including seeds, tools, and irrigation equipment. These measures will contribute to the revival of food production. Efforts to enhance agricultural techniques should prioritize the implementation of training programs.
- **Address Economic Stability:** It involves implementing measures to limit inflation and boost the value of the currency. The primary objective of economic policies should be to prioritize the creation of employment opportunities and enhance household incomes.
- **Promote Long-term Solutions:** While providing immediate humanitarian assistance is crucial, it is necessary to implement longer-term strategies to tackle the underlying causes of food insecurity. This includes the promotion of sustainable farming methods, improvement of water management, and cultivation of economic resilience.
- **Safeguarding Vulnerable Populations:** Particular emphasis should be placed on addressing the requirements of vulnerable populations, such as women and children. Programs targeting the prevention of hunger, enhancement of healthcare accessibility, and guaranteeing uninterrupted schooling are crucial for these populations.

Beyond these efforts, however, the successful conclusion of negotiations is of great importance in order to achieve a lasting peace in the country. Various international initiatives have been launched to end the civil war that began in 2014. Despite the Geneva Conferences held in 2015 and the Kuwait Talks in 2016, a permanent ceasefire could not be achieved. Although an initial agreement was reached between the Yemeni government and the Houthi rebels within the scope of the Stockholm Agreement in 2018, the process failed once again. Ongoing conflicts and external interventions have emerged as the main factors complicating the peace process. At this stage, the inclusion of Saudi Arabia and Iran, as the most important external actors in the conflict and who provide military and political support to groups in Yemen in line with their own strategic interests, in the peace talks could be an important step in resolving the civil war.

## **7. CONFLICT OF INTEREST STATEMENT**

There is no conflict of interest between the authors.

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## 9. AUTHOR CONTRIBUTIONS

Z.A.A., P.A.: Conceptualization; 50%-50%

Z.A.A., P.A.: Design; 50%-50%

Z.A.A., P.A.: Supervision; 50%-50%

Z.A.A., P.A.: Data collection and/or processing; 50%-50%

Z.A.A., P.A.: Analysis and/or interpretation; 50%-50%

Z.A.A., P.A.: Literature review; 50%-50%

Z.A.A., P.A.: Writing; 50%-50%

Z.A.A., P.A.: Critical review; 50%-50%

## 10. ETHICS COMMITTEE STATEMENT AND INTELLECTUAL PROPERTY COPYRIGHTS

Ethics committee approval is not required for the article.

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