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THE IMPACT OF YEMEN'S CIVIL WAR ON FOOD SECURITY
FROM 2015 TO 2024

Zaid Saad Ali ALHAMID ALALI

YÜKSEK LİSANS TEZİ
MASTER'S THESIS

GAZİANTEP – 2024



LİSANSÜSTÜ EĞİTİM ENSTİTÜSÜ

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ÖZET

Bu tez, Yemen’de 2015 yılından günümüze kadar süren iç savaşın ülkenin gıda güvenliği üzerindeki etkisini incelemektedir. Kuru ortam ve kısıtlı ekilebilir araziler nedeniyle gıda güvenliği konusunda zaten büyük sıkıntılar yaşayan Yemen, uzun süren çatışmalar nedeniyle bu zorlukların daha da kötüleştiğini gördü. İç savaş ekonomik faaliyetlerde, tarımsal üretimde ve genel olarak gıdaya erişimde önemli aksamalara yol açarak ciddi insani krizlere neden olmuştur. Nitel bir yaklaşımın kullanıldığı bu çalışmada akademik literatür, uluslararası kuruluş raporları, hükümet yayınları, haber raporları, STK’lar ve BM değerlendirmeleri gibi çeşitli kaynaklardan elde edilen birincil ve ikincil veriler kullanılmıştır. Araştırma, Yemen’deki çatışma ve gıda güvensizliği arasındaki karmaşık ilişkiyi ortaya koyan önemli tema ve örüntüleri belirlemek için tematik analiz kullanmaktadır. Bulgular, iç çatışmanın gıda üretimi ve tedarik hatlarında önemli aksamalara yol açtığını ve bunun da gıda güvensizliği seviyelerinin artmasına neden olduğunu göstermektedir. Yemen’de hüküm süren ekonomik istikrarsızlık, yaygın enflasyon ve Yemen Riyali’nin devalüasyonu ile karakterize olup, çok sayıda hane halkı için temel gıda malzemelerinin satın alınamaz hale gelmesine neden olmaktadır. Kaynakların farklı gruplar tarafından ele geçirilmesi ve sömürülmesiyle belirginleşen savaş ekonomisi, durumu daha da kötüleştirmiştir. İnsani yardım müdahalesi, kısıtlı erişim, siyasi müdahale ve sınırlı fonlar gibi çok sayıda zorlukla karşılaştı. Bu zorluklara rağmen, insani yardım geçici de olsa hayati bir yardım sağlamıştır. Çalışma, gıda güvensizliğinin altında yatan nedenleri hedef alan kalıcı çözümlerin gerekliliğini vurgulamakta ve devam eden krizi hafifletmek için uluslararası yardımın artırılmasını savunmaktadır. Sonuç olarak tez, çatışma ve gıda güvenliği arasındaki karmaşık bağlantının anlaşılmasına katkı sağlamakta ve Yemen’de açlığı azaltmaya ve istikrarı desteklemeye adanmış politikacılar ve insani yardım kuruluşları için önemli perspektifler sunmaktadır. Genel olarak, ekonomi ve tarımdaki aksamalar, bireylerin yerinden edilmesi ve artan kırılganlık da dahil olmak üzere savaşın gıda güvenliği üzerindeki etkilerini göstermeye katkıda bulunacaktır. Bu, politika yapımcıların ve insani yardım aktörlerinin savaş sırasında veya öncesinde bir nüfusun durumunu tahmin etmelerine olanak tanıyacak.

Anahtar Kelimeler: Yemen, Gıda Güvenliği, İç Savaş, Çatışma, İnsani Kriz.

**HASAN KALYONCU UNIVERSITY
GRADUATE EDUCATION INSTITUTE
DEPARTMENT OF POLITICAL SCIENCE AND INTERNATIONAL
RELATIONS**

**THE IMPACT OF YEMEN'S CIVIL WAR ON FOOD SECURITY
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MASTER THESIS

Advisor

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ABSTRACT

This thesis examines the impact of Yemen's civil war, which lasted from 2015 to the present day, on the country's food security. Yemen, which already has substantial difficulties concerning food security as a result of its dry environment and restricted cultivable land, has seen those challenges worsened by prolonged conflict. The civil war has caused significant disruptions to economic activity, agricultural production, and the overall accessibility to food, resulting in severe humanitarian crises. The study utilizes a qualitative approach and relies on primary and secondary data from various sources such as academic literature, international organization reports, government publications, news reports, NGOs, and UN assessments. The research uses thematic analysis to identify significant themes and patterns, demonstrating the complex correlation between conflict and food insecurity in Yemen. Findings indicate that the civil conflict has resulted in significant disruptions to food production and supply lines, resulting in increased levels of food insecurity. The prevailing economic instability in Yemen is characterized by widespread inflation and the devaluation of the Yemeni Rial, resulting in the unaffordability of essential food supplies for numerous households. The war economy, marked by the dominance and exploitation of resources by different factions, has worsened the situation even more. The humanitarian response faced numerous challenges, such as restricted access, political interference, and limited funds. Notwithstanding these challenges, humanitarian assistance has delivered vital, though temporary, relief. The study highlights the necessity for permanent solutions that target the underlying causes of food insecurity and advocates for increased international assistance to alleviate the ongoing crisis. Ultimately, the thesis contributes to the understanding of the complex link between conflict and food security, offering significant perspectives for politicians and humanitarian organizations dedicated to mitigating hunger and promoting stability in Yemen. Overall, it will contribute to illustrating the implications of the war on food security, including disruptions in the economy and agriculture, displacement of individuals, and increased vulnerability. This will enable policymakers and humanitarian players to forecast the condition of a population during or prior to a war.

Keywords: Yemen, Food Security, Civil War, Conflict, Humanitarian Crisis.

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Zaid Saad Ali ALHAMID ALALI

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LIST OF ABBREVIATIONS

DFA	De-facto Authority; Houthis; Ansar Allah
FAO	Food and Agriculture Organization
HRP	Humanitarian Response Plan
IOM	International Organization for Migration
IRG	Internationally Recognized Government
NGO	Non-Governmental Organization
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
STC	Southern Transitional Council
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
UNDP	United Nations Development Programme
WHO	World Health Organization

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. Food security includes four main dimensions. The four key components of food security are: 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).

Currently, the world is dealing with a significant food crisis, which is the most extensive one in recent times. Due to the emergence of new conflicts and the escalating effects of the climate crisis, coupled with the significant rise in food and fuel expenses, a substantial number of individuals are being pushed toward the brink of starvation on a daily basis. Currently, around 350 million individuals worldwide suffer from the most severe manifestations of hunger. Out of that total, around 49 million individuals are on the edge of experiencing famine. Individual children, women, and men are experiencing the devastating consequences of extreme hunger, which is reflected in these significant numbers. Malnourished mothers give birth to malnourished infants, sustaining hunger across generations. The physical and cognitive growth of children is affected. Farmers are unable to cultivate a sufficient quantity of food to meet the needs of their families and local populations. People are forced to leave their homes in search of food (WFP, March 2023).

The global food crisis is being driven by conflict, the climate issue, and increasing costs. Conflict has been identified as the primary factor responsible for various harms. It results in the destruction of infrastructures, displacement of people, disruption of market access, and negative effects on agricultural outputs. Moreover, conflict significantly impacts the country's economy, leading to inflation and the unaffordability of food. Consequently, these factors collectively contribute to the occurrence of hunger within communities (WFP, March 2023)

1.1 Problem Statement

Several of the most notable global hunger crises have recently emerged, such as the one in Ukraine, while others have persisted for more than ten years, as those in Yemen, Syria, Afghanistan, and other African countries affected by either conflict or climate change.

Prior to the crisis, Yemen historically had the unfortunate tag of being the most economically disadvantaged and food insecure country in the MENA region, with alarming rates of malnutrition. The Yemeni civil war, initiated in 2015, is a conflict between the internationally recognized Yemeni government, supported by a coalition led by Saudi Arabia, and the Houthi rebel movement (DFA), which holds authority over the capital city of Sanaa and other regions within the nation. The war has resulted in a profound humanitarian catastrophe, characterized by extensive devastation and mass displacement, impacting millions of Yemeni individuals. The research endeavors to examine the impact of civil war on food insecurity in Yemen.

1.2 Research Objectives

This study seeks, first and foremost, to explore the intricate dynamics between civil war and food security in Yemen and to reveal the direct impact of the civil war on food insecurity. It also aims to illustrate the direct and indirect link between food and the country's economy, agricultural sector, health, and general access. Furthermore, the study attempts to illustrate the impact on the population's food insecurity and examine the response and its effectiveness.

1.3 Significance of the Study

This study examines the impact of the conflict in Yemen on food security, which has important consequences for aid initiatives, international awareness, and policy development. The research aims to offer valuable insights that can guide policymakers in understanding the impact of the war on the food sector and to guide humanitarian organizations in developing more successful policies and long-term responses. This research will not only contribute to our comprehension of Yemen's conflict but also offer valuable insights that may be widely utilized. Through a comprehensive analysis of the complex link between food security and civil war, this study enhances scholarly discussion and adds to the existing discourse in conflict studies and related fields.

1.4 Research Hypothesis

The ongoing conflict and instability in Yemen have a profound and detrimental impact on the country's food security, leading to disruptions in food production, supply chains, and access to essential nutrition.

1.5 Research Questions

The main research question is the following: Did the Yemen's civil war and overall country instability negatively impacted food security lead to an increase in the level of food insecurity among the population?

This research is also trying to answer the following sub-questions:

- How has the economic and agricultural disruption caused by the civil war affected food security in Yemen?
- How has displacement and migration caused by the civil war affected food security in Yemen?
- How has climate change environmental degradation affected food security in Yemen?
- What are the humanitarian efforts responding to the crisis and their challenges?
- Did the ceasefire significantly improved food security level in Yemen?

1.6 Literature Review

Conflicts have a significant impact on food production, trade, and access, resulting in a humanitarian crisis. Having a comprehensive understanding of the intricate relationship between war and food insecurity is essential for influencing policy decisions and devising effective remedies. The objective of this study is to examine the primary and secondary data on the Yemeni Civil War and its correlation with the country's food insecurity. Furthermore, it is crucial to understand the direct and indirect linkages between food insecurity and other aspects impacted by the war such as the country's economics, agriculture sector, public health, and overall accessibility.

According to the Food and Agriculture Organization (FAO) Food Summit 1996, food security exists if and only if "all people at all times have consistent physical, social, and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, November 1996).

Research such as that carried out by 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, July 2023).

According to Donna Mitchell and her colleague's research on Food Security and Conflict, her findings and after a critical examination of the literature and an in-depth analysis of the reasons for conflict suggest that food insecurity is a multiplier, or facilitator, of the opportunities for and benefits from conflict (Mitchell, December 2015). 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. Natural disasters worsen these conditions, placing additional strain on already vulnerable communities—as is the situation in Yemen, for example (Teodosijevic, June 2003).

Yemen has historically faced challenges with ensuring food security as a result of variables such as a dry environment, little arable land, and paucity of water. Before the civil war, the country's food systems were already under pressure due to economic instability, high population increase, and insufficient infrastructure (Hill, September 2017). Kabbani (2005), in his study, indicate that Yemen has an increasing level of food insecurity and hunger. Households experiencing food insecurity demonstrated a higher number of children and a lower number of household members. Additionally, they were more likely to depend on temporary employment and were more likely to be categorized as non-agricultural. Within the category of agricultural households, those led by women or young adults had a higher probability of experiencing food insecurity, whereas households led by persons with higher levels of education were less likely to experience food insecurity. Another survey done by the World Food Programme (November 2014) illustrates that over 10.6 million people, accounting for approximately 41% of the population, are facing food insecurity. The survey indicates significant variations in the rate of food insecurity between urban areas (26% of the population) and rural areas (48% of the population).

One of the consequences of the conflict on children is malnutrition. Before the current war, Yemen was already the most vulnerable country in the Middle East, with high malnutrition rates and 50% of its population in poverty and without adequate water (UNHCR, 2024). UNICEF nutrition surveys in 2015 showed that in five severely affected governorates, 96,600 children under the age of five were at risk of severe acute malnutrition, a sharp increase from the 23,000 at risk before the conflict escalated in March that year (CBS, 2016). Dureab (2019), in his study, found that out of the 5276 children screened,

13.3% were affected by global acute malnutrition. Among them, 4.9% had severe acute malnutrition (SAM) and 8.4% had moderate acute malnutrition. Furthermore, it is worth noting that 20% of children below the age of six months suffer from severe malnutrition, while 18.5% of children under the age of two are impacted in terms of weight-for-height z scores. It has been confirmed that there is a notable correlation between starvation and other diseases. Among cases of severe acute malnutrition (SAM), the suspected rate of measles is three times higher, at 4.5%. Children with severe acute malnutrition (SAM) are more likely to experience diarrhea, fever, and cough at higher rates. In addition, he carried out a separate survey in his research, focusing on 4142 households. The findings revealed that the majority of households (84.7%) depend on purchasing food from the market. To ensure their daily meals, these households employ various coping mechanisms, such as borrowing food to sustain themselves, altering the types and quality of food they consume, and reducing the number of meals per day. Furthermore, some families opt to send their children to live with relatives (Dureab, et al., 2019).

Since the beginning of the Civil War, the war has inflicted significant harm on civil infrastructure, leading to the displacement of millions of individuals and resulting in an economic crisis (Lackner, 2019). Sowers and Weinthal (2021), in their study, explicated the impact of targeting of civilian infrastructures in the Yemeni war and the connections between conflict, hunger and disease. and found out that the scope and intensity of wartime targeting of civilian infrastructures, particularly those associated with agriculture, fisheries and health, increased significantly once the Saudi-led coalition entered the war in 2015. Loss of livelihoods, internal displacement, currency depreciation, and blockades further intensified the wartime spread of hunger and disease.

The Yemeni government's ability to tackle food insecurity is constrained by the persistent conflict and political turmoil. The food security environment has been significantly influenced by international sanctions and economic policies (Baldwin, 2019). 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 (Nasser, Oct 2022). Yemen has been relying heavily on humanitarian aid, however, Atmani (2021) in his study argues that although food aid provides short-term relief, it does not have a positive impact on food security in the long term.

1.7 Scope and Limitations

The scope of the study will be restricted to examining the effects of the civil war in Yemen on the food security of the Yemeni population. Therefore, the impact of civil war on food security is analyzed in the specific case of Yemen. Moreover, the study does not focus on the entire history of the country. This analysis focuses exclusively on the time frame between 2015 and 2024, which encompasses the onset of the civil war and its subsequent escalation up until the present.

1.8. Methodology

This chapter provides an overview of the qualitative research technique used in this study to examine the effects of the Yemeni civil war, which began in 2015, on the issue of food insecurity in Yemen. Due to the difficulties associated with collecting primary 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. A case study design is employed to investigate the intricate and context-specific phenomena linked to the war and its impact on food security. This technique facilitates a thorough comprehension of the existing literature, reports, and documented experiences.

The study employs primary and 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. Thematic analysis is employed to examine the qualitative data obtained from primary and secondary sources. The process entails the gathering of data, becoming acquainted with the data, developing themes, and interpreting the findings.

The study will focus on 3 main chapters. First, The Roots of Hunger, this chapter examines the ways in which the civil war in Yemen has worsened the food security issue. It specifically looks at the economic and agricultural disruptions resulting from the conflict, and the displacement of people. Additionally, it will look into the effects of climate change and environmental degradation on food availability. The 2nd chapter will focus on The Human Cost, it will look into the severe ramifications of food insecurity in Yemen, focusing on the daily challenges faced by households lacking access to sufficient food and the catastrophic impact on vulnerable populations, mainly children and women. Lastly, the 3rd

chapter will focus the Responds to the Crisis. This chapter assesses the contribution of humanitarian assistance in tackling the issue of food insecurity and examines the obstacles encountered, such as limited access, insufficient financing, and political intervention. Following these three chapters, the Findings and Discussion and Conclusion chapters will consolidate the results of the study, underlining the significant impact of the civil conflict on food security in Yemen.



2. THE ROOTS OF HUNGER: EXAMINING THE WAR'S IMPACT

This chapter provides a comprehensive analysis of how the ongoing civil war in Yemen originated and how several factors resulting from the ongoing conflict have significantly worsened the food security situation. After tracing the historical background of Yemen's civil war, it explores in depth the interrelated impacts of economic disruption, agricultural failure, human displacement, and environmental degradation. In general, the chapter utilizes a combination of qualitative data and thematic analysis to connect these elements, demonstrating that the causes of hunger in Yemen are deeply rooted and interconnected with the current conflict.

2.1 Understanding Yemen: Historical Background to Civil War Dynamics

Yemen "Arabia Felix" has a long and extensive history that covers a period of more than 3,000 years. During this time, civilizations such as the Minaean, the Sabaeen, and the Himyarite flourished due to their involvement in the lucrative spice trade. Prior to the advent of Islam, Yemen was affected by various successive powers, such as the Abyssinians (Habesha) and Sassanids. The advent of the Islamic era in the 7th century played a pivotal role in creating Yemen and its culture, as the quick dissemination of Islam originated from Mecca and Medina. Yemenis played a significant role in the early expansion of Muslim lands. Following the reign of the Umayyad and Abbasid dynasties, a distinct Arab-Islamic identity was cultivated by an indigenous Yemeni dynasty in the 9th century. Following that, In the 10th century, the Zaydi imamate connected northern Yemen to Zaydi Shiism. In contrast, the Rasulids, who ruled for two centuries starting in the 1200s, had their initial stronghold in Aden, linked southern Yemen to Shafi'i Islam and later founded a culturally vibrant capital in Ta'izz (Sandwell, 2019).

During the beginning of the 16th century, Portuguese traders took control of the Red Sea trade routes and claimed Socotra Island. However, their efforts to dominate Aden were not successful (Sandwell, 2019). The Egyptian Mamelukes briefly seized control of Sanaa but were unsuccessful in capturing Aden. This was followed by the Ottoman conquests in 1539 (Chekroun, 2016), which resulted in Yemen coming under their rule until the Zaydi imamate evicted them in the 17th century, leading to a period of Zaydi domination (Salmoni, 2010).

Under Ottoman dominion, Yemen's coffee commerce thrived, especially in the seaside town of Mocha, but the mountainous regions remained secluded until the mid-19th

century. The partition of Yemen into Northern and Southern regions commenced when the British seized Aden in 1839 and was further consolidated by a delineated border agreed upon by the British and the reoccupying Ottomans in the early 20th century (Sandwell, 2019). In North Yemen, the continuous opposition to Ottoman control reached its peak when the Ottomans agreed to give autonomy to the Zaydi imam in 1911. The Ottomans ultimately withdrew from the region after being defeated in World War I in 1918 (Chatterji, 1973).

Imams Yahya ibn Muhammad and his son Ahmad governed North Yemen for a duration of 44 years, during which they constructed a monarchical polity that resembled the old kingdoms of Europe. They strengthened the state, defended its borders, and safeguarded Yemen's Islamic culture during a period when several traditional communities were deteriorating due to imperial influence. Although their governance seemed to halt progress in Yemen, a growing number of Yemenis became aware of the discrepancy between their stagnating autocratic regime and the advancements taking place in other regions of the globe (Sandwell, 2019). This realization resulted in notable occurrences: the emergence of the nationalist Free Yemeni Movement in the mid-1940s, an unsuccessful revolution in 1948 that led to the death of Imam Yahya, an unsuccessful coup attempt against Imam Ahmad in 1955, and the decisive revolution in 1962 that removed the imam from power, resulting in the establishment of the Yemen Arab Republic under Abdullah Al-Sallal (Douglas, 1987).

Following the British occupation of Aden in 1839, the history of South Yemen took a distinct and separate path. Aden became pivotal for maritime connections to India with the inauguration of the Suez Canal in 1869. In order to prevent Aden from falling under Ottoman control, the British established partnerships with tribal chieftains, providing military defense and financial support in exchange for allegiance, and progressively extended their influence (Dresch, 2000).

In the 1960s, British control encountered opposition from nationalists based in Aden. In 1967, Britain pulled out when the National Liberation Front (NLF) toppled the federation, resulting in the formation of the People's Republic of South Yemen. Later, in 1970, it was renamed the People's Democratic Republic of Yemen. (Ismael, 1981)

The relations between south and north Yemen were more cooperative after 1980. The border conflicts between the two nations in 1972 and 1979 resulted in unexpected agreements for the unification of Yemen. However, in both instances, these agreements were promptly abandoned. In the 1980s, the two nations collaborated more and more in economic and administrative affairs (Sandwell, 2019). In December 1989, the leaders of the major

parties convened and drafted a conclusive agreement for unification. The Republic of Yemen was established on May 22, 1990, following the official merger of North and South Yemen. Ali Abdullah Saleh, who was previously the head of North Yemen, assumed the presidency of a united Yemen. Sanaa was officially designated as the political capital of the Republic of Yemen, while Aden was designated as the economic capital (Dunbar, 1992). By the summer of 1990, Yemen witnessed the emergence of over 30 novel political groups. Yemen's economy was expected to improve as a result of increased oil earnings and financial aid from various other countries, such as Iraq, Saudi Arabia, and the United States. The unification terms encompassed a 30-month period of transition, during which the leading parties shared powers. The efforts to establish support and legitimacy was impeded by economic obstacles, such as a significant downturn and deprivation (Choueiri, 2002). Yemen's economy experienced negative consequences when it chose not to participate in the military alliance of the United States during the Gulf War in 1990-91. The decision to expel Yemeni workers by Gulf governments, coupled with a decrease in foreign aid, had a profound impact on the country's economy, resulting in a severe economic decline and worsening pre-existing difficulties. (Famack, 2020)

Following the merging of North and South Yemen in 1990, the nation encountered substantial political upheaval. In 1993, the relationship between President Ali Abdullah Saleh and Vice President Ali Salim al-Beidh became more strained, causing al-Beidh to relocate to Aden and accuse the administration of neglecting the southern region and specifically targeting the Yemeni Socialist Party (YSP). In January 1994, a Document of Pledge and Agreement was signed in an attempt to resolve these difficulties. However, the military clashes persisted, and the mediation efforts proved unsuccessful. In May 1994, Yemen plunged into a comprehensive civil war characterized by intense combat in towns such as Sanaa and Aden. Al-Beidh proclaimed the southern region as an independent entity called the Democratic Republic of Yemen (DRY). However, by mid-July, Saleh's forces triumphed over the southern army, regaining authority over the south (State US, 2007).

After the downfall of the Democratic Republic of Yemen (DRY), President Ali Abdullah Saleh's administration had the task of reconstructing Yemen's economy and governance. Aden and the nearby regions suffered substantial destruction, including water infrastructure, oil processing facilities, and communication hubs. Water constraints led to the occurrence of cholera outbreaks. In September 1994, the Yemeni legislature endorsed significant constitutional changes, and Saleh was re-elected as president in October. He

designated AbdRabbuh Mansur Hadi as the vice president (Roger East, 2003). In an effort to recover the economy, Yemeni leaders faced challenges in implementing an economic austerity programme in accordance with the advice of international economic organisations in the spring of 1995. Subsequent to that period, Yemen encountered persistent conflicts with neighboring nations such as Saudi Arabia (The University of Edinburgh, 2024), and Eritrea on border and territorial matters (Stansfield, 2008).

In the early 2000s, Yemen experienced increasing discontent due to the Saleh regime's management of the war on terror, as well as economic and sociological challenges. Opposition movements, such as the Zaydi youth network under the leadership of Hussein Badr al-Din al-Houthi, came into existence (Mawri, 2021). The Houthis movement's uprising in the northern region was met with a strong and decisive reaction, leading to widespread protests throughout southern Yemen. These rallies raised concerns about the legitimacy of the state, the unification of Yemen, and the principles of republicanism. These acts, together with a terrorist attack in Sana'a that were connected by AQAP (al-Qaeda), have heightened the difficulties, and posed significant dangers to Yemen's stability (Reuters, 2010).

The Yemeni Arab Spring uprisings commenced in 2011, instigated by demands for the step down of President Ali Abdullah Saleh. In contrast to past rebellions, the protests in Yemen seemed to be orchestrated by a coalition of opposition factions. Saleh implemented economic concessions, although the protests persisted, resulting in conflicts and desertions within the military. The absence of a strong governing authority created an opportunity for militant factions, like as Houthis and al-Qaeda, to take advantage of the circumstances. Saleh's opposition and aggressive strategies diminished backing, leading to his final consent to hand over authority to Vice President Abd Rabbuh Mansur Hadi in 2012 (Mounassar, 2012). Nevertheless, Yemen continued to be profoundly fragmented, grappling with economic difficulties, scarcity of food, and a strong desire for secession. The involvement of Houthi and tribal militants has exacerbated the existing instability, resulting in a multifaceted humanitarian and political disaster.

In July 2014, Hadi's administration implemented significant reductions in fuel subsidies, which resulted in a resurgence of protests in Sanaa. In September 2014, Yemeni security forces employed gunfire against the protesters, resulting in the deaths of multiple individuals and initiating a sequence of more intense confrontations. In late September,

Houthis successfully captured Sanaa by taking control of crucial government structures. (Amnesty, 2014)

In January 2015, the level of conflict escalated, resulting in the Houthis successfully seizing control of the presidential palace and prompting Hadi to step down from his position. The Houthis advanced further south and gained complete control over multiple governorates in Yemen. However, in March of the same year, Saudi Arabia, along with a coalition of nine countries from West Asia and North Africa (known as the Saudi-led Coalition), intervened in Yemen (ACLED, Saudi-led Coalition, 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 battle of Aden was a conflict that took place in Aden. The conflict involved the Houthis and Yemen Army forces aligned with previous president Ali Abdullah Saleh on one side, and Yemen Army units aligned with AbdRabbuh 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)

In 2018, the focus of the fight turned to Hodeidah, as a coalition led by Saudi Arabia made progress in June. In December, a cease-fire was facilitated by the United Nations 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) following its establishment in 2017 declared self-rule in the south of Yemen taking Aden as its capital till present day. Worth mentioning that this happened along with The UAE officially withdrew from Yemen in the same year (ACLED, 2024).

In April 2020, Saudi Arabia unilaterally declared a cease-fire during the global COVID-19 outbreak. Nevertheless, the conflict persisted, and the situation intensified as the Houthis aimed to gain control over the area surrounding Marib, a city rich with oil fields and

it was of great significance in Yemen's unification process back in the 90s. However, their progress was met with opposition (Guardian, 2020).

A ray of light appeared in April 2022 when a cease-fire was announced which resulted in the reported fatalities from political violence in Yemen have reached their lowest levels since January 2015 (Roy, 2022). Shortly after, on April 7, 2022, the Presidential Leadership Council (PLC) was established as the governing body of Yemen's Internationally Recognized Government (IRG) with Hadi stepping down from the president role (Salem, 2022). The committee is led by Rashad Muhammad Al-Alimi and consists of eight members, four of whom are delegates from the Southern Transitional Council (STC).

The cease-fire was renewed, but ultimately expired in October. However, both parties have kept calm thus far, with no large-scale offensive. Now in 2024 and since the cease-fire expired, Yemen geographically and state-wise is fragmented with key factions exerting influence over distinct areas of the country. The primary sides are the DAF, IRG, STC (Action, 2024).



Figure 1. Yemen Map and Areas of Control (as of August 2023).

Source: (Polgeonow, 2023)

Starting in 2023, Saudi Arabia initiated direct negotiations with Houthis, with a specific focus on the disputed matter of Yemen's oil money. In September, representatives of the Houthis movement visited Saudi Arabia for face-to-face negotiations, with reports indicating that the distribution of Yemen's oil money remained the primary unresolved issue (Aljazeera, 2023). Shortly thereafter, on October 7, 2023, the progress was interrupted by the war between Hamas and Israel in Palestine Gaza Strip. The Houthis, with the aim of pressuring Israel to withdraw from the Gaza Strip initiated missile and drone attacks towards Israel and increased their assaults on ships traversing the Bab El-Mandeb Strait. The Houthis aggressiveness demonstrated their dominance as the most powerful force in Yemen, allowing them to exert control over regional affairs and the country's vital resources. This display of strength also revealed their determination to bring an end to the conflict in Yemen on terms that they consider advantageous. In return, as a result of the Houthis' attacks, the United States, in collaboration with the United Kingdom, Bahrain, and a few other Western countries, initiated many military operations (Airstrikes) against the Houthis in January 2024 as they considered their attacks in the Red Sea on the ships traversing the Bab El-Mandeb Strait disrupting the global economy and trade (Reuters, 2024). Worth mentioning, In January 2021, The Houthis (DFA) have been officially recognized as a Foreign Terrorist Organization (FTO) and Specially Designated Global Terrorists (SDGT) by the U.S. Department of State. This designation highlighted their role in exacerbating the conflict, conducting attacks against civilians, and destabilizing the region. The Houthis have initiated missile and drone assaults against the neighboring country of Saudi Arabia, specifically aiming at civilian and economic infrastructure. In January 2021, shortly after assuming office, the President of the United States Joe Biden revoked two "terrorist" designations that had been imposed by his predecessor, Trump. In Late January 2024, The Biden administration re-listed Yemen's Houthis as SDGT, this action is being taken in response to the ongoing attacks by the Houthis on commercial ships in the Red Sea. (U.S. Department of State, 2024). The ongoing escalation between the Houthis and the U.S/Israel, in addition to the continued military tension on the frontlines, and the disruption of the peace negotiations with Saudi put the future of Yemen and its stability in uncertainty.

2.2 Food Security Situation as a Result of Civil War in Yemen

Yemen has historically been one of the most economically disadvantaged nations in the Middle East and North Africa (MENA) region, and it is currently experiencing one of

the most severe humanitarian emergencies globally. The conflict that commenced in 2014 has imposed significant economic and social burdens on the nation and its citizens. Between 2015 and 2022, the country's real GDP per capita decreased by an astonishing 52%, resulting in around 21.6 million people, or two-thirds of the population, requiring humanitarian aid (World Bank, 2024). In the 2021/2022 Human Development Index, the nation is positioned at the 183rd rank out of 191, with a score of 0.455 (UN, 2022)

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, 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).

Prior to the civil war, Yemen's food importation system mostly depended on commercial imports enabled through major ports such as Hodeidah, Aden, and Saleef. Prior to the conflict, Yemen, already the most impoverished nation in the Arab world, relied heavily on imported food essentials including wheat, rice, and sugar, mainly sourced from the Middle East, Asia, and some regions of Europe. The country's infrastructure, although not very resilient, was adequate for managing the import and dissemination of food across different regions. However, rural areas frequently encountered difficulties due to underdeveloped transportation networks. In 2020, the importation of food accounted for 84% of the total food calories consumed in Yemen, with the majority of these imports consisting of cereals, particularly wheat. Before the crisis began, Yemen used to import over 3 million metric tons of wheat annually, mainly from Australia, Russia, Ukraine, and the US. This amounts to almost 100 kilograms per person each year (IFPRI, 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). According to the UN (2020), the war has resulted in

over 130,000 deaths due to indirect factors such as insufficient food, healthcare, and infrastructure as of December 2020. Conversely, Save the Children has reported an estimated death toll of almost 85,000 children under the age of 5 in Yemen due to acute malnutrition from April 2015 to October 2018 (United Nations, 2020).

The humanitarian situation in Yemen is highly precarious, and any interruption in the flow of essential supplies such as food, fuel, and medicines could significantly increase the risk of starvation and death for millions of people. The present magnitude of hunger in Yemen is unparalleled and is inflicting profound adversity onto millions of individuals. Prior to the conflict, Yemen was already facing a significant problem of long-term food insecurity, which was exacerbated by nutritional deficiencies. In fact, these deficiencies were one of the main factors contributing to the number of years lived with disability in Yemen in 2013 (Mokdad, 2016). In November 2014, a survey conducted by the World Food Programme revealed that around 10.6 million individuals, or for around 41% of the population, were experiencing food insecurity. The survey also highlighted significant variations in the levels of food insecurity between urban areas (26% of the population) and rural areas (48% of the population) (WFP, 2014). 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 (The Integrated Food Security Phase Classification - IPC 3) or worse. (WFP, 2024).

Despite being the main source of livelihood for Yemenis, the agriculture industry in Yemen only provides 15-20% of the country's essential food requirements. The agricultural industry faces difficulties caused by floods, droughts, and pests, resulting in reduced crop production. Climate change exacerbates vulnerabilities for the most susceptible populations (World Bank, 2023). Over the past few years, intense precipitation has caused sudden floods, leading to loss of life and significant destruction to residences, infrastructure, and farmland. The confluence of water scarcity and abrupt, strong precipitation occurrences has exacerbated the existing inadequate infrastructure in Yemen, hence increasing vulnerabilities for rural residents. Conventional farming techniques and agricultural practices are insufficient in ensuring the ability of crops to withstand challenges, which has negative effects on both the availability of food and the economic stability of rural communities. Internally displaced folks, who are particularly susceptible, are experiencing

these issues at significantly higher rates (IOM, 2023). Currently, Yemen relies heavily on imported food, with up to 90% of its staple foods being imported (FAO, 2024).

Furthermore, despite the consequences of the civil war and the current economic condition of the country, a new threat emerged. Since mid-November 2023, the Bab El-Mandeb Strait, located near the southern terminus of the Red Sea, has become increasingly perilous for maritime transportation because to the threats arising from the Sana'a DFA, who are linked with Palestine in the Israel-Palestine conflict. The Houthis issued a warning to potentially attack Israeli or allied commercial vessels, specifically those belonging to Israel, the UK and US aiming to stand with Palestine and stop Israel's operation in Gaza (Reuters, 2024). They started attacking vessels from that time till current day, these actions had a significant impact on the transportation of cereals and other vital commodities from Europe, Russia, and Ukraine. This not only affects Israel, UK, and US, but also countries in Eastern and Southern Africa, as well as Asia, who depend on these trade routes. Given the strategic importance of the Red Sea, which facilitates around 17% of worldwide marine trade (FAO, 2024), a coalition led by the United States and the United Kingdom commenced a naval campaign in the Red Sea on January 12, 2024.

This military campaign included precise and focused airstrikes against the military installations of the Houthis, resulting in significant damage to both Sana'a and the strategically important port city of Hodeidah. Incidents of maritime assaults continue, while coalition airstrikes intensified in February, indicating a significant escalation in the fight that has the potential to worsen the region's already dire food insecurity and humanitarian concerns. Although the escalation began in November, the data conducted until January 2024 indicates a rise in the importation of fuel, wheat, and other food products. Due to Yemen's heavy dependence on imports for its food needs, the Food and Agriculture Organization (FAO) predicts that the ongoing crisis would hinder or prevent the transportation of products, resulting in food scarcity in the markets. In January 2024, the prices of food and fuel in Yemen were stable in comparison to December 2023, indicating a consistency with global market patterns. Nevertheless, this stability may be compromised if the ongoing crisis persists. Extended violence may result in escalated shipping expenses, further delivery setbacks, or a complete cessation of trade, potentially leading to the closure of Yemeni ports. These interruptions have the potential to result in scarcity of food and an increase in costs. As a result, vulnerable populations, such as the underprivileged and

internally displaced, may encounter even more challenges in obtaining necessary food supplies (FAO, 2024).

The persistent obstacles of conflict, escalating food costs, limited employment prospects, depletion of valuable resources, diminishing income, and the impact of climate change all contribute to the issue of food insecurity. A significant number of households depend on emergency food aid, and although certain initiatives have made conditions better for certain individuals, there is still a prevalent and ongoing need for assistance. Humanitarian organizations are actively engaged in delivering food supplies and support to address the immediate needs of the populace. The situation is intricate, and the capacity to provide assistance is frequently impeded by the ongoing fighting and logistical obstacles. International efforts are essential in mitigating the distress and guaranteeing the availability of sustenance for the population of Yemen.

2023 witnessed a significant drop in casualties resulting from conflicts, which was credited to the ceasefire, continued consistently throughout the year 2023. The number of casualties decreased by almost half (42%) compared to 2022, reaching the lowest rates recorded since monitoring commenced in 2018. Further beneficial consequences of the ceasefire were a decrease in the number of assaults on educational institutions and medical facilities in comparison to the year 2022. Also as there has been a decline in armed conflict this year, resulting in fewer farms being affected by it (OCHA, January 2024).

2.3 Economic and Agriculture Disruptions

2.3.1. Economic Disruptions

The economy of any country is significantly impacted by a large-scale war. It causes direct destruction of both physical and human resources, disturbs economic processes by destabilizing the social structure, redirects public expenditures away from productive efforts, and depletes the capital stock through excessive consumption. Yemen, already the most impoverished country in the Middle East and North Africa region, has experienced a further decline in its economic, agricultural, and humanitarian conditions as a result of the conflict.

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).

Jonathan Goodhand is a distinguished academic and renowned expert in conflict studies, specializing in substantial study on the economic aspects of conflict, on his studies

on the Afghanistan conflict, he provides a valuable foundation for comprehending the connection between economic activities and violence in long-lasting societal conflicts. The author identifies three primary categories of economic activities that are common in an economy affected by civil conflict. The ‘combat economy’ encompasses the processes of producing, mobilizing, and distributing resources to sustain protracted conflicts. This category includes the plundering of natural resources, illicit manufacturing of substances, trafficking, and misallocation of help. The next concept is the ‘shadow economy’, which refers to lawful operations that take place outside of government-controlled structures but would be considered legal and regulated in a calm environment. Finally, the term ‘coping economy’ pertains to the economic decisions individuals make in order to endure during times of conflict, including depleting their savings, selling their assets, and increasingly depending on outside aid (D'Souza, 2012). Utilizing Jonathan Goodhand’s theory in the context of Yemen unveils a remarkably analogous pattern in the interplay between economic activities and armed conflict.

- **The combat economy** in Yemen is highly significant, as it involves the control and exploitation of resources to fund the ongoing war. Prominent individuals and groups, including different factions and external entities, have been involved in acts aimed at gaining control over ports, oil and gas facilities, and critical infrastructure in order to finance their military efforts. Moreover, there has been extensive illicit trafficking of weapons and essential commodities, which not only perpetuates the violence but also benefits those who are in charge of these smuggling networks.
- **The shadow economy** has thrived in Yemen due to the breakdown of state authority and the fragmentation of control among various armed groups. Activities such as trading, fishing, and local manufacturing, which would often be considered legitimate under a well-functioning government, often take place without any legal regulations due to the breakdown of state institutions. This economy has created opportunities for many individuals to earn a living. However, it also sustains a system in which economic operations are not controlled and are subject to taxation by warlords and militia commanders, rather than contributing to the government’s revenue.
- **The coping economy** is highly conspicuous to external observers due of its direct influence on the civilian populace. Confronted with persistent strife, numerous

Yemenis have been compelled to adopt significant adaptations in order to endure. These actions encompass the sale of valuable assets, depletion of savings, and growing reliance on remittances and international humanitarian assistance. The coping mechanisms not only mirror the severe economic situations, but also demonstrate the resilience and despair of the Yemeni population enduring protracted conflict.

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, October 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, May 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, June 2022).

The aforementioned economic disturbances have significantly affected the food security situation in Yemen, particularly in relation to the cost of items. The ongoing conflict has led to the emergence of two distinct economies, one in the Northern region and another in the Southern region, which operate independently and in parallel. Yemen's war economy is characterized by several notable features, including the imposition of dual tariffs and customs charges, the existence of two distinct currency exchange rates, disputes over oil income, divergence in aid distribution, and a reliance on extractive industries. These factors collectively exert substantial pressure on the Yemeni population. The conflict has resulted

in notable economic difficulties, particularly due to the differing monetary policies of the conflicting parties, the fluctuation of foreign currency rates, and the monetization of fiscal deficits. In 2016, the Internationally Recognized Government (IRG) relocated the offices of the Central Bank of Yemen to Aden, so establishing a new institutional body. Although the Central Bank of Yemen (CBY) has had access to financial instruments, it has faced challenges due to inadequate foreign exchange reserves (Aghajanian & Mele, 2023). In contrast, in the city of Sanaa, under the control of DFA, there was a notable increase in the amount of money sent by individuals working abroad and in the foreign aid received through official banking channels. This situation proved to be beneficial. Despite a temporary stabilization of the Yemeni rial in 2019 due to a substantial deposit from Saudi Arabia, the subsequent depletion of reserves caused Sanaa to refuse the acceptance of new banknotes printed by the IRG. This resulted in inconsistent monetary policies between different areas. The division has resulted in a de facto parallel economy in Yemen, as indicated by the contrasting exchange rates between territories controlled by the Internationally Recognized government (IRG) and those controlled by the Houthis (DFA-controlled areas). The divergence in currency values between the North and South can be attributed, to a significant extent, to the issuance of bank notes by both the DFA and the IRG, albeit in varying quantities (Eliana Favari, 2023, p. 41). After the currency split, the value of the rial continued to decrease in regions controlled by the IRG, the below time window (Figure 2) provided by the World Bank shows the affect since the currency split (Eliana Favari, 2023, 41).

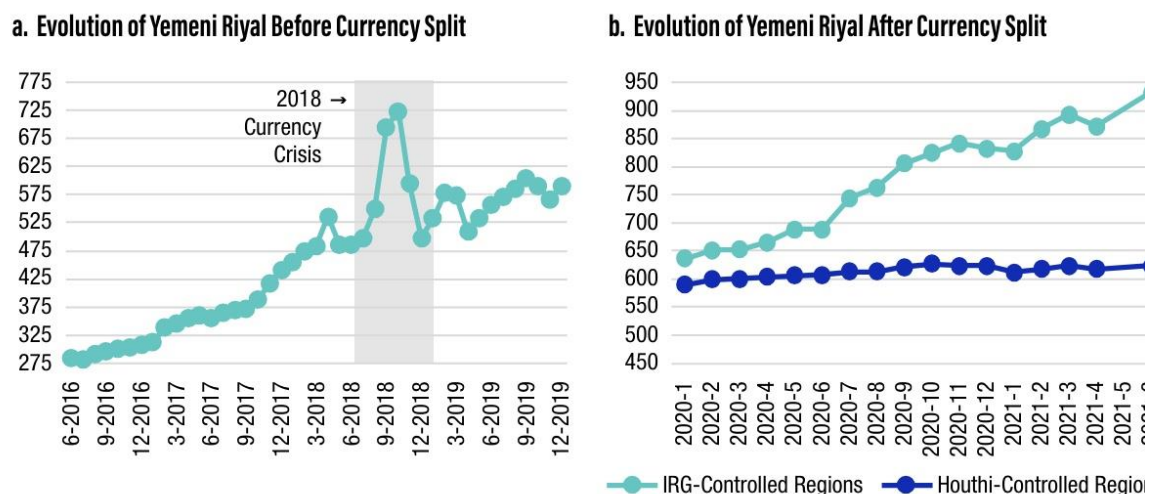


Figure 2. Evolution of Yemeni Riyal Before and After the Currency Split.

Source: (Eliana Favari, 2023, p. 41)

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 3 below (Aghajanian & Mele, 2023).

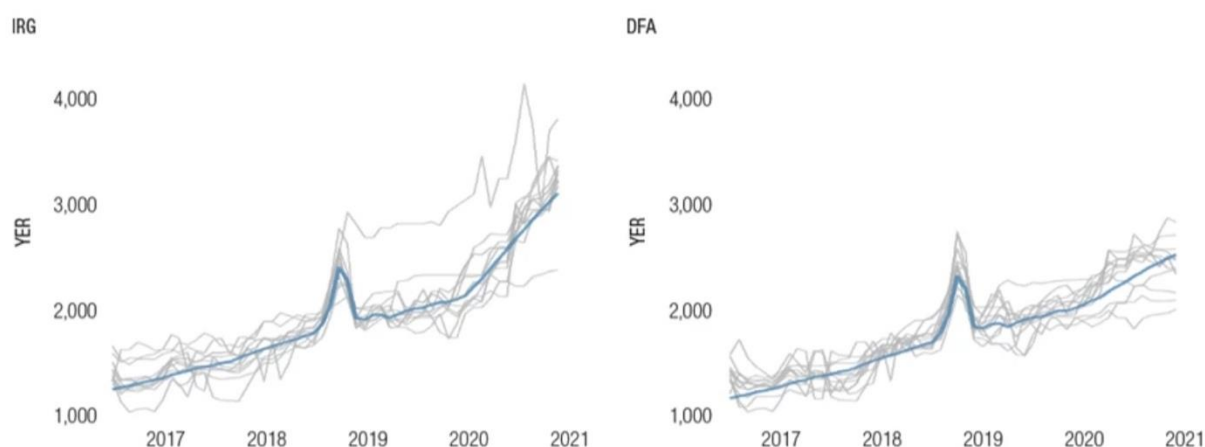


Figure 3. Cost of Food Products in DFA And IRG Controlled Area (From 2017 To 2021).
Source: (Aghajanian & Mele, 2023).

The industrial and agricultural sectors of the country have 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. The rate in DFA areas is marginally higher, standing at 65% in contrast to 59% in IRG areas. Yemenis residing in regions with higher levels of development exhibited a higher rate of selling their possessions compared to those in less developed areas: 69% versus 54%. However, only 49% of individuals residing in more developed areas with high levels of violence in the DFA reported engaging in the act of selling their property. In the DFA area, 65% of respondents reported relying on food aid in the preceding month, while in the IRG area, 49% of respondents said the same. The Yemeni households' dependence on help provides additional proof of the worsening economic condition (Huddleston, 2021)

In addition to the country's own conflict and economic changes, Yemen's food supply systems have been affected by global contextual developments as well. The Russian invasion of Ukraine in February 2022 had a profound impact on Yemen's food and fuel prices and supply chain dynamics. This was due to the effects it had on the global prices and supply patterns of wheat and petroleum. The Ukrainian conflict resulted in reduced availability of wheat from conventional sources such as Russia and Ukraine for Yemeni importers. Despite some assistance from alternative sources such as Australia, France, Romania, and the U.S., the disturbance to the wheat export and production cycles in the main producer countries, combined with circumstances like a severe heatwave in India, significantly elevated international wheat prices. Consequently, Yemen encountered difficulties in ensuring an adequate supply of wheat, particularly due to the decrease in wheat imports from Ukraine, which formerly accounted for around 20% of Yemen's total wheat imports. Between 2020 and 2021, Yemen relied on Russia and Ukraine for around 44% of its wheat imports. However, from April to December 2022, all wheat imports were fully banned, and imports from Russia were briefly suspended as well (Acaps, 2023)

2.3.2. 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, Emergency Livelihoods Response Plan, 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 (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.

In late 2020, the Food and Agriculture Organization (FAO) released a report on the impacts of shocks in Yemen, specifically focusing on agricultural livelihoods and food security. The study aimed to reflect vulnerable households residing in food-insecure regions and relying on agriculture for their sustenance. It encompassed an assessment completed on 4891 homes. Out of the households surveyed, 84% stated that their involvement in agricultural activities served as either their main or secondary source of income (FAO, Yemen Shocks, agricultural livelihoods and food security, 2020). The Livelihood-based Coping Strategy Index (LCSI) (FAO, Livelihood-based Coping Strategy Index, n.d.) was employed to examine how households experiencing a crisis have adjusted their actions in order to cope with the strain on their livelihoods and the depletion of their assets, specifically in terms of obtaining food or money to purchase food. The index classifies coping strategies into three tiers: Stress-level strategies (e.g. borrowing money and depleting savings), Crisis-level strategies (such as selling productive assets), and Emergency-level strategies (e.g. selling land or livestock, which have a more permanent and substantial effect on future productivity). The survey findings indicated that a significant majority of households (75%) utilized Crisis-level methods, suggesting a severe negative impact on their future economic production. 15% of households employed Emergency-level tactics, indicating the adoption of drastic measures to deal with difficulties. Only 8% of individuals employed less severe techniques to cope with stress. Surprisingly, just 3% of households indicated that they did not experience any shortages of food or money, and so did not have to employ any techniques to manage the situation (FAO, Yemen Shocks, agricultural livelihoods and food security, 2020).

The occurrence of economic and agricultural interruptions due to conflict is not unique to Yemen; it has been observed in other situations as well. By comparing the food security conditions in Yemen and Syria, we can gain valuable insights into how various conflict dynamics can affect humanitarian disasters. Both nations have had profound impacts from protracted internal conflicts, resulting in severe damage to infrastructure, disruption of agricultural activities, and hindered access to essential resources. However, there are notable variations and parallels in their circumstances. Both countries experience substantial harm to their agricultural industries as a result of long-lasting hostilities, resulting in huge disruptions to food production. The persistent violence has posed significant obstacles to the provision of humanitarian assistance in both countries, since regular blockades and limitations in areas affected by the fighting have worsened shortages of food and medical supplies. The conflicts in Yemen and Syria have resulted in significant economic instability, characterized by inflation, unemployment, and currency devaluation, leading to a substantial rise in food costs and limited public access to essential goods. Nevertheless, the disparities primarily lie in terms of access and external engagements. Yemen's humanitarian crisis is aggravated by naval and aerial blockades, which impose severe limitations on the importation of vital commodities. In contrast, Syria, despite encountering comparable sanctions, enjoys the advantage of greater land access via its borders, facilitating the transportation of supplies. The conflict in Yemen is marked by regional proxy warfare, with notable participation from Saudi Arabia and Iran. In contrast, the fight in Syria encompasses a broader range of foreign parties, such as Russia and the US, along with different non-state groups. Both countries are dealing with significant displacement challenges. However, Syria's refugee crisis is one of the largest in the world, with many people fleeing to other countries. In contrast, displacement in Yemen is primarily internal, as regional instability and blockades restrict safe movement across borders.

To summaries, the agricultural industry in Yemen before the war was already under pressure due to economic policies and excessive exploitation of resources. The conflict has caused extensive damage to this sector, resulting in significant disruptions to the production of food and worsening the problem of food insecurity. Prior to the conflict, Yemen's primarily rural agriculture economy encountered significant pre-war obstacles. During the 1970s, the majority of the people, specifically 85%, resided in rural areas working in the sector. The implementation of economic policies in the 1970s resulted in a transition from rain-fed terraced farming to irrigated agriculture, which subsequently led to the over exploitation of aquifers. The rain-fed terraced area experienced a 50% reduction between

1970 and 1990 as a result of terrace abandonment, labor migration, and the expansion of qat farming. From 1970 to 1980, there was a significant 27% decrease in grain output. By 2011, Yemen had to import more than 75% of its cereals, which was a substantial increase compared to the 18% in 1970. This has made the industry very susceptible to risks. 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).

2.4 Human Displacement

The displacement crisis in Yemen, which is currently regarded as one of the most severe humanitarian situations worldwide, is caused by a complex interaction of various variables. 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. Adding to the suffering caused by the fighting is Yemen's severe economic deterioration. 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 essential amenities elsewhere, frequently ending up in equally unstable circumstances. Compounding the problem are the stringent humanitarian blockades. The naval and aerial blockades imposed by the Saudi-led coalition have severely restricted the flow of essential food, fuel, and medical resources, intensifying the already dire suffering and displacement of the affected population. Many families frequently have to relocate several times in order to obtain the necessary resources for their survival. (Anaam, 2021). As of March 2024, there are almost 4.5 million people in Yemen are internally displaced (WFP, 2024).

The country's resilience has been further undermined by natural catastrophes, such as catastrophic floods, which have resulted in the destruction of homes and crops, and the relocation of a larger number of people. These events, occurring simultaneously with a background of continual violence and economic chaos, generate an unceasing cycle of displacement and anguish (UNHCR, 2020).

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, 2020).

Widespread internal displacement has been recorded throughout the country since the onset of the conflict in 2015. As of March 2024, a UNHCR report states that almost 4.5 million people or 14% of the population in Yemen are still internally displaced (UNHCR, 2024). Many of them have been moved many times since the conflict began. Furthermore, Yemen accommodates around 99,877 individuals who have sought protection or asylum, with 70% of them being Somali and 20% Ethiopian (UNHCR, 2024). This makes Yemen the fourth largest country in the world in terms of hosting Somali refugees. The majority of the refugee and asylum-seeking population reside in inadequate housing without access to water in the densely populated and impoverished neighborhoods of Aden and Sana'a. Yemen is currently one of the six countries worldwide that is experiencing a significant internal displacement crisis. A significant number of these internally displaced persons (IDPs) have experienced extended periods of displacement, drained their scarce resources, and faced increasingly challenging conditions. A significant proportion of internally displaced persons (IDPs) in Yemen live in regions that are susceptible to flooding or considered dangerous, where the combination of widespread food shortages and limited availability of water, healthcare, and sanitation facilities worsens their situation.

Over 4 million Yemenis have been displaced due to the conflict, which disrupts their access to stable food sources and livelihoods. The World Food Programme (WFP) highlights that more than 17 million people in Yemen are food insecure, with displaced populations being among the most affected due to the compounded impact of losing their homes, livelihoods, and community support systems (WFP, 2024). Displaced families often settle in areas where they have limited access to humanitarian aid and essential services, further heightening their vulnerability to food insecurity. While the majority of individuals in Yemen face the threat of malnutrition and the resulting hardship, those who are most vulnerable are the Yemeni population who have been forced to leave their residences due to the war. A significant proportion of the Yemeni people who have been relocated are

experiencing food insecurity, and studies suggest that their likelihood of experiencing hunger is much higher compared to other members of the Yemeni population (UN, 2021; HRW, 2023).

On top of the excited displacement crisis, as a result of the conflict and instability in the region, many refugees and migrants choose to use Yemen as a pathway to reach the oil-rich Gulf countries in search of employment and income. It is important to note that not all of them successfully reach their intended destination, and some opt to stay in Yemen instead due to the availability of humanitarian aid. In 2019, the Horn of Africa to Yemen route witnessed an average monthly boarding of 11,500 individuals, establishing it as the most heavily trafficked maritime migration pathway worldwide (IOM, 2020).

Looking at another conflict, the displacement of people in Syria, much like in Yemen, is a direct outcome of the ongoing civil war and has led to substantial levels of population displacement. The Syrian civil war, which commenced in March 2011, has resulted in more than 13 million displacements, with a significant number of individuals seeking asylum in foreign nations. By contrast, the Yemeni conflict, has resulted in the internal displacement of approximately 4 million individuals. Both countries are facing a grave food crisis from the perspective of internally displaced persons (IDPs) and refugees. Displaced individuals in Syria frequently encounter acute food scarcities as a result of interrupted distribution networks and devastated infrastructure. A significant number of refugees residing in neighboring countries have challenges due to their restricted access to resources, leading them to significantly depend on humanitarian assistance, which often proves inadequate. The food crisis in Yemen is very severe. The imposition of a blockade and the limited access to vital resources have resulted in a pervasive state of starvation (Ratcliffe, 2017). Internally displaced Yemenis experience severe food insecurity, with millions in danger of famine. While Syrian refugees may have some access to assistance in the countries they flee to, Yemeni internally displaced persons (IDPs) are confined to a war-ravaged nation and receive limited support from the international community.

To summarize, although both Syrian and Yemeni displaced populations have significant food shortages, Yemen's food situation is graver due to the compounded catastrophe caused by the blockade and restricted access to help.

2.5 Climate Change and Environmental Degradation

Yemen experiences a semi-arid to arid-tropical climate that exhibits considerable geographical variety. However, the climate in the country has undergone changes due to the effects of global climate change. The ND-GAIN Country Index offers a concise evaluation of a country's vulnerability to climate change and other global concerns, as well as its readiness to strengthen resilience. Yemen is positioned at the 174th level in the ND-GAIN Index (2022), indicating that it is the 159th most vulnerable and the 182nd least prepared. Yemen's vulnerability and lack of preparedness place it in the top-left quadrant of the ND-GAIN Matrix. This ranking highlights a crucial requirement for more investment and creativity to enhance readiness and emphasizes the immediate need for decisive action (ND-GAIN, 2024).

Climate change exacerbates Yemen's food insecurity through the reduction of agricultural output, the rise in sea levels, the occurrence of climatic variability, and the impact on coastal zones. The scarcity of water, which is worsened by climate change and the increase in population, has a negative impact on agricultural and living conditions, such as the proliferation of diseases (Rahman, 2023). In addition, the nation encountered notable climate disturbances in 2022, including a severe period of drought followed by flooding, which worsened its susceptibility. Due to Yemen's inadequate preventive planning and limited resources, it is considered one of the most vulnerable countries to the repercussions of climate change, despite being poorly prepared to deal with them. The confluence of violence, climate change, displacement, and food insecurity has brought millions of Yemenis to the precipice of famine, with groups such as displaced individuals, Muhamasheen, and female-headed households being most impacted (IOM, 2023).

Climate change's global influence presents a substantial menace to Yemen's food security, exacerbating food instability, malnutrition, and dependence on foreign assistance. Yemen's prospects can be significantly impacted by this, leading to serious consequences. Floods, drought, and pests have adversely impacted the agriculture industry of Yemen, resulting in decreased crop output. The occurrence of desertification due to drought has led to an annual depletion of 3-5% of cultivable land. Furthermore, the primary hindrance to enhancing agricultural output in Yemen is the paucity of water, and the exhaustion of water resources may result in a significant 40% decline in agricultural productivity. In addition, floods have caused soil erosion and the depletion of agricultural land, leading to a reduction in cropland area from 1.6 million hectares in 2010 to 1.2 million hectares in 2020. Climate

change is anticipated to have a deteriorating effect on the population income and the agriculture in Yemen, particularly due to increased precipitation and prolonged periods of drought (YFCA, 2023). Cyclone Tej, which hit the southern coastal regions of Yemen in November 2023, affected over 100,000 families, including 3,000 pregnant women (UNFPA, 2024).

The UNDP report titled "The Impact of Climate Change on Human Development in Yemen" predicts that without taking climate action to enhance resilience, Yemen will experience a rise in malnutrition and poverty. Climate change is expected to result in a cumulative loss of \$93 billion in Gross Domestic Product (GDP) and an additional 3.8 million people suffering from starvation in Yemen by 2060 (UNDP, 2023).



3. THE HUMAN COST: HUNGER, MALNUTRITION, AND THEIR DEVASTATING CONSEQUENCES

This chapter deeply looks at the severe consequences of food insecurity on the population, with a specific focus on populations most vulnerable such as children and women. This chapter presents a grim picture of the daily challenges, health concerns, and lasting societal consequences resulting from prolonged conflict and its disruption of food accessibility and quality.

The chapter begins by clearly demonstrating the daily challenges experienced by families struggling with food insecurity. The study outlines the challenges faced by families that frequently face unpleasant decisions regarding the allocation of resources between food, medicine, and other essential needs. The chapter will also prioritize the most vulnerable people, including children and women, and examine the impact of the conflict on both.

The rate of malnutrition and its associated health issues has rapidly spread throughout the population. The chapter will explore the cyclical connection between hunger and health, demonstrating how malnutrition results in compromised physiological immunity, consequently making individuals more susceptible to a variety of illnesses.

The chapter utilizes qualitative data from multiple humanitarian reports and health research to emphasize the describe human cost of the conflict.

3.1 The Daily Struggles of Food-Insecure Families

Food insecurity often forces families to face difficult decisions, such as deciding whether to use their money to buy food, find shelter, buy non-food items, or pay for healthcare and medication. This could lead to poor health results, as individuals could prioritize the needs of their family over needed medical care or medications. Moreover, the stress and anxiety associated with a scarcity of food could exacerbate mental health disorders. Furthermore, children living in households facing food insecurity have severe consequences. They are more likely to experience recurring illnesses and hospitalizations, prolonged recovery from sickness, developmental obstacles, and higher rates of behavioral and emotional problems. Food insecurity can impede a child's ability to concentrate and achieve academic success, resulting in long-term ramifications for their educational and social development. (Schwarzenberg et al, 2015).

Prior to the conflict, in 2003, according to food security research in Yemen, the prevalence of food insecurity was observed to be extensive. Approximately 21.7% of

Yemeni households were identified as experiencing food insecurity with hunger, indicating that at least one member of the household had to skip a meal due to insufficient food at some point in the last 12 months. Approximately 7.9% of households experienced food insecurity with acute hunger, indicating that at least one member of the home went without food for a full day due to insufficient food supply at some time in the last 12 months (Kabbani, 2005). Currently, the conflict has resulted in over 22 million individuals, which accounts for 75% of the population, requiring humanitarian assistance. Additionally, more than 60% of the population, equivalent to 17 million people, are experiencing food scarcity (WFP, 2024). More than 8.4 million individuals are on the brink of hunger. Approximately 16 million Yemenis lack access to clean water sources, with rural regions experiencing the greatest impact (OXFAM, 2024).

Families in Yemen who struggle with food insecurity have an enormous number of daily obstacles that have a substantial effect on their quality of life. The current situation of conflict, economic instability, and disruptions in food distribution networks have exacerbated the circumstances, leading to one of the most severe humanitarian crises on a worldwide scale. The primary factors contributing to daily challenges encompass food scarcity, malnutrition, financial constraints, displacement, and health risks (Loewenberg, October 2015). Families experiencing food insecurity encounter several daily difficulties that extend beyond the conflict itself. The issues include various elements, including fluctuating exchange rates, fuel imports, support from humanitarian food programs, worldwide fuel expenses, disruptions in food supply chains, and the importation and global price of food. As previously highlighted, a large number of Yemenis have been forced to make substantial adjustments in order to survive. These acts include the selling of valuable assets, depletion of savings, and an increasing dependence on remittances and foreign humanitarian aid (OXFAM, 2024).

As mentioned before, 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, March 2024).

The challenges faced by food-insecure families in Yemen on a daily basis are significant and complex, largely due to the ongoing civil conflict, economic collapse, climate change, and related variables such as relocation and health crises. Women and children have distinct and profound difficulties, which will be further upon in the subsequent chapter. Years of conflict and the devastation of homes, schools, and communities have led to a situation where millions of school-aged children in Yemen are unable to access education. Furthermore, apart from the devastation of educational institutions, families frequently encounter financial obstacles, such as the incapacity to cover tuition fees or transport costs, which additionally impede their capacity to resume their studies. Some children are forced to participate in labor instead of being able to pursue their education (OCHA, January 2024).

Given the scarcity of humanitarian aid resources in Yemen, it is anticipated that the year 2024 would be particularly hazardous in terms of a nationwide famine. The absence of extensive food assistance efforts has led to a reduction in the quantity of food accessible to Yemenis, resulting in a scenario where several persons are forced to sell their furniture or depend on borrowing or sharing food. The relocation has continued despite a deteriorating economic crisis. In regions where there have been interim ceasefires in the fighting, enabling individuals to attempt to return to their residences, there has been a profound lack of aid for the impacted communities. Individuals who attempt to relocate are not by their own free will, but rather as a result of the extremely harsh circumstances prevailing in their present living settings. Many people said that they were unable to return to their place of residence without encountering any harm or risk (NRC, March 2024).

Food insecure families employ various coping mechanisms to address food insecurity, these mechanisms range from reducing food intake to selling assets, the below is more detailed:

- **Reducing Quantity and Quality of Food:** 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)

- **Borrowing and Debt:** 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, February 2021)
- **Selling Assets:** In order to get food, families resort to selling their assets such as livestock, land, jewelry, 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).
- **Child Labor and Early Marriage:** 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).
- **Displacement/Migration:** 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).
- **Humanitarian Aid Dependence:** A significant number of Yemenis heavily depend on food aid provided by international organisations such as the World Food Programme (WFP) and other non-governmental organisations (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).
- **Reducing Non-Food Expenditures:** 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.

3.2 The Devastating Effects of Food Insecurity on Children and Women

Since the beginning of the conflict, thousands of children have lost their lives or suffered severe injuries, while an additional multitude of children have been coerced into participating in the armed struggle. The protracted period of strife, suffering, and sorrow has resulted in a substantial number of individuals in Yemen requiring mental health and

psychosocial assistance. The ongoing humanitarian crisis has increased the vulnerability of children and women to exploitation, violence, and abuse. This includes various forms of exploitation and abuse committed against children, such as child labor, acts of violence resulting in death or injury, the recruitment and deployment of children as fighters or in supporting roles by factions in conflict, instances of domestic and gender-based violence, child marriage, and psychological suffering (UNICEF, 2024).

One of the consequences of the conflict on children is malnutrition. Malnutrition encompasses various manifestations, including as undernutrition, the condition is marked by the presence of wasting, stunting, and being underweight, as well as a lack of adequate intake of vital vitamins or minerals. Additionally, excessive body weight and obesity are also factors, which can lead to the development of noncommunicable diseases related to nutrition. A significant outcome of the conflict in Yemen is the extensive lack of access to food and the rising prevalence of undernourished children. The deleterious consequences of malnutrition on children and women in Yemen are severe and extensive, affecting not only physical well-being but also societal and economic aspects. Malnutrition arises from insufficient consumption of protein, energy, and micronutrients. In a situation like Yemen, where there is widespread food insecurity caused by conflict, economic collapse, and environmental difficulties, some vulnerable groups, such as children and women, are especially susceptible to this condition.

Before the current crisis, Yemen was already the most vulnerable country in the Middle East. It consistently ranked among the countries with the highest global malnutrition rates, as 50% of its population lived in poverty and lacked access to sufficient water (UNHCR, 2024). According to UNICEF, nutrition surveys conducted in 2015 in five out of ten heavily affected governorates in Yemen revealed that 96,600 children under the age of five are in danger of experiencing severe acute malnutrition. This number is significantly higher compared to the 23,000 children at risk before the conflict intensified in March of that year (CBS, 2016).

According to the Integrated Food Security Phase Classification (IPC) study, the conflict has worsened the malnutrition situation in Yemen. In Yemen, there were over 2.2 million cases of acute malnutrition among children aged 0 to 59 months, and more than a million cases among pregnant and lactating mothers in 2021 (IPC, 2021). In 2023, WHO identified child malnutrition in Yemen as one of the most severe globally. Around 2.2 million Yemeni children below the age of five are currently suffering from acute

malnutrition, with 538,000 of them facing severe malnutrition. Furthermore, a staggering 60,000 children are experiencing significant medical issues as a result of acute malnutrition (WHO, 2023).

The occurrence of acute malnutrition in Yemen is the result of a combination of immediate, underlying, and basic conditions that have a significant impact on the health of children. The immediate elements contributing to the problem include the prevalence of contagious diseases such as diarrhea, malaria, and respiratory infections. These conditions are worsened by seasonal challenges such as floods and outbreaks of cholera. From a nutritional standpoint, a significant number of youngsters experience subpar food quality and insufficient dietary variety, resulting in an inability to fulfil their fundamental nutritional requirements. The root causes of these problems are structural concerns like pervasive food insecurity, insufficient procedures for feeding infants and young children, and restricted availability of nutrition and healthcare. These challenges were further exacerbated by the COVID-19 epidemic. Overall, socio-economic, and environmental issues are fundamentally important. Economic shocks diminish household income and the ability to purchase food, ongoing armed conflicts impair the availability of food and healthcare services, and natural disasters such as floods and locust infestations devastate crops. The COVID-19 pandemic has exacerbated these issues by diminishing remittances and humanitarian supplies as a result of financial limitations, significantly impacting nutrition and overall well-being of the vulnerable populations in Yemen (IPC, 2021).

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).

Furthermore, the consequences of conflict on women's food security in Yemen are significant and far-reaching, directly impacting their ability to obtain food, the nutritional value of their diet, and their overall state of well-being. Women, who frequently bear the responsibility of obtaining food and taking care of their families, encounter distinct difficulties during conflicts that intensify their susceptibility to food insecurity. The conflict in Yemen not only directly threatens women's food security by limiting the availability and access to food, but also indirectly impacts their health, mobility, and economic possibilities.

Out of the current global population of 345 million individuals experiencing extreme hunger, almost 60% are females. In countries experiencing conflict, the proportion of women

facing hardship, poverty, and displacement is higher. Women and girls in countries such as Ethiopia, Afghanistan, Ukraine, Democratic Republic of the Congo, Gaza, Myanmar, Africa's Sahel area, Sudan, South Sudan, Syria, and Yemen are experiencing acute food shortages as a result of violence and instability. (UN WOMEN, 2024).

Based to the 2022 UNFPA Humanitarian Response in Yemen report, 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. Maternal mortality rates are increasing. Every two hours, a Yemeni woman succumbs to delivery, primarily due to preventable causes. Approximately 8.1 million women and girls who are capable of carrying children need assistance in obtaining reproductive health services, such as prenatal care, safe delivery services, postnatal care, family planning, and emergency medical care for childbirth and newborns (UNFPA, 2022).

The below are the latest figures by UNFPA Yemen Situation report shared on January 2024 (UNFPA, 2024):

- **5.5 million Women of Reproductive Age (15-49 years):** This demography is of utmost significance for both present and future generations. Their physical and mental condition has a direct impact on the larger community, particularly in relation to the health of mothers and children.
- **1.5 million Malnourished Pregnant and Lactating Women:** Malnutrition in pregnant and breastfeeding mothers has significant consequences. The consequences include elevated rates of maternal and newborn death, reduced birth weight, and enduring developmental challenges for children.
- **Among 17.7 million People in Need of Protection in Yemen, 7.1 million Women in Need of GBV Protection:** The ongoing conflict has increased the likelihood of gender-based violence (GBV), resulting in millions of women requiring protection services. Gender-based violence (GBV) includes acts of physical, sexual, and psychological abuse, which further intensify the vulnerability of women in areas affected by armed conflict.

Prior to the conflict, women were heavily relying on the agriculture sector, rural women made a significant contribution to agriculture, with 88.1% of them actively involved in this sector in 2009 (ILO, 2009). Nevertheless, the majority of their work went

uncompensated and received insufficient recognition. The economic advancement of women was hindered by early marriage, limited access to basic social services, restricted property ownership, and inadequate skills training. Rural women faced numerous obstacles, such as legal and societal constraints. Their mobility and access to markets and resources were limited by tribal regulations and personal status restrictions. Women frequently lack awareness of their legal entitlements or encounter societal constraints that hinder their ability to assert their entitlements. A general development over the years has been that smallholder farms get pushed out by wealthy landowners. Another negative trend that seems to continue is as mentioned, women often have little legal and political power, and rarely get ownership over land. As the conflict increased the percentage of female-headed households who rely on agriculture as their primary income, this has accordingly increased the risk of food insecurity among women and thus look into different solutions to secure food (ACAPS, 2023). Oxfam, an international non-governmental organization (INGO), has documented a concerning increase in the practice of child marriage in the time of the conflict in Yemen. This involves families marrying off their daughters at a young age in order to obtain financial resources to purchase essential food products, while also reducing the daily expenses associated with feeding the entire family (OXFAM, 2019).

These facts had previously been observed in a different setting, but on varying magnitudes. Based on past wars, it has been established that women and children are frequently the most susceptible individuals during such confrontations. In places such as Syria and Ukraine, hostilities have led to a rise in food insecurity among women, forcing them to take on the role of primary earners in difficult situations with limited resources. In Syria, numerous women were compelled to assume employment positions characterized by low wages and unfavorable working conditions, which directly affected the food security of their families. During the peak of the crisis in Ukraine, evaluations revealed that women were more concerned about food security and mental health than males. Specifically, 52% of Ukrainian women surveyed expressed that food security was one of their major concerns, while only 29% of men shared the same concern (UN WOMEN, 2024). Similarly, in Ethiopia, the situation in Tigray has demonstrated the significant deterioration of food security during times of conflict. A vast majority of households, particularly those led by women, are experiencing severe limitations in both the availability and quality of food. (Weldegiargis, 2023).

3.3 The Intertwined Links between Hunger and Health

The interaction between food insecurity and health is worsened by the more extensive economic and infrastructural breakdown, resulting in widespread hunger and malnutrition, which in turn exacerbates health effects. More than 17 million individuals in Yemen lack the financial means to obtain an adequate amount of food to fulfil their daily requirements, while 4.5 million people have been forced to relocate within the country (WFP, 2024). The health care 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, all of which are worsened by climate-related incidents.

The conflict and blockade have inflicted severe damage on all crucial sectors of Yemen, including agriculture, service, and industry, resulting in extensive destruction and substantial cost escalation. The provision of social services and the already fragile health system have experienced significant disruptions. Prolonged power outages significantly disrupted the delivery of several services, particularly affecting the cold chain and the functioning of clinics and hospitals. Simultaneously, the provision of water supply, sanitation, irrigation, and agricultural services faced obstacles, resulting in the decline of population health, particularly the health of women and children. (Eastern Mediterranean Region Intentional Injuries Collaborators, 2015).

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 (Yemen Demographic and Health Survey (DHS), 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).

In addition to the negative impacts of conflict and the disruption of economic and agricultural system, the COVID-19 pandemic has had a significant impact on Yemen, similar to its impact on other fragile states. Prior to the COVID-19 epidemic, a combination of circumstances such as political instability, economic devaluation, insufficient global aid, and natural calamities contributed to the food insecurity crisis in Yemen. The onset of COVID-

19 and its associated trade restrictions have exacerbated the situation and significantly contributed to its deterioration. In 2021, these causes led to almost 50% of Yemen's population experiencing hunger (Hashim, November 2021). As reported by the WFP, Yemen, a country heavily reliant on imported food (80% to 90%), experienced a significant decline in food imports during March 2020 compared to March 2019. This decline, amounting to 43%, can be attributed to the restrictions imposed due to the COVID-19 pandemic (NRC, July 2020). A research undertaken by the Norwegian Refugee Council revealed that over 75% of displaced Yemeni families have experienced a complete loss of income due to COVID-19 outbreak (Norwegian Refugee Council, September 2020).

Now after 9 years of conflict, 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. Following eight years of unyielding 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).

The state of child health care is currently in a state of crisis, necessitating significant efforts to address issues related to immunizations and the treatment of severe acute malnutrition. There is a lack of consistency in the availability of crucial services and materials, with health facilities frequently experiencing shortages of necessary medications, vaccines, and medical supplies. While health partners have indeed offered substantial assistance, such as medications, medical supplies, gasoline, and water, their efforts fall short of adequately addressing the immense need. (Yemen Health Cluster, 2023). The continuous fighting hinders the provision of food and access to healthcare, resulting in unfulfilled basic nutritional and medical requirements. Consequently, there has been an elevated incidence of illnesses and a rise in death rates. The most vulnerable groups in need of health support

include internally displaced people, children, women, the elderly, individuals with disabilities, individuals with non-communicable diseases, including mental health and psychosocial issues, marginalized communities, and conflict-affected individuals, including mines survivors.

A recent study conducted by Charnley et al revealed that armed conflict has a substantial impact on the rate of cholera outbreaks, particularly in Nigeria and the Democratic Republic of the Congo (DRC). The outbreak of conflict in Nigeria resulted in 3.6 times increase in the risk of cholera, whereas in the DRC, the risk increased by 2.6 times due to conflict. Moreover, conflict was responsible for 19.7% of cholera outbreaks in Nigeria and 12.3% of outbreaks in the DRC (Charnley et al, 2022). Similarly in Yemen, the conflict has resulted in extensive devastation of infrastructure, especially water and sanitation systems, significantly exacerbating the circumstances for cholera outbreaks. Displacement and starvation worsen the situation, increasing the vulnerability of populations to illness (Lopour, 2017). It first peaked in late 2016, with thousands of cases reported. Despite the implementation of treatment centers and increased surveillance, the outbreak worsened in mid-2017, resulting in a significant increase in cases. However, by 2021, the outbreak was successfully controlled and significantly reduced due to the successful implementation of a vaccine programme. According to WHO, Between October 2016 and April 2021, Yemen has recorded a total of 2,538,677 suspected cases of cholera, resulting in 3,997 deaths. As in 2021 after the vaccine program, Yemen reported a total 5120 suspected cholera cases including 3 related deaths only.

As of April 2024, we witness another increase in Cholera cases across Yemen. As of April 18, 2024, there were 18,608 suspected cases and 109 associated deaths according to the clinical case definition provided by the WHO. The humanitarian actors together with WHO are working on addressing this and monitor the situation to avoid another epidemic (IMC, April 2024).

In summary, 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).

4. RESPONDING TO THE CRISIS: HUMANITARIAN EFFORTS AND CHALLENGES

This chapter explores the efforts undertaken by local and international organizations to address the serious issue of food insecurity. It also explains the numerous obstacles that hinder these efforts. The chapter begins by emphasizing the essential role that humanitarian aid plays in mitigating the immediate effects of food insecurity in Yemen. The chapter provides a comprehensive overview of the various actors engaged in the distribution of food, medicine, and other vital supplies. Nevertheless, the fundamental focus of the chapter is to examine the notable challenges that limit the effectiveness of these humanitarian efforts. Access is one of the main topics under discussion. The persistent war generates a dynamic battlefield, thereby impacting the supply routes and safety of aid workers. Another notable obstacle is the challenge of securing funding. The chapter clarifies the negative effects of limited funding on humanitarian efforts, particularly exacerbated by the existing global economic conditions and donor fatigue. Lastly, political intervention poses a significant obstacle as well, as several factions within Yemen and regional powers exert influence over the distribution of aid, often prioritizing geopolitical goals over the needs of the population.

This chapter offers an in-depth understanding of the intricate interaction between humanitarian efforts and the challenges presented by an ongoing conflict context, such as Yemen. It highlights the necessity for resilience, innovation, and international collaboration to adequately address the crisis in Yemen.

4.1 The Role of Humanitarian Aid in Addressing Food Insecurity

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 relief 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, May 2023).

The United Nations World Food Programme (WFP) and the Food and Agriculture Organization (FAO) are two prominent organizations that tackle the issue of food insecurity. WFP and its partners primarily focus on distributing food rations, offering cash-based transfers to enable families to buy food from local sources, and providing specialized nutritional assistance to combat malnutrition, particularly among children and pregnant women. By 2023, the programmes of the World Food Programme (WFP) assist 47% of population of Yemen, about 15.3 million individuals. These programmes involve supplying crucial food to affected families, school feeding, empowering women through training, and offering nutritional aid to women and children, including those residing in internally displaced people camps (WFP, Annual Country Report: Yemen 2023 Overview, 2024). Nevertheless, in December 2023, the World Food Programme (WFP) declared a temporary halt to the delivery of food in regions controlled by the authorities based in Sana'a. This decision was made due to insufficient financing and the absence of an agreement with the authorities about a more focused and specific food assistance programme. (WFP, 2024).

Another key actor in addressing this crisis, is FAO. Since 2015, the Food and Agriculture Organization (FAO) and its partners have prioritized assisting farmers by providing them with necessary resources like as seeds, tools, and irrigation equipment.

Additionally, they offer training to improve agricultural techniques and increase productivity, recognizing its importance in ensuring long-term food security (FAO, 2024). FAO's assistance in Yemen has encompassed essential agricultural resources, monetary transfers, and education, resulting in almost 2 million impoverished households enhancing their food security and nutrition, as well as bolstering their resilience in times of emergencies (FAO, 2024).

On other hand, UNICEF, and its partners largely priorities addressing the nutritional requirements of children and mothers. Their initiatives encompass the dissemination of therapeutic foods to address acute malnutrition, assistance to health facilities in enhancing nutrition services, and guaranteeing availability of clean water and sanitation. In 2023, UNICEF and its collaborators delivered aid to 2 million individuals, guaranteeing their access to secure and continuous potable water. A total of 815,000 youngsters received measles vaccinations, effectively safeguarding them from this extremely dangerous viral illness. 2.5 million children under the age of 5 received biannual Vitamin A supplementation, which effectively prevented deficits and enhanced their immune systems (UNICEF, 2024).

Global initiatives have encompassed the dissemination of cholera vaccinations and medical resources, as well as the creation of rehydration stations and centers for treating diarrhea. These efforts are overseen by organizations such as Médecins Sans Frontières (MSF; Doctors Without Borders) (MSF, August 2023). Nevertheless, the persistent fighting remains a hindrance to these efforts, exemplifying a more widespread problem observed in other regions afflicted by conflict, such as Nigeria and Syria. In these countries, health emergencies are exacerbated by the presence of warfare and forced migration.

The Humanitarian Response Plan (HRP) for 2023 indicates that there is a total of 17.3 million individuals who require assistance in the Food Security & Agriculture (FSAC) sector. To meet the requirements of 14.8 million people, an estimated \$2.2 billion is needed which it doesn't look possible considering the funding decrease trend. The 2022 HRP total amount of funding requested was \$4.27 billion, however, only 55% of that amount, which is \$2.33 billion, was actually obtained (OCHA, 2023).

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 programme. 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. Notable individuals and organizations voiced significant disapproval of the global humanitarian assistance system in Yemen. These criticisms have been officially presented, including to the UN Security Council, detailing persistent deficiencies in the humanitarian assistance effort (Nasser, Oct 2022).

4.2 Challenges and Obstacles: Access, Funding, and Political Interference

The conditions for humanitarian operations are worsening throughout the entire country. Humanitarian actors 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.

4.2.1 Security and Access

The persistent fighting and frequent shifts in territorial authority render numerous areas in Yemen inaccessible. The combination of airstrikes, ground combat, and blockades significantly impede the ability of individuals need assistance to obtain it. Humanitarian workers frequently encounter substantial hazards, such as abductions, assaults, and various types of aggression, which impede their capacity to carry out their work in a secure manner (NRC, 2024). Access constraints and security concerns significantly impede humanitarian work. During the year 2023, there were a total of 3,300 documented access events that had a negative impact on the distribution of aid to a population exceeding 5 million individuals. The occurrence of these occurrences can be mostly attributed to bureaucratic impediments,

including as the protracted process of obtaining visas and work permits, particularly in areas under Houthis control (OCHA, January 2023).

The UN Human Rights Council has stated that the indiscriminate targeting of civilian infrastructure, such as hospitals, water facilities, food transport, farms, and marketplaces, along with the use of blockades and siege tactics, has exacerbated the severe humanitarian crisis in the country and impeded humanitarian access, making it difficult for aid organizations to respond (ACF, September 2019).

NGOs have faced funding difficulties due to access restrictions. Oxfam claimed that ships seeking entry to Yemen are required to anchor outside of Hodeida, incurring a daily cost of nearly \$10,000 per ship (Elayah & Matilda, 2021). Despite facing multiple challenges, commercial entities persist in their efforts to import and transport commodities into and through Yemen. Imports, on the other hand, face obstacles such as international bans and limitations, financial regulations, bureaucratic processes, official and unofficial charges, and, crucially, uncertainty over the feasibility and expense of distribution. The delayed process of restoring the al-Hodeida port and the arbitrary decision to close (and subsequently partially reopen) all air, sea, and land ports in November 2017 demonstrate the susceptibility of the entire humanitarian system to the capricious actions of the conflicting parties (OXFAM I. , Nov 2017).

Political constraints severely impede the mobility of assistance workers and their capacity to collect vital information required for an efficient aid intervention. Particularly in the northern region, authorities have impeded the process of evaluating needs and conducting surveys, as well as restricted the mobility of aid agencies. As a consequence, in certain occasion the humanitarian sector lacks vital information regarding the efficiency of aid distribution, whether it is reaching the most needy individuals, and the degree to which diversion and manipulation are taking place (Harvey et al, March 2022)

Moreover, the persistent conflict and aerial bombardments create a hazardous environment for humanitarian personnel efforts to access vulnerable populations. From January to September 2019, OCHA reported a total of 825 incidents targeting health workers and medical facilities, resulting in 171 fatalities (OCHA Yemen, 2019). Furthermore, while Al-Qaeda in the Arabian Peninsula (AQAP) primarily directed their efforts towards combating the Houthis and Yemeni governmental institutions (ACLED, April 2023), they have also been specifically targeting and abducting humanitarian workers with the intention of gaining financial advantages or facilitating prisoner exchanges (Reuters, August 2023).

Overall, the governance structure has a lack of strength and coherence, characterized by strained ties between the central and subnational levels and conflicting policies. The effectiveness of UN activities on the ground was hindered by political bureaucracy and intervention from conflict parties. This resulted in expensive delays, heightened security risks for staff and implementing partners, and restricted mobility for female staff (United Nations, April 2023).

4.2.2 Funding

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.

International donors, consisting mainly of countries and worldwide organizations, commit financial resources to provide assistance for humanitarian efforts in Yemen. These donations are essential for providing food assistance, medical care, access to clean water, and shelter. Nevertheless, the distribution of promised monies might be irregular, and frequently, there is a substantial deficit between the pledges and the required quantities. Annually, in response to the ongoing conflict, the United Nations issues a Humanitarian Response Plan (HRP) document which details the required financial resources for addressing the humanitarian needs in Yemen, as well as the specific amount of funding committed by donors. The below table illustrates the trajectory of humanitarian funding allocated to Yemen (All sectors) from 2015 to 2022 (OCHA, January 2023).

YEAR OF APPEAL	PEOPLE IN NEED	PEOPLE TARGETED	REQUIREMENTS (US\$)	FUNDING RECEIVED	%
2015	21.1M	11.7M	1.60B	0.89B	
2016	21.2M	13.6M	1.63B	1.03B	
2017	18.8M	12.0M	2.34B	1.76B	
2018	22.2M	13.1M	3.11B	2.51B	
2019	24.1M	21.4M	4.19B	3.64B	
2020	24.3M	19.0M	3.38B	1.91B	
2021	20.7M	16M	3.85B	2.35B	
2022	23.4M	17.9M	4.27B	2.33B	

Figure 4. The Humanitarian Funding Allocated to Yemen Between 2015 to 2022.

Source: OCHA, January 2023

In 2023, there has been a huge change in the landscape of humanitarian aid for Yemen, as big donors have significantly reduced their commitments. Since 2019, the UK has reduced its investment by more than 86%, while Denmark has decreased its funding by about 80%. Germany, a significant contributor, has decreased its donations by about 60%. The US, which contributes almost 50% of all humanitarian money, has reduced its help by 23% due to global financial limitations. In a similar vein, the European Commission has decreased its financing by a significant 22%. The reductions have resulted in a significant shortfall in the resources required to tackle the ongoing situation in Yemen (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, January 2024).

Yemen's humanitarian aid has experienced a reduction of 62% within a span of five years (Save The Children, September 2023). The consequences of these funding constraints are immediate and severe: in the absence of adequate financial backing, food distribution programmes are unable to function at their maximum capacity, potentially resulting in reduced food rations or complete lack of help for millions of individuals. This scenario highlights the significance of consistent and dependable international support to guarantee that humanitarian agencies can carry out their work efficiently. In May 2024, about 200 relief groups released an urgent plea for financing. These humanitarian organizations, which include United Nations agencies, have managed to raise only \$435 million out of the necessary \$2.7 billion needed to give essential assistance. They have highlighted the imminent dangers of food shortages and infections (ALJAZEERA, May 2024). The aid agencies highlighted the deteriorating economic disaster in Yemen, which has plunged millions into poverty as the conflict enters its ninth year. Due to escalating inflation, unpaid salaries for state servants, and a deteriorating economy, a staggering 18 million Yemenis are currently in dire need of humanitarian assistance. The cost of food has sharply risen, the Yemeni Rial has experienced a decline in value, and the level of food insecurity has escalated. More than 83% of the population in Yemen experiences multidimensional

poverty, which means they lack access to essential amenities. The level of humanitarian funding is currently at a critically low level, which is making the grave situation even worse. By the end of 2023, the Humanitarian Response Plan received funding for only 39.3% of its target, leading numerous relief organisations to scale back or terminate vital support programmes. This alarming trend persists, with only 9.1% of the HRP 2024 funded in the first quarter of this year. Notwithstanding these obstacles, humanitarian organizations persist in delivering life-preserving aid. The agencies strongly recommend that the HRP 2024 budget of \$2.7 billion be completely allocated in order to address the pressing requirements. (DRC, March 2024).

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 B USD in 2024.

The decrease in the number of individuals targeted and the decrease in financial aid for Yemen's humanitarian response in 2024, despite an increase in the cost per person for various types of assistance, can be explained to several reasons:

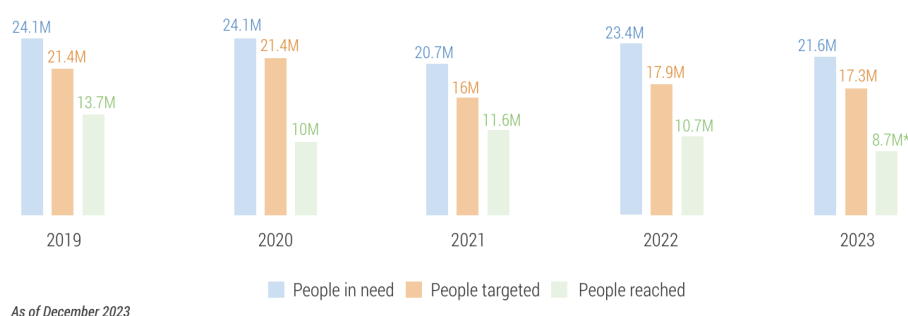
- **Reduction in Targeted Population:** The targeted population for food security and agricultural cluster (FSAC) response decreased from 14.8 million in 2023 to 12.8 million in 2024, resulting in a reduction of 13.5%. The decrease in the targeted population results in a reduction in the overall expenses, even though there is a rise in the costs per person.
- **Reduction in Distribution Cycles:** The number of emergency food aid distributions has decreased from 12 cycles to 8. Although the cost of emergency food assistance per individual per cycle has increased by 30% compared to the previous year. Furthermore, the number of cycles for conditional and season-specific cash transfers has been decreased from 6 to 4.
- **Strategic Shift to Short-term Assistance:** There is a strategic change in focus towards providing short-term assistance in addressing current food and livelihood needs, rather than focusing on long-term solutions. This involves carrying out a smaller number of highly effective distributions and interventions that target pressing needs while working within the limitations of the resources at hand.

- **Cost Increases in Individual Assistance:** The cost per person for different types of assistance has increased because of updated costs and expanded support components (e.g., more comprehensive livelihood kits, vocational training).
- **Operational Realities:** Possibly that under the current circumstances, it is more practical and possible to have fewer distributions and target a smaller number of people due to logistical challenges, security concerns, and funding constraints.

The decrease in international funding commitments and donor fatigue may be part of a larger context. Amidst the ongoing situation in Yemen, maintaining substantial funding becomes increasingly difficult, particularly in light of other pressing world issues. Due to limited financial resources, humanitarian organizations are compelled to prioritize and optimize their activities within the allocated budget. Overall, the decrease in financial support for Yemen's humanitarian response in 2024 can be attributed to a decrease in the number of people being targeted, a reduction in the number of distribution cycles, and the need to align with operational and financial constraints. This is even though the cost of assistance per person has increased.

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).

Yemen HRP trends (2019 - 2023)



Funding requirements and funding received (2019 - 2023)

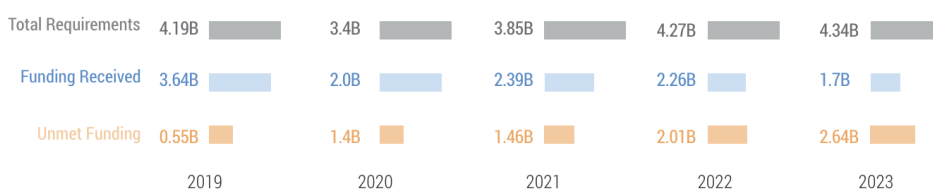


Figure 5. The Humanitarian Response Plan Trends and Funding Status from 2019 to 2023.
Source: UNOCHA, 2024.

4.2.3 Political Interference

According to the Fragile States Index report in 2023, Yemen is ranked second among the most unstable states in the world (Fragile States Index, 2023). The humanitarian response and general situation in Yemen are greatly affected by political meddling. The continuous conflict, which encompasses multiple national and international actors, gives rise to an intricate political milieu where humanitarian assistance is frequently controlled or impeded by these entities.

Both the northern areas controlled by the Houthis group and the districts controlled by the Internationally Recognized Government (IRG) have occasionally limited the ability to provide humanitarian assistance. These limitations may have political motives, aiming to exercise authority or obtain concessions from rival factions or international actors. The imposition of blockades, specifically by the coalition led by Saudi Arabia, has significantly impeded the movement of vital commodities and humanitarian assistance into the country, hence intensifying the severity of the humanitarian crisis (Human Rights Watch, Dec 2017; Al-Mutawakel et al, 2022). Moreover, political measures such as the classification of specific factions as terrorist entities might create obstacles in the distribution of humanitarian assistance. Designations can result in financial restrictions and create a deterrent effect on NGOs' operations due to concerns about legal consequences, hence exacerbating the challenges of delivering help in territories under the authority of these groups (Sheikh, 2023).

Political interference plays a significant role in exacerbating food insecurity in Yemen. When it comes to its link to the distribution and accessibility of food in Yemen, we have several key aspects, such as blockades and access restrictions, manipulation of aid, economic warfare, and international diplomacy and funding.

In addition to the blockades and access limitations stated earlier, there have been reports of assistance manipulation by both the De-facto Authority and the International Recognized Government. There have been instances where aid has been diverted to military troops, traded illegally, or employed to manipulate civilian populations. Additionally, it has been alleged that the Houthis have been obstructing the provision of aid by erecting bureaucratic barriers, requesting a portion of the aid, and redirecting food assistance (BBC, December 2018).

The violence has resulted in the devastation of essential infrastructure, including as transportation routes, overpasses, and facilities for storing food. This not only hampers the flow of goods and services but also poses greater difficulties in delivering assistance to remote and conflict-ridden regions. Armed factions and paramilitary organizations have employed food as a tool of warfare, exploiting their authority over food resources to secure political or strategic benefits (Ekström, 2020).

The devaluation of the Yemeni rial and the collapse of the economy have made food unaffordable for many Yemenis. The opposing central banks, one located in Aden and the other in Sana'a, have implemented contradictory monetary policies that exacerbate the economic instability (IRC, April 2023). The failure to pay public sector salaries, particularly in areas under Houthis control, has diminished the ability to buy goods and services and heightened reliance on assistance (Ned Whalley & Sana'a Center Economic Unit, December 2023). The distribution of aid is influenced by political disputes and priorities among donor countries and international organizations. The level of engagement and support Yemen receives is frequently determined by geopolitical objectives. Although the seriousness of the issue has been emphasized by the United Nations and non-governmental organizations (NGOs), there is still a lack of money, which can be attributed in part to political factors and donor exhaustion.

5. FINDINGS AND DISCUSSION

Throughout history, war and conflict have demonstrably caused significant damage to both the human population and the economic stability of nations. According to the study and documented reports and assessments, it is evident that the conflict in Yemen has had significant and diverse effects on food security, economy, and the overall welfare of the population. The civil war in Yemen has resulted in a catastrophic situation, causing severe disruptions in all aspects of life, and leading the country into one of the most severe humanitarian crises globally.

The long conflict has caused severe devastation to Yemen's agriculture sector, which is a vital component of the country's economy and the main source of income for more than half of its population. Prior to the conflict, the agriculture industry made a substantial contribution to the country's Gross Domestic Product (GDP) and played a crucial role in food production. Nevertheless, the fighting has resulted in extensive devastation of agricultural infrastructure, encompassing irrigation systems, storage facilities, and rural transit routes. Previously fertile fields now lie unproductive, scattered with explosive devices and undetonated ammunition, posing challenges and risks to agricultural activities. The displacement and emigration of the agricultural workforce have worsened the fall in agricultural productivity. Moreover, the limited availability of crucial agricultural inputs, such as seeds and fertilizers, has impeded farming operations, resulting in a substantial decline in cereal and livestock output in comparison to levels before the crisis. In addition, climate change has exacerbated Yemen's food security dilemma by impacting agricultural production and intensifying the occurrence of natural calamities like floods and droughts. The environmental issues have resulted in a decrease in cultivable area and agricultural output, exacerbating the already fragile food systems.

Although Yemen's economy was already struggling prior to the conflict and had experienced fluctuations during the years of conflict between the north and south, the war has further exacerbated Yemen's economic situation. The devastation of infrastructure, along with the interruption of trade routes and a substantial decline in foreign investments, has resulted in widespread inflation and a drastic devaluation of the Yemeni Rial. The economic instability has directly influenced the cost of food, making necessary goods too expensive for several Yemeni households. The conflict has resulted in the creation of two separate economies within the country, one in the northern region and one in the southern region. Each economy operates with its own exchange rates and customs procedures. This separation has exacerbated economic activities and heightened the expense of living. The

substantial decline in household income, along with elevated unemployment rates, has posed considerable challenges for several Yemenis to buy food, hence exacerbating poverty levels and intensifying the situation of food insecurity.

The conflict has resulted in one of the most severe displacement crises in the world. As of March 2024, around 4.5 million Yemenis have been displaced within their own country, compelled to leave their residences in order to find safety and basic resources. These families who have been forced to leave their homes have significant difficulties in obtaining food and necessary services. A significant number of individuals lives in highly inhabited and substandard dwellings, frequently without basic services like as clean water, sanitation, and healthcare. The constant need to move disturbs their means of subsistence and social networks, increasing their vulnerability to food poverty and malnutrition. Documented reports indicate that numerous Yemeni households have been compelled to use various coping mechanisms in order to address the significant issue of food insecurity. These mechanisms include measures such as decreasing the amount and quality of food consumed, seeking loans or assistance for food, selling assets, and depending on remittances and humanitarian relief. Although these measures may offer immediate relief, they present substantial risks to the long-term economic stability and overall welfare. For example, the act of selling valuable resources such as animals or farms might diminish the potential for future economic output, thus ensnaring households in an endless cycle of poverty and reliance.

The war not only devastated families' health but also crippled efforts to address food insecurity due to major disruptions in healthcare services. The health system is on the verge of collapse as a result of the ongoing violence and economic instability. The violence has resulted in substantial disruptions in the delivery of health services, including a severe impact on vaccination rates, child nutrition, and maternal health. Hospitals and clinics have sustained significant damage or complete destruction, resulting in a critical scarcity of medical supplies and healthcare workers. The deterioration of this situation has worsened malnutrition and food insecurity, especially among susceptible groups such as mothers and children.

The humanitarian activities in Yemen face daily challenges due to restricted access, bureaucratic constraints, and insecurity. The frequent changes in control of territory, along with airstrikes, ground warfare, and blockades, greatly hinder the distribution of aid. The situation is further complicated by political interference, as both the officially recognized

government and the de facto authorities exploit aid for military and political objectives. This manipulation disrupts the efficient allocation of aid and worsens the problem of insufficient access to food. Moreover, the decrease in international humanitarian financing has had a significant negative impact on aid efforts. Major donors have substantially reduced their donations, resulting in a shortfall of resources needed to tackle the ongoing problem. The insufficiency of financing has led to a decrease in food rations and restricted assistance for millions of Yemenis who require aid.



6. CONCLUSION

The study proved the profound economic consequences that the conflict has inflicted, emphasizing that the war has devastated essential infrastructure required for agricultural output and trade and eventually had a direct impact on food. Yemen's food supply is severely compromised as agricultural fields are left uncultivated and markets are either damaged or inaccessible owing to the ongoing conflict. These interruptions have had a wider impact on the economy, affecting banks, supply chains, and government services, which have all experienced significant deterioration. This has resulted in hyperinflation and has had a severe negative effect on people's ability to buy goods and sustain their livelihoods. The study has also illustrated the human displacement caused by the war and its interconnect with food security. More than four million Yemenis have been forced to leave their homes due to the ongoing war. They are searching for shelter and security, but the areas they end up in are barely able to support the host communities. Additionally, the environmental changes exacerbated the food problem. Yemen, a predominantly arid nation, has significant obstacles due to climate change, the study outlined the impact of unpredictable weather patterns, such as droughts and flash floods, on previously cultivated land, resulting in the degradation of the country's already limited agricultural production and eventually impacted the food availability.

Upon analyzing the findings, it is evident that the problem statement of this study and the research question is well aligned with the emphasis on the interdependence of food security and the conflict, in addition to both direct and indirect links to economic stability, agricultural production, health care, and humanitarian help. The most compelling proof can be found in the observation of ceasefires resulting in temporary improvements in food security. The observed trend is caused by a combination of factors: unrestricted availability of humanitarian assistance to reach vulnerable populations, a decrease in the frequency of violence, an improved economic environment, and a decrease in the number of people being displaced. This also proves the hypothesis of this study confirming that the ongoing conflict and instability in Yemen have a profound and detrimental impact on the country's food security, leading to disruptions in food production, supply chains, and access to essential nutrition.

In light of the study's findings, we can also evaluate the research sub questions of this study. The research emphasizes significant disruptions in both the economic and agricultural sectors. The destruction of agricultural infrastructure, coupled with economic

instability, has resulted in widespread inflation and a devaluation of the currency, making it even more difficult to access food. Consistently, the findings indicate that the combination of food shortages, economic and agriculture disruption on the food supply chain, and conflict has compelled millions of individuals to flee their homes in pursuit of safety and essential supplies. Displaced communities encounter substantial difficulties in obtaining food, which worsens their vulnerability.

The findings reveal that climate change has significantly worsened Yemen's food security crisis by affecting agricultural production, increasing water scarcity, and causing economic instability. The occurrence of droughts and floods has become more frequent and severe due to climate change and environmental degradation, resulting in a direct impact on agricultural productivity. Moreover, the combination of climate change and water scarcity has a profound and detrimental effect on both agricultural productivity and living conditions. Climate change-induced economic instability has detrimentally impacted food security. Increasing costs of food and fuel, combined with limited employment opportunities, decrease household incomes, making it more challenging for families to afford essential needs.

There is no doubt that the humanitarian assistance has played a crucial role in delivering urgent assistance to those in need. the assistance included implementing various types of projects such as direct food distribution, cash, agricultural activities, and resilience projects, however, its efficacy is impeded by constraints on access, insufficient financing, and interference by political entities. 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.

Finally, the study indicates that ceasefires can temporarily improve food security by allowing humanitarian aid delivery and reducing violence. However, the overall progress remains fragile due to the inherent instability and frequent violations of ceasefires.

Recommendations

To address the pressing food security crisis in Yemen, 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 programmes.
- **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 prioritise the implementation of training programmes.
- **Address Economic Stability:** it involves implementing measures to limit inflation and boost the value of the Yemeni Rial. The primary objective of economic policies should be to prioritise 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.

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