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YEMEN POVERTY AND EQUITY ASSESSMENT 2024

Living in Dire Conditions

February 2024

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Joint Data Center on Forced Displacement

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SWISS ROLL
حالياً
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STICKS

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Acknowledgments

This Poverty and Equity Assessment was coauthored by Alia Aghajanian (TTL, Senior Economist EMNPV), Peter Salisbury (consultant EMNMT), Safa Almoayad (consultant EMNPV), Romeo Gansey (consultant EMNPV), Steve Penson (consultant EMNPV), and Aparna John (consultant EMNPV). The Assessment draws from data and analysis documented in the World Bank monitoring surveys round I and round II, qualitative analysis in Voices from Yemen, and analysis on food security led by Sharad Tandon (Senior Economist EEAPV) in Surviving in the Time of War. Section 4.4 relies on data input and maps from the Whole-of-Economy Climate Change Program MENA team (P179961), particularly Sandra Baquie (Economist EMNPV), Chitra Balasubramanian (Consultant EMNPV) and Alan Fuchs (Lead Economist EMNPV), and Section 5.2 relies on input from collaborative work with the Urban team, particularly Hogeun (Urban Specialist SMNUR) and Samantha Constant (Consultant EMNPV).

The Poverty and Equity Assessment has greatly benefited from the comments and feedback to the concept note, background papers, and final assessment, particularly: Salman Zaidi (Practice Manager, EMNPV), Johannes Hoogeveen (Senior Economist EAWPV), Matthew Wai-Poi (Lead Economist EEAPV), Silvia Redaelli (Senior Economist ESAPV), Jonathan Lain (Senior Economist EEAWPV), Andras Bodor (Senior Social Protection Economist HMNSP), Saki Kumagai (Senior Governance Specialist EMNGU), Juul Pinxten (Economist HMNSP), Trang Nguyen (Senior Economist EMNPV), Olaf Jan de Groot (Senior Economist UN Resident Coordinators Office for Yemen), Zachary Carmichael (Senior Agriculture Economist SAGGL), Artavazd Hakobyan (Senior Agriculture Economist SMNAG), Mohammad al Akkaoui (Economist EMNMT), Yasmine Osman (Economist EMNMT), Omar Al-Aqel (Private Sector Specialist EMNF1), Jeffery Tanner (Senior Economist EPVGE), Mounir Mahmalat (Extended Term Consultant FCV) and Ebrahim Al-Harazi (External Affairs Officer ECRMN).

This assessment has received overall guidance and input from the Country Management Unit, particularly Stephane Guimbert (Country Director MNC03), Tania Meyer (Yemen Country Manager MNC03), Tatiana Weber (Senior Operations Officer MNC03).

Finally, this assessment has been copyedited by Aldo Morri and designed by Hanna Chang.

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This assessment was co-financed by the Yemen Resilience, Recovery, and Reconstruction Trust Fund (Yemen Fund), which was established by the World Bank in 2022 as a pooled funding mechanism and a partnership platform to support Yemen's transition over a 10-year horizon. The Yemen Fund is supported by the United Kingdom's Foreign, Commonwealth and Development Office and the Kingdom of The Netherlands. The team would like to express their gratitude for this important and timely contribution.

The World Bank phone surveys and qualitative data analyzed in this assessment was financed by the Joint Data Center on Forced Displacement which is jointly institutionalized between the World Bank and UNHCR.

Abbreviations

ACLED	Armed Conflict Location & Event Data
CBY	Central Bank of Yemen
CDD	Community-driven development
CEM	World Bank's Country Economic Memorandum
CFN	Cash for Nutrition
CFW	Cash for Work
CPI	Consumer Price Index
DTM	Displacement Tracking Matrix
ECT	Emergency Cash Transfer
EWS	Early-warning system
FAO	Food and Agricultural Organization
FCS	Food Consumption Score
FCV	Fragile, conflict, and violence
FSIN	Food Security Information Network
GCC	Gulf Cooperation Council
GCC	Gulf Cooperation Council Countries
GDP	Gross domestic product
GNAFC	Global Network Against Food Crises
HBS	Household Budget Survey
IDP	Internally Displaced Person/People
IOM	International Organization for Migration
IPC	Integrated Food Security Phase Classification
IRG	Internationally Recognized Government
MENA	Middle East and North Africa
MICS	Multiple Indicator Cluster Survey
mVAM	mobile Vulnerability Analysis and Mapping
PLC	Presidential Leadership Council
rCSI	Reduced Coping Strategies Index
SDGT	Specially Designated Global Terrorist
UNHCR	United Nations high Commissioner for Refugees
WB	World Bank
WFP	World Food Programme
YHDS	Yemen Human Development Survey (YHDS)
YRI	Yemeni Riyal

Executive Summary

Yemen was a poor country before war broke out, and ten subsequent years of conflict and crisis have had dire effects on living conditions. Many millions of Yemenis suffer from hunger and poverty. But a lack of data makes it hard to estimate exactly how many people are poor, or to analyze the main drivers of poverty. Produced by the World Bank's Poverty and Equity Unit, this Poverty Assessment synthesizes multiple novel data sources to assess how the Middle East and North Africa (MENA)'s poorest country likely became one of the most impoverished countries worldwide; and how ordinary Yemenis cope—or attempt to cope—with multiple, overlapping deprivations.

A majority of Yemenis live in poverty. A decade ago, Yemen was already a low-income country and 49 percent of Yemenis lived below the national poverty line. Given the significant deterioration in economic conditions over the course of the war, it is reasonable to conclude that poverty has risen in the intervening years—particularly through ten years of war.

Efforts to end the complex, internationalized conflict, have been repeatedly spurned. Cautious optimism that an informal, but enduring, truce could be converted into a permanent ceasefire in 2023 has diminished amid a direct confrontation between the Houthis who control the country's northwest and a coalition of US-led forces in the Red Sea shipping route. As this report was being completed, many observers warned that the country could be significantly impacted by the Middle East conflict and local repercussions. This is not an eventuality that ordinary Yemenis can afford.

Estimating exactly how poor Yemen is—that is, how many Yemenis live below the poverty line—is extremely difficult. Data-gathering constraints make it impossible to calculate monetary poverty levels using conventional methods. No Household Budget Survey (HBS)—the bedrock of traditional poverty assessments—has been conducted since 2014. Data gaps and a lack of reliable information from the ground are a significant barrier to poverty and other forms of economic analysis. Conditions are particularly unique, even when compared to other Fragility, Conflict, and Violence (FCV) afflicted contexts. Yemen is fragmented politically, militarily, and economically, including into two separate economic zones with very different exchange rates. Operational barriers and a lack of reliable data on formal, illicit and informal economic activity, make accurate analysis particularly hard.

Statistical analyses based on best available data suggest that poverty may have increased by more than half over the course of the conflict. There have been several attempts to estimate poverty in Yemen, but these rely on outdated data and several assumptions. For example, statistical modelling conducted for the last World Bank Country Economic Memorandum for Yemen extrapolates a headcount poverty rate as high as 74 percent in 2022, which could reach between 62 and 74 percent by 2030, depending on the trajectory of the conflict and various scenarios of either continued conflict or recovery (Lofgren, Cicowiez, and Mele 2023). If correct, this would imply an increase of poverty by 27 to 51 percent over a 15-year period. However, this estimate cannot be considered definitive.

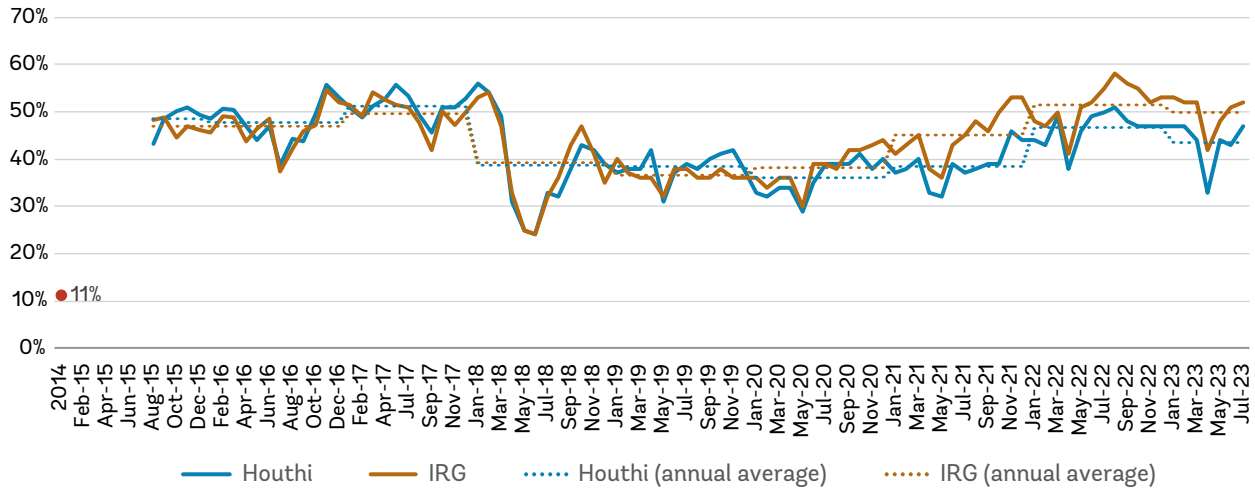
In the absence of traditional data sources for monetary poverty analysis, this Poverty Assessment sheds light on dire living conditions in Yemen by synthesizing and triangulating across various data sources. Measures of food security, and especially food access, are particularly helpful in contextualizing poverty. In dire humanitarian emergencies such as Yemen's, monetary poverty often converges with measures of food access, as a greater share of available income is used to cover basic nutrition (Lain, Tandon, and Vishwanath 2022). There is also a strong and nearly universal pattern of the share of food expenditure increasing as income declines (Jensen 2010). Food security data is also among the highest-quality and most uniformly and frequently gathered in Yemen.

Yemen is one of the most food insecure, and possibly poorest, countries in the world. Across various data sources, including the WFP and World Bank phone surveys, around half of Yemeni households have inadequate food consumption in the last year. Integrated Food Security Phase (IPC) data places Yemen in the company of Afghanistan, Haiti, Somalia, South Sudan, Sudan and the Sahel countries (in particular Burkina Faso, the Central African Republic and Mali)—each among the poorest 15 percent of countries worldwide. Country-level comparative analysis of non-monetary poverty indicators including Multiple Indicator Cluster Survey data gathered by Yemen's Central Statistical Organization and UNICEF yields similar results.

The unreliability of income, livelihoods and food on the one hand, and the vulnerability of ordinary Yemenis to the many economic shocks experienced since the start of the war on the other hand, have been the main drivers of poverty. The time series of inadequate food consumption in Figure E.1 shows Yemen's hunger and poverty crisis unfolded over four distinct phases:

1. By August 2015, after just a few months of war, 48 percent of Yemenis had a poor food consumption score, a more than four-fold increase from the year before, in line with a broader collapse in economic output.
2. Food insecurity reached its lowest point in 2018 when the war's physical and economic dimensions intersected. Yemen's IRG sought to seize control of one of Yemen's biggest ports, Hodeidah, tightening control over imports.
3. After improvements in 2019 and 2020, in part due to a huge influx of aid, the situation deteriorated due to several major shocks: the Houthis' military campaign in Marib, the COVID-19 pandemic, the 2022 Russian invasion of Ukraine and accompanying price shocks, declining funding for international aid, and the depreciation of the Yemeni Riyal in areas controlled by the IRG.
4. Food insecurity has improved since a truce was announced in 2022, but Yemen remains among the countries with the most hunger in the world, with around half of the population suffering poor or inadequate food consumption.

Figure E.1: Prevalence of inadequate food consumption score (2014- July 2023). Higher is worse.



Source: Extracted from WFP regular monitoring phone surveys, available online from 2018 onwards. Data point for 2014 is calculated from the HBS 2014.

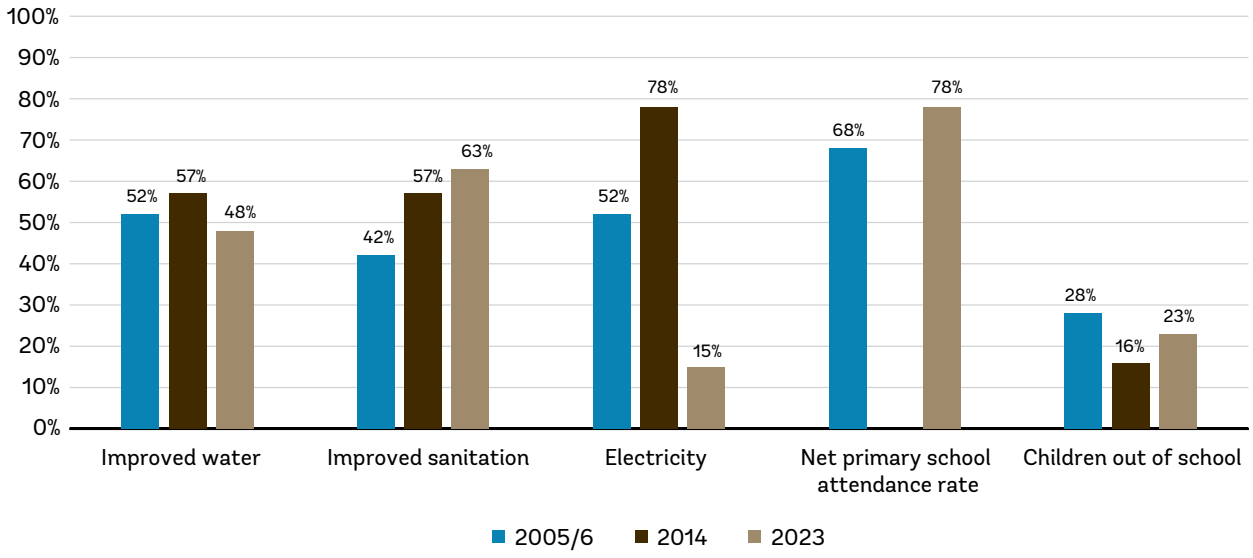
The food security crisis is fundamentally one of access—people's ability to pay for goods in local markets—but with some caveats. While basic food items continue to be imported and provided through humanitarian assistance, food prices have risen sharply over the course of the conflict and household incomes have failed to keep pace with inflation. On the other hand, food supply has fallen over the course of the conflict, particularly as domestic agricultural productivity weakened, while Yemen's population has grown by an estimated 18 percent since 2015. This would indicate that food availability is also a concern.

The volatile, fast-changing nature of the food security crisis also demonstrates how vulnerable Yemenis are to economic and other shocks. Many Yemenis move in and out of food insecurity (and extreme food insecurity) on a regular basis.

Economic conflict has become an important factor in driving food insecurity. During the first few years of the war, Houthi-controlled areas demonstrated the worst food security outcomes. But since 2019, the situation has reversed. Yemeni Riyal depreciation in IRG areas after the Houthi ban on new banknotes drove a surge in the price of basic goods in IRG areas. These higher Riyal prices reduced affordability and hence food security in IRG areas.

The conflict has had devastatingly negative consequences for all poverty dimensions. Poverty is increasingly understood to be multidimensional; that is, people can suffer multiple deprivations at the same time beyond financial hardship that contribute to their poverty. In Yemen, access to water, sanitation, electricity, education, and healthcare have all become much more limited since the beginning of the war, despite some gains made just before the conflict started (Figure E.2). In particular, access to electricity through the public network has deteriorated significantly, as 15 percent of Yemenis are connected to the grid in 2023, compared to 78 percent in 2014 (which was a vast improvement since 2005).

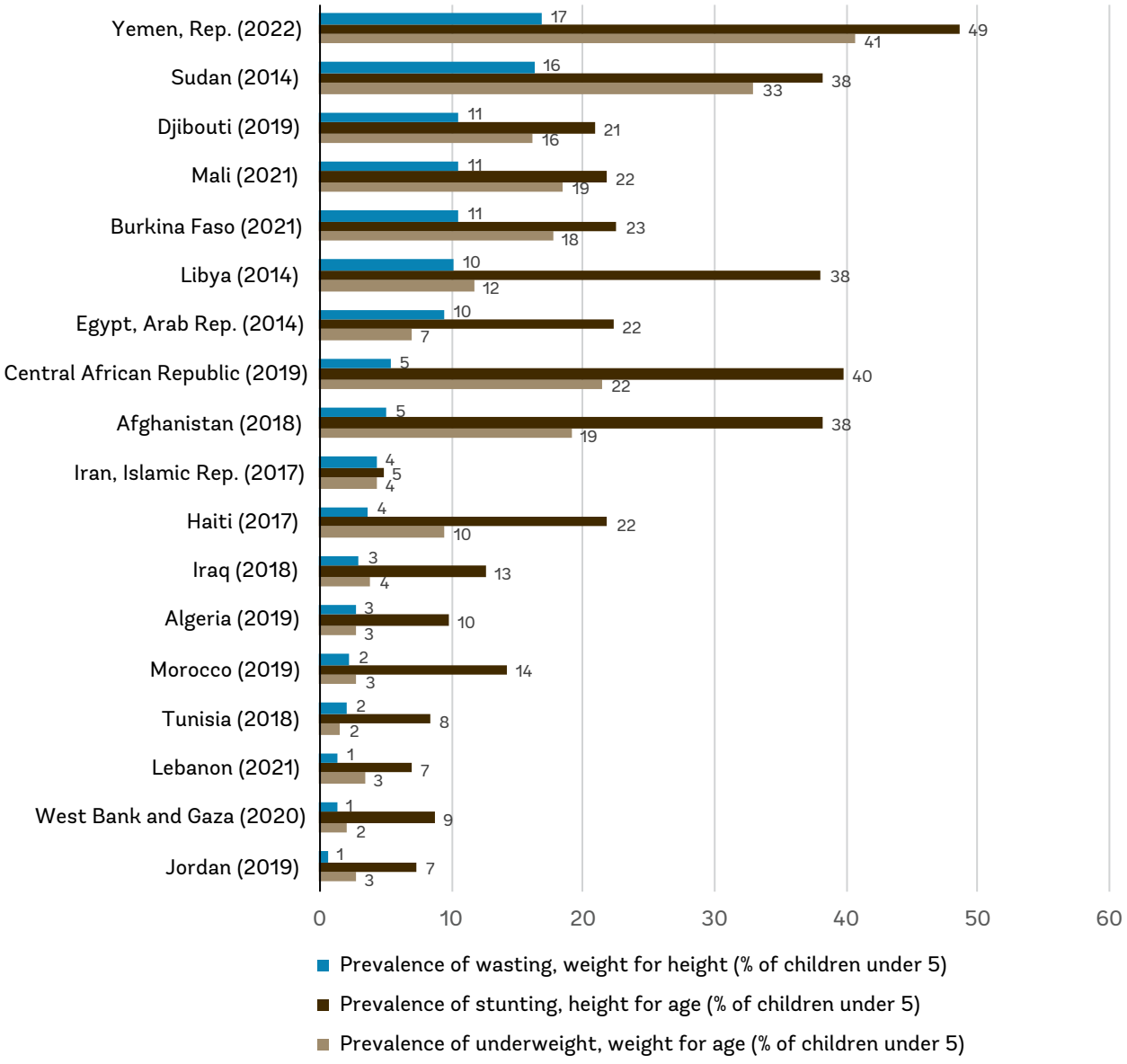
Figure E.2: Non-monetary dimensions of well-being – access to key services



Source: Compiled from various sources including Yemen Poverty Notes 2017 (World Bank staff calculations based on HBS 2005 and HBS 2014), World Development Indicators Database, World Bank Mobile Phone Survey Monitoring Round II 2023, the Yemen MICS 2006 and 2023. Note that access to improved water does not consider packaged or delivered water as an improved water source to remain comparable with earlier years.

Yemen's protracted conflict, through its direct and indirect effects on access to food and services, has taken a toll on its children. According to the MICS 2023, Yemen suffers from some of the highest levels of wasting (17 percent), stunting (49 percent) and being underweight (41 percent) compared to countries in the MENA region, and other very poor countries suffering from similar levels of food insecurity—Mali, Burkina Faso, Central African Republic, Haiti and Afghanistan (Figure E.3).

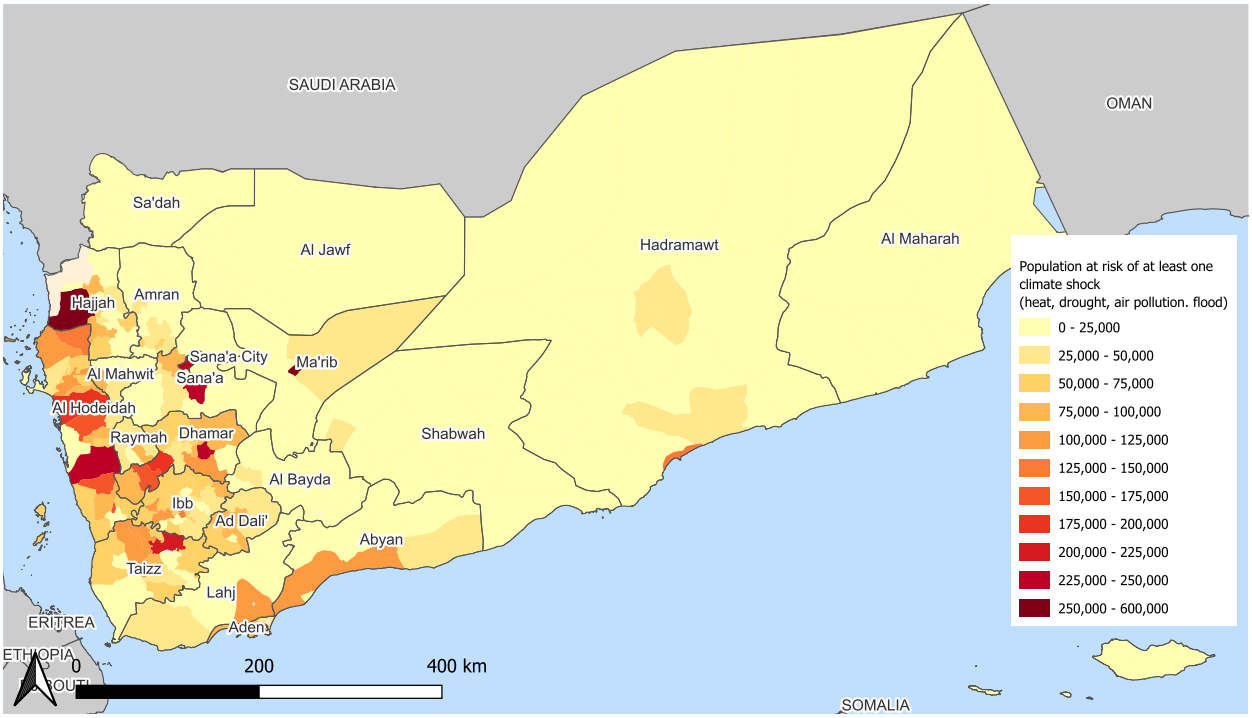
Figure E.3: Prevalence of underweight, stunting and wasting across MENA and most food insecure countries



Source: Most recent available data per country extracted from World Development Indicators database. Yemen Data from Multiple Indicator Clusters Survey 2023. Children are considered underweight, stunted or wasted if below 2 standard deviations from the mean weight for age, height for age, or weight for height.

The most vulnerable Yemenis are exposed to compounding shocks in terms of poverty, food insecurity, conflict exposure, and climate events. World Bank survey data in IRG areas shows that poorer households tend to be larger, more rural, more agricultural, and/or displaced. Poorer households also live in districts that have a higher level of conflict intensity, and are more likely to report being exposed to a natural disaster, such as flooding, drought, or a cyclone, in the 12 months before being interviewed. Evidence from geospatial indicators of exposure to hazards and poor food security across the country further support this finding, estimating that a quarter of the population live in food security crisis and are exposed to at least one of three extreme climate events. Map E.1 shows the number of individuals exposed to food crisis and at least one climate hazard at the district level, with a clear clustering around the coastal areas in the Southwest of the country.

Map E.1: Individuals exposed to food crisis and at least one of three climate hazards: extreme heat, drought, flooding



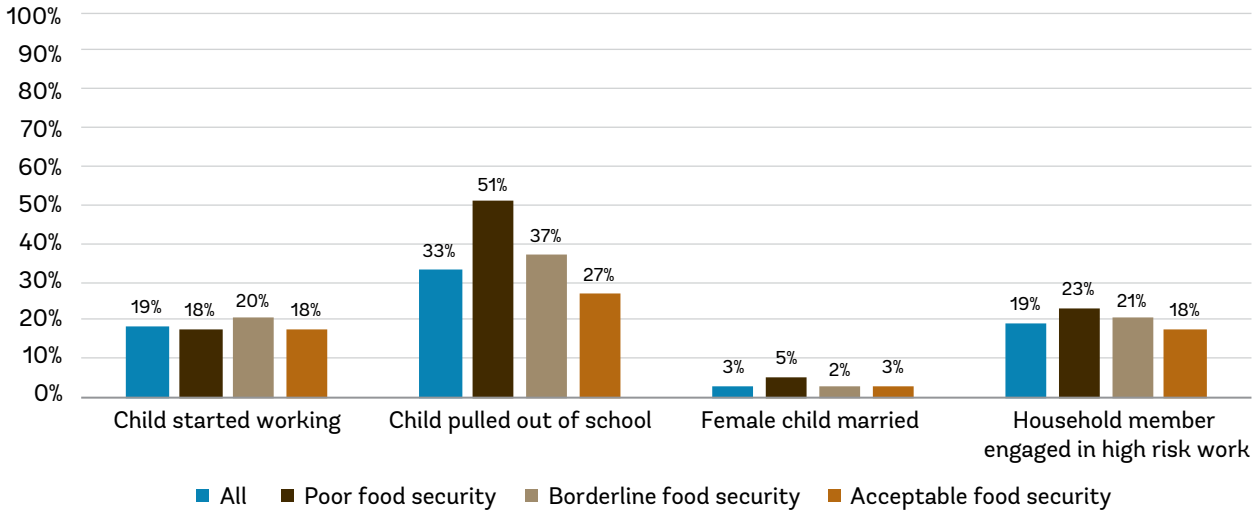
Non-monetary poverty adds nuance to the overall picture of poverty in Yemen. As noted above, food insecurity is most acute in IRG areas. But services including health, electricity and education in Houthi areas are substantially worse than in IRG ones. Around 2 percent of residents of Houthi areas have access to electricity from a public network, for example, compared to 45 percent of those in IRG areas. These results highlight the need to consider multiple dimensions of poverty in contexts like Yemen, where conflict has impacted living conditions in complex and varied ways. Non-monetary dimensions of poverty could further entrench poverty and inequality for generations. With children missing crucial nutrition, schooling and access to health care, Yemenis face significant barriers to fulfilling their human capabilities.

The growing number of women-headed households represents a unique form of vulnerability. A combination of phone survey data and face-to-face household survey data from IRG areas show an increasing number of households headed by women; and these women-headed households suffer much worse food outcomes. This could be because women have less access to income generating assets and resources, such as land, financial services and human capital; have less time to spend on income generating activities because of household duties; or face legal and social restrictions to the labor market.

A parallel displacement crisis compounds Yemen's food security and poverty crisis. Internally-displaced households in Yemen experience some of the largest deprivations in food security, access to housing, and access to key services. The latest Humanitarian Response Plan for Yemen suggests that 14 percent of the population are displaced, while phone surveys suggest even higher numbers: monthly WFP phone surveys show that at a minimum 29 percent and at maximum 41 percent of the population were displaced between 2016 and 2021, and World Bank phone surveys find between 23 and 25 percent of households were displaced in 2022 and 2023. Given the unique vulnerabilities and poverty situation faced by displaced Yemenis, displacement remains a challenge for a significant part of the population irrespective of which data source is most accurate.

Perhaps most alarming, is that many Yemenis are running out of coping strategies. In times of stress, the World Bank phone survey shows that some households, particularly more food secure ones, are able to sell assets or use savings to ease their financial situation. However, more than a third of Yemenis now lack livestock, productive assets and land. In response, 45 percent of those surveyed were adopting last resort coping strategies including withdrawing children from school, sending children to work, taking on high-risk employment including working in the military and other armed groups, and marrying off young children (Figure E.4). Unsurprisingly, these strategies are more prevalent among the displaced and food insecure.

Figure E.4: Last resort coping strategies adopted in the last three months (November 2022 to February 2023) to ease financial distress



Source: World Bank Mobile Phone Survey Monitoring Round II. Note: Child defined as younger than 15 years old.

The protracted food insecurity, poor access to services, and destructive coping strategies will have long-term detrimental effects on Yemen's human resources and economic potential. Conflict experienced even for babies *in utero* can have long-term negative effects on children's health and their future income earning potential, extending poverty to future generations. The protracted period of food insecurity is already evident in the poor anthropometric outcomes for Yemeni children, which are amongst the worst in the world. Mental health and psychological wellbeing are also likely to deteriorate because of the conflict and should remain a high priority area of investigation for Yemen. As more children are out-of-school, learning poverty—the failure to educate children under age 10 at least to the point of basic literacy—has serious long-term implications for individual earnings, aggregate human development, and long-term economic growth.

Precarity will be the norm for the foreseeable future. As the World Bank's Country Economic Memorandum (CEM) (2023d), the flagship publication on the state of Yemen's economy, notes: "While a political settlement would be a critical step towards recovery, it would not guarantee a return to stability or broad-based growth. Yemen's social, political and institutional fragmentation is likely to persist into any post-conflict period, with territorial control divided into *de facto* zones of authority and multiple overlapping formal and informal administrative frameworks."

Humanitarian aid and development support is also in increasingly short supply. Funding to Yemen has been declining since peaking in 2019. Since then, the gap between humanitarian needs and funding has widened to around US$ 1.5 billion in 2023, less than half of the UN target. The decline in aid inflows and increasing unmet requirements reflects a rapidly shifting geopolitical context, growing competition among global humanitarian and development priorities, and increasing hesitancy among donors to engage with opaque and unreliable public administration.

Significant poverty reduction in Yemen is likely to remain a long-term goal, given the current fragility of the political and security environment. Peace, decentralization and increased public investment efficiency can yield dramatic gains in employment and poverty reduction. If conflict subsides and the economy responds positively to increased investment in infrastructure and human capital, Yemen could renew growth and poverty reduction by 2030. However, effective public spending will require stronger governance, including more efficient public expenditure management and tax collection, with adequate support for poor households and positive incentives for the private sector. International aid will be vital to finance investments in Yemen's development.

There are several areas where international effort can be concentrated to help alleviate suffering in the short-term and lay the groundwork for a more intensive program in the event of a political settlement. First, rebuilding coping strategies through restoring basic assets and supporting livelihood options. Second, redesigning cash transfers to target the most poor and newly formed households. And third, following the successful completion of the MICS, investing in data and official statistics to produce a more granular picture of monetary poverty. Investments must also be made in longer-term goals related to human development, governance and gender.

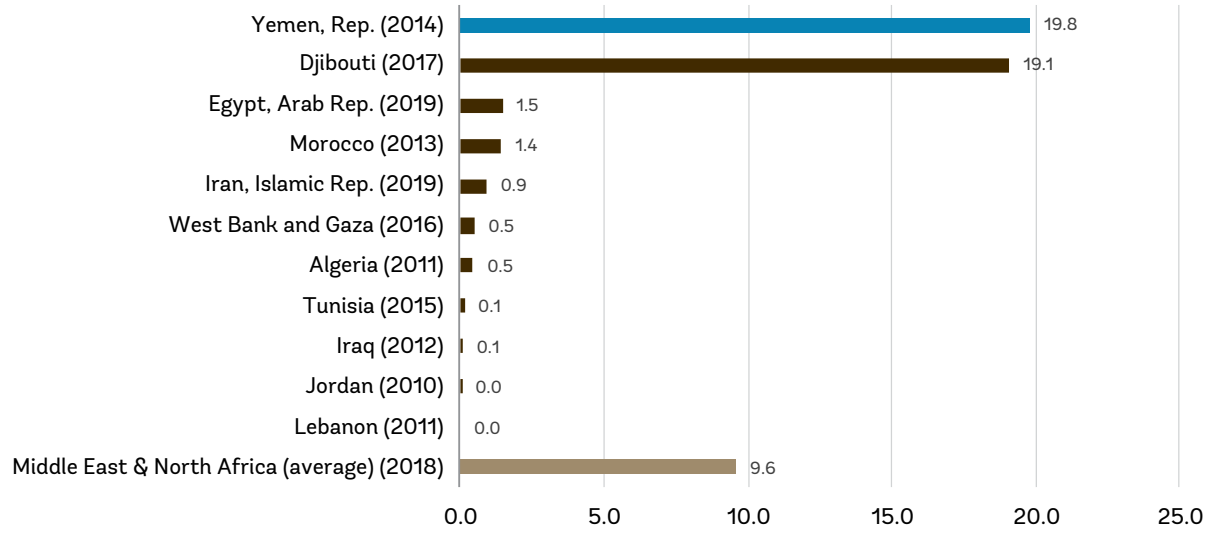
None of this will be possible without the buy-in of Yemeni leaders. The assessment argues that ordinary Yemenis are more vulnerable than ever to the choices of political, military and economic decisionmakers. Fluctuations in food security correspond with key political economy developments, most notably the economic bifurcation between the two main zones of control. Spikes in food insecurity coincide with significant political and economic events. The assessment was researched and drafted during a period of guarded optimism over the prospects for a long-term ceasefire and political dialogue over a sustainable end to the war. But it was finalized under the shadow of an unfurling regional conflict that threatened to envelop Yemen. Absent wise political leadership, millions of Yemenis will continue to live in poverty, and the prospects of future generations will be further stunted.

1 Introduction

Yemen was a poor country before war broke out ten years ago. A decade ago—the last time monetary poverty data was gathered—it was the poorest country in the Middle East and North Africa (MENA). Then, in 2014, 49 percent of Yemenis lived below the national poverty line and 20 percent below the international poverty line, compared to the MENA average of 9.6 percent living below the international poverty line (Figure 1.1). The protracted conflict and related economic crises are likely to have had a significant and dire effect on the living conditions of Yemenis today.

The conflict has altered the structure of Yemen's economy. The last World Bank Poverty Assessment for Yemen was completed in 2017 based on a Household Budget Survey conducted in 2014 (see Box 2.1). Since then, a lack of reliable micro and macro data has hampered efforts to accurately calculate headcount poverty and other economic indicators. For example, the World Bank estimates that the Yemeni economy halved in size between 2011 and 2021, largely as a result of a decline in oil production. But analysis of remotely-sensed data conducted for the 2023 Country Economic Memorandum implies that Yemen's economic recovery since 2017 has been faster than traditional projections made using available data, likely due to higher oil output than officially recorded, a faster than anticipated private sector recovery, and the outgrowth of informal and illicit economic networks.

Figure 1.1: Poverty headcount rate by country using international poverty line of US$ 2.15 per person per day



Source: World Bank (2024), Poverty and Inequality Platform (version 20230919_2017_01_02_PROD) [data set]. pip.worldbank.org. Accessed on 2024-01-24. Latest available data reported for each country.

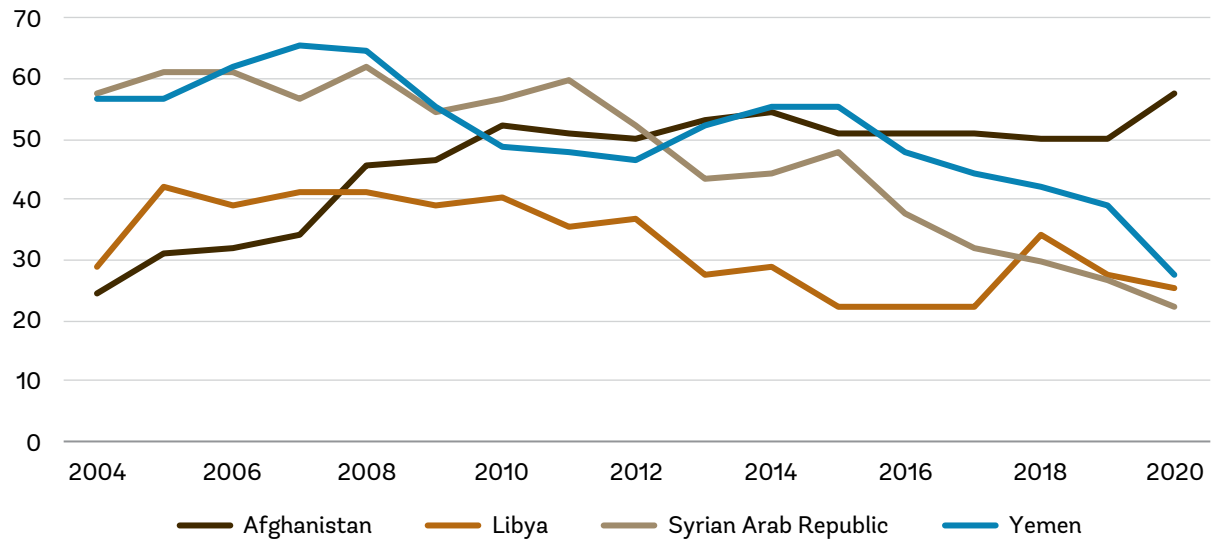
The conflict has prevented the kind of data-gathering activities needed to measure or analyze monetary poverty, like Household Budget Surveys, for almost a decade. Poverty measurement and analysis is central to the World Bank's mission to end extreme poverty on a livable planet by 2030. Regularly updated data helps gauge which poverty reduction strategies work, and which do not. There has been no official, nationally representative, data-gathering process to assess poverty in Yemen since 2014.

Yet, some high-quality data is being gathered. Most recently, Yemen's Central Statistics Offices (CSO), in collaboration with UNICEF, completed a nationally representative survey of maternal and child health in 2023. The Multiple Indicator Cluster Survey (MICS) does not collect consumption or expenditure data needed for monetary poverty analysis. But it does provide important information on non-monetary dimensions of poverty reported in this assessment. The successful completion of the MICS also indicates that the official statistical system could be leveraged for further data collection in the near future.

Statistical analyses based on best available data suggest that poverty may have increased by more than half over the course of the conflict. There have been several attempts to estimate poverty in Yemen, but these rely on outdated data and several assumptions. For example, statistical modelling conducted for the last World Bank Country Economic Memorandum for Yemen extrapolates a headcount national poverty rate as high as 74 percent in 2022, which could reach between 62 and 74 percent by 2030, depending on the trajectory of the conflict and various scenarios of either continued conflict or recovery (Lofgren, Cicowiez, and Mele 2023). If correct, this would imply an increase of poverty by 27 to 51 percent over a 15-year period.

However, given significant data-gathering constraints, this poverty estimate cannot be considered definitive. Yemen represents a particular analytical challenge even when compared to other fragile, conflict and violent (FCV) countries. Data gaps and a lack of reliable information from the ground in FCV environments like Yemen's are a significant barrier to poverty and other types of data-led analysis. The extent of Yemen's political, military and economic fragmentation, the lack of reliable data on illicit and informal economic activity, and the extent to which warring parties have weaponized the economy, have made traditional analysis difficult. Yemen ranks second lowest on the World Bank's statistical capacity indicator, just slightly ahead of Syria (Figure 1.2). Much of the country's institutional capacity was based in Sanaa at the start of the war, most significantly the Central Statistical Organization (CSO), which led the data-gathering process for previous Household Budget Surveys and similar instruments. In 2022, the CSO Aden office was instated by the IRG under the auspices of the Ministry of Planning and International Cooperation.

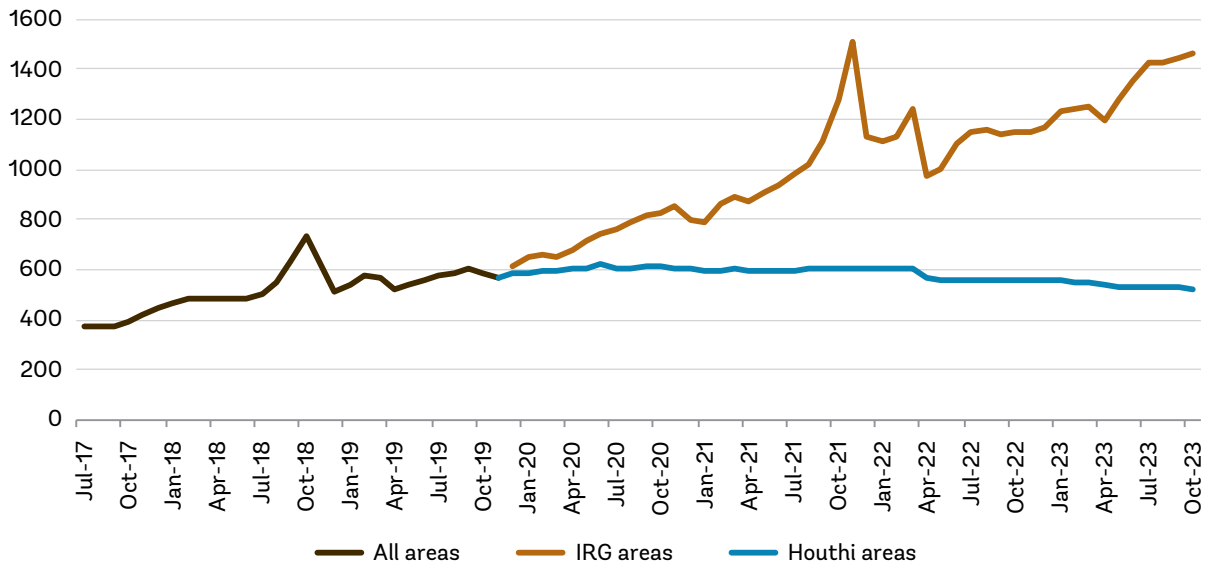
Figure 1.2: The statistical capacity indicator (SCI) score. (Overall average, scale 0-100)



Source: World Bank World Development Indicators

Since 2015, control of the country has been split between Houthi-led institutions in Sanaa, the capital, and groups aligned with the Internationally Recognized Government (IRG) based between Aden and Riyadh. Economic conflict between the Houthis and the IRG has split Yemen into sharply divided zones of economic governance. The clearest manifestation of this split is a bifurcation in the value of the Yemeni Riyal since 2019, with the national currency largely retaining its value in DFA areas while suffering repeated bouts of depreciation in IRG areas (see Figure 1.3). These divergences have been powerful enough to change the relative ranking of food insecurity in Yemen, now higher in IRG areas since the currency split in 2019. Divisions between the Houthis, the IRG, and indeed among groups in IRG areas, and widely varying attitudes to data-gathering, represent a significant barrier to gathering reliable, uniform data across Yemen.

Figure 1.3: Average Riyal-to-US Dollar Exchange Rate 2017-2023



Source: Telegram Exchange Market Group and WB staff calculations

Yemen's rival authorities represent a varied barrier to data collection. The Houthis tightly control all activities in their areas, and have blocked some data collection efforts, while the IRG's control of its areas is uneven, with local groups controlling different parts of the country.[1] Overall, it is easier to gather data in IRG areas, and the World Bank and other institutions have been able to implement detailed surveys that are not replicable in Houthi zones of de facto rule. Given the significant difference in economic governance in the two broad zones, results from IRG areas are unlikely to correlate to patterns in Houthi ones. This poverty assessment draws from data across the country whenever possible, but some detailed analysis is only possible for IRG areas.

This assessment overcomes these limitations to develop a holistic analysis of poverty in Yemen. It is possible to use data on key areas, such as food security and other forms of vulnerability, paired with rigorous analysis of key political economy developments since the outbreak of war, to tell the story of the country's evolving poverty context. To achieve this, the assessment triangulates across multiple data sources including phone surveys, face-to-face surveys in IRG-controlled areas, geospatial data such as the agricultural stress index, and qualitative interviews with select in-country respondents and subject matter experts. The assessment first examines data on food insecurity—a good stand-in for poverty figures in highly stressed contexts such as Yemen's—before examining available data on other dimensions of poverty.

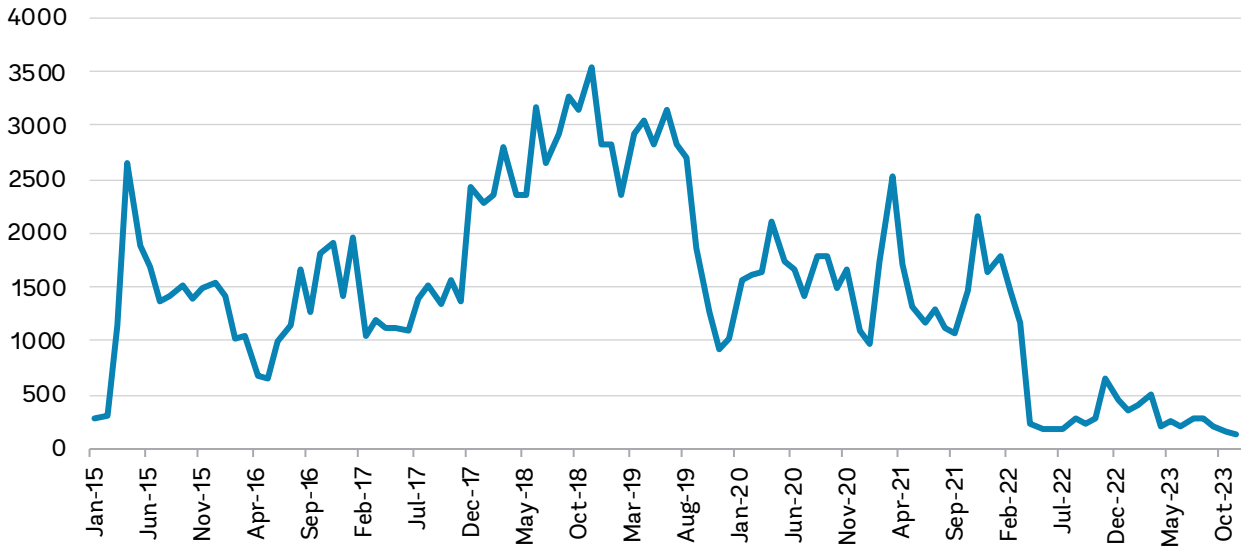
Major events since the start of the current conflict have harmed the living conditions of Yemenis. Fluctuations in food security correspond with key political economy developments, most notably the economic bifurcation from 2019 and onwards. Spikes in food insecurity coincide with significant political and economic events. While fragmentation and overlapping political, economic and military conflicts are common in FCV contexts like Yemen's, the country's separation into two clearly different economic zones with different exchange rates—and as a result, different commodity pricing regimes—is a unique feature of the conflict (see Section 3 for further detail).

1 See Surviving in the Times of War (Favari et al. 2023), Section 9, for a further description of the difficulties in data collection, as well as The Myth of Data in Yemen (Vuylsteke 2021).

Monetary and non-monetary poverty data shine a light on different challenges to vulnerable populations. Food consumption is worse in IRG areas of Yemen, for example, but service delivery including healthcare, electricity and education is much worse in Houthi-controlled parts of the country. Just 2 percent of residents of Houthi-controlled areas report having access to public electricity compared to 45 percent in IRG ones.

Yemen, and Yemenis, face a precarious and uncertain future. Yemen experienced a period of relative calm since the UN brokered a truce in April of 2022. Conflict-related deaths have fallen since the truce was first announced (Figure 1.4), despite the formal agreement lapsing in October of 2022. In addition, food security improved marginally after the truce. Similar improvements occurred during a short-term ceasefire in 2016 and after a UN-brokered halt to hostilities around the Red Sea port of Hodeidah in 2018.

Figure 1.4: Conflict related fatalities by month, January 2015 to October 2023



Source: Armed Conflict, Location and Event Data project (ACLED). Conflict fatalities have been summed up across different events and locations.

A permanent ceasefire of the kind that was being negotiated in 2022 and 2023 would represent an opportunity for additional analysis of the poverty and food security situation in Yemen. An economic scenario exercise conducted for the World Bank's 2023 Country Economic Memorandum, based on detailed political economy analysis and a general equilibrium analysis using the best available data, indicates that headcount poverty will fall if a truce or ceasefire is maintained, and could be reduced by around 15 percent in the event of a political settlement to end the war. A sustained period of relative security and progress towards a political settlement might offer an opportunity for important data-gathering and operational work that was not possible in a conflict setting (see recommendations in section 7).

But an escalation, including entanglement in a broader regional conflict, would undo recent economic and humanitarian gains, and could increase poverty. At the time of writing, a military confrontation between the Houthis and international powers precipitated by Houthi attacks on Red Sea shipping—in turn in stated response to the ongoing war in Gaza—threatened to sharply increase the cost of imports and embroil Yemen in a regionwide conflict. Shipping and insurance costs for commercial vessels transiting via the Red Sea doubled in some cases between October 2023 and January 2024. The US government's decision to list the Houthis as a Specially Designated Global Terrorist (SDGT) group may have a chilling effect on imports and financial flows—and could complicate aid operations in Yemen.

Yemen is more vulnerable than ever to economic shocks. Many households have already exhausted common coping strategies, as indicated in a phone survey (World Bank 2023f). Around 86 percent of households have adopted at least one coping strategy, for instance selling assets like livestock or land. But about 69 percent of households did not have any livestock, while 66 and 63 percent of households had neither productive assets nor land, respectively. Nearly half of Yemenis (45 percent of those surveyed) are resorting to extreme coping strategies including withdrawing children from school, sending them to work, and marrying girls off at a young age. Remaining coping mechanisms may soon be tested.

Taking a longer view, if and when the war ends, it will take years if not decades to reverse its impact on development. Recent analysis from the MENA region shows that just the temporary increase in food prices associated with the Russian invasion of Ukraine may have increased the risk of stunting by 17-24 percent, resulting in 200,000 to 285,000 stunted newborns in the MENA region (Gatti et al. 2023). Malnutrition affects schooling and health outcomes, as well as income earning potential. After almost a decade of heightened food crisis in Yemen, the long-term harmful effects are likely to be felt for generations to come.

The Assessment is composed of seven main sections. Section 2 provides some broad background on economic and political developments in Yemen since 2015. Section 3 considers the evolution of food security and how households' coping mechanisms have been eroded over the course of a decade of mounting precarity and a series of brutal economic shocks. Section 4 discusses the non-monetary dimensions of poverty that Yemenis face, including access to basic services and exposure to climate-related hazards. Section 5 identifies different forms of vulnerability in a context of widespread poverty and limited data resources. Section 6 describes how Yemenis are coping, and how many are resorting to destructive coping strategies. The Assessment concludes in section 7 by highlighting areas of priority for the World Bank and other institutions in the worst and best possible future scenarios for Yemen.

Box 1.1: Yemen Poverty and Equity Assessment Data Sources

This Poverty and Equity Assessment draws from the following data sources:

Monthly household World Food Program (WFP) phone surveys, which measure access to food through a food consumption score, and the reduced coping strategy index, since August 2015. 2,400 respondents are interviewed each month.

World Bank phone surveys that monitor food security and other indicators (World Bank 2023e; 2023f). In particular, the phone survey collected in February and March of 2023 included a dedicated module on access to drinking water and electricity, and coping strategies. In Round I 1,297 respondents were interviewed and in Round II 1,455 respondents were interviewed. Further information on the methodology used and the sampling weights adopted to calibrate the sample size to known population totals can be found in the reports for Round I and Round II.

The Multiple Indicator Cluster Survey (MICS), collected by Yemen's Central Statistical Organization (CSO) with technical assistance from UNICEF was designed to provide a comprehensive set of household data to assess the living conditions of women, girls, and boys. It is the first official, nationally representative, household survey conducted since 2014, and provides information on non-monetary dimensions of poverty.

The Yemen Human Development Survey (YHDS), collected in 2021 through face-to-face interviews, represents a rich data source on human development indicators, and provides an approximate measure of household consumption. This data set is representative of areas under IRG control.

Remote sensing, which relies on data extracted from satellite imagery, provides a wealth of spatial indicators—such as air pollution, wet-bulb temperature, drought, and flooding indexes—to compare with other geospatial sources of food insecurity.

Finally, we also use the in-depth qualitative phone interviews carried out with 156 respondent households and key informants such as health workers, teachers, school principals, private sector enterprises, and district council officials. The complete methodology and results can be found in the report Voices from Yemen (World Bank 2023b). Additional qualitative data is also collected through semi-structured interviews with a sample of female data collectors across the country.

Note that mobile phone ownership is widespread in Yemen, making phone surveys appropriate in a landscape of limited face-to-face collected data. The 2023 MICS finds that 86 percent of households have access to a mobile phone (up from 81 percent in 2014) (CSO and UNICEF 2023b). Most governorates have a household level mobile penetration above 75 percent, except for Abyan, Raymah and Socotra. Despite relatively decent mobile phone penetration, the general biases of phone surveys still apply. Respondents tend to be more urban and educated than the general population, and richer households are more likely to have a mobile phones according to the MICS 2023 (CSO and UNICEF 2023b). While survey weights mitigate bias based on the age, gender and location of respondents, this does not always sufficiently mitigate bias stemming from the overrepresentation of richer respondents.

2 Political and Economic Context

Hunger, poverty and underdevelopment were already serious problems in pre-war Yemen. Poverty fell in the second half of the 1990s and early 2000s, but began to increase from 2005 onwards. As poverty rose, human development indicators also declined, including GDP per capita. The reversal was the result of rising food prices (WFP 2012), loss of jobs abroad and related remittances (Forsythe 2011), and increasingly constrained government finances—due in large part to waning oil exports and costly energy subsidies (World Bank 2023c).

Poverty was concentrated in rural areas and was subject to significant regional variations. The northern governorates of Saadah (85 percent poor) and Amran (76 percent poor) experienced the highest poverty rates, while the lowest were found in major urban areas like Sana'a city (13 percent poor) and Aden (22 percent poor) (see Box 1.1.).

Box 2.1: Summary of Yemen Poverty Assessment 2017 (World Bank 2017b)

The World Bank's last Poverty Assessment for Yemen was based on a 2014 Household Budget Survey (HBS) and published in 2017. A new poverty line of YRI 162,528, or US$ 764 at the time, per person per year was constructed using the basic needs approach, which considers the monetary value required to purchase a basket of food items satisfying a minimum caloric threshold, as well as an allowance for non-food items required for basic needs. While not entirely comparable due to a change in survey methodology, the Assessment found that the poverty headcount ratio increased from 35.4 percent in 2005/6 to 48.6 percent in 2014. This large increase cannot be explained by a change in methodology alone; it reflects a deterioration in living conditions in the decade before the current conflict started.

The 2017 Poverty Assessment, based on the 2014 data, simulated the impact of two years of the conflict through two different extrapolation methods, yielding similarly devastating results:

i. A microsimulation method, which accounts for how the economic collapse decreased labor market opportunities, and the partial non-payment of public sector salaries and other public transfers, estimated an increase in poverty to around 71 to 78 percent.

ii. The second method considered the relatively small-scale violence that occurred during HBS 2014 data collection—particularly in relation to the Houthi march on, and subsequent take-over, of the capital Sana'a— estimated robust reduction in consumption and a resulting poverty rate of 62 percent.

Although all poverty extrapolations suggest a dramatic spike in the first few years of the conflict, it is important to note that the actual poverty rate in 2014 was already high, while there were significant heterogeneities between urban and rural areas. Rural poverty was estimated at 59 percent, significantly higher than urban poverty at 24 percent. The poverty gap and squared poverty gap also show a significant divergence between urban and rural areas.

Table 2.1: Poverty headcount rate in Yemen from 2005/6 to 2014

	2005/6			2014		
	National	**Urban**	**Rural**	**National**	**Urban**	**Rural**
Headcount poverty rate (P0)	35.4	17.5	42.1	48.6	23.9	59.2
Poverty gap (x100)	9.5	3.8	11.7	15.5	6.6	19.3
Squared poverty gap (x 100)	3.6	1.3	4.5	6.7	2.6	8.5

Source: Yemen Poverty Notes 2017. World Bank staff calculations based on HBS 2005/6 and HBS 2014.

The 2014 survey and 2017 assessment demonstrated a sizeable variation in headcount poverty rates between governorates (Map 2.1a), and a strong urban-rural divide. In 2014, Saadah and Amran were the poorest governorates, with headcount poverty rates of 84.5 percent and 75.9 percent, respectively. The incidence of poverty was lowest in Sana'a City, at 13.4 percent of the population. Aden, the second-largest city in the country, had a headcount poverty rate of 22.2 percent. Most of the population lives in the western part of the country, and in particular in the northern highlands, so high poverty in these governorates contributes significantly to national poverty estimates (Map 2.1b). Hodeida, Ibb, Taiz, and Hajjah governorates had the largest poor populations in the country. Poverty was higher among larger households, those with less educated head of households, and those working in agriculture and the private sector more generally (compared to public or semi-public institutions).

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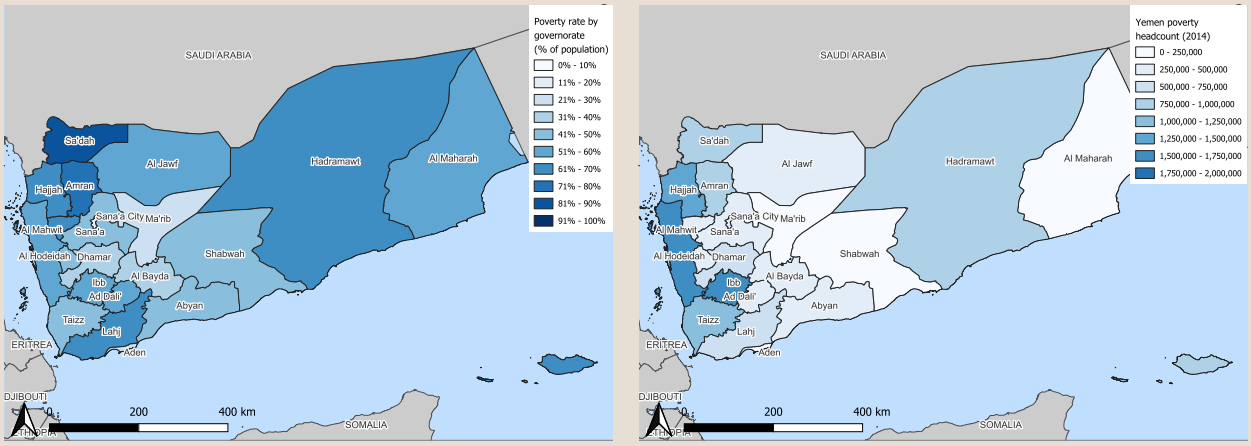
Map 2.1: a) Poverty headcount rate, and b) poverty headcount by governorate



Source: Author's calculations using Household Budget Survey. Note: Confidence intervals for each governorate are large.

Poor and non-poor households relied on transfers, including remittances, pensions, and benefits from the Social Welfare Fund. In fact, for household receiving remittances, the remittances made up an average of 27 percent of the household's total expenditure.

Food insecurity was already widespread in 2014; around 41 percent of Yemenis did not meet their estimated minimum daily energy requirement and could be classified as undernourished. Notably, food insecurity was high among even non-poor households, as 30 percent can be classified as undernourished compared to 49 percent of the poor.

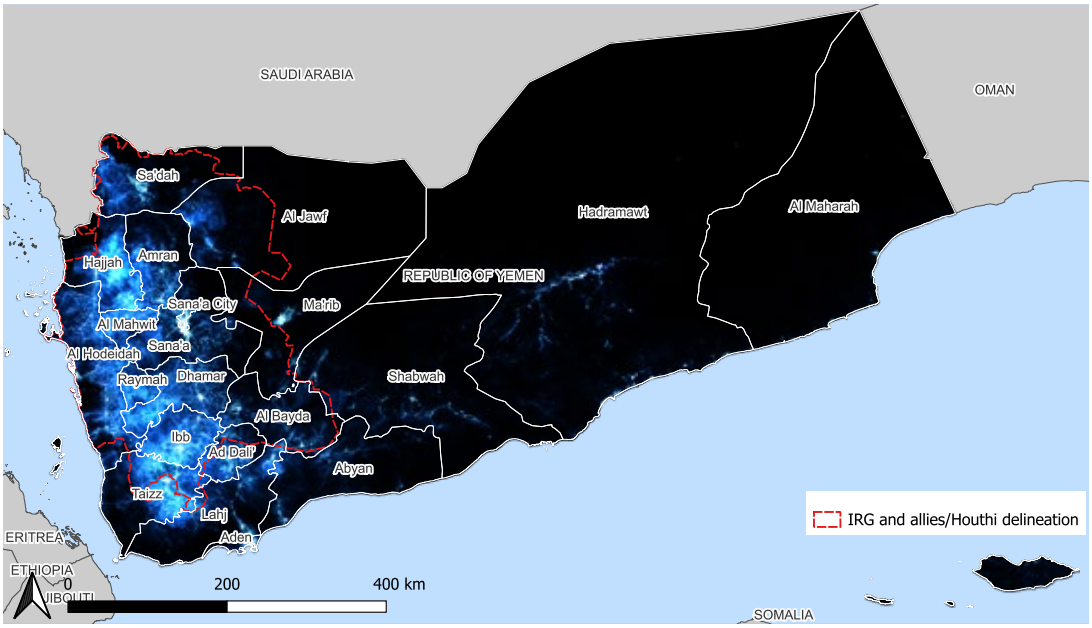
Deteriorating living conditions, perceptions of corruption, and discontent with government economic policies contributed to protests in 2011 (Lackner 2023). Mass protests against then-President Ali Abdullah Saleh precipitated intra-regime conflict in Sana'a and other major cities. The resulting security vacuum was exploited by different armed and political factions, including the northern rebel group that calls itself Ansar Allah but is widely known in Yemen as the Houthis. Southern secessionists and violent extremist groups, including al-Qaeda in the Arabian Peninsula, also exploited the conflict to seize territory. Amid attacks on oil and gas infrastructure, oil export receipts fell, further constraining already limited government finances.

For a short period, Yemen appeared to be on a path to peace and improved prosperity. President Saleh was persuaded to step down and civil war temporarily averted when neighboring Gulf states brokered a transitional agreement in late 2011. The Gulf Cooperation Council (GCC) Initiative called for formation of a transitional government overseen by an interim President, Abed Rabbu Mansour Hadi, committed to democracy and economic, judicial, security, and military reforms to foster inclusivity, growth and stability. But most reform efforts stalled and the respite was short lived. This led to weak fiscal and external balances, growing instability in cities (and outside the capital), inadequate service delivery and infrastructure, and rising food insecurity (World Bank 2023c).

In 2014 the Houthi movement took advantage of popular anger over the deteriorating security and economic situation. Alongside loyalists of former President Saleh, the Houthis were able to seize control of Sana'a. When the Houthi-Saleh alliance suspended the constitution, arrested and then pursued President Hadi to the southern port city of Aden in early 2015, Saudi Arabia intervened militarily, transforming a burgeoning civil conflict into a complex internationalized war (ICG 2015).

Nine years later Yemen is divided territorially, politically and economically. Much of Yemen's northwest is controlled by the Houthis and their allies, with the rest of the country held by several different armed political factions unified under the banner of the Presidential Leadership Council (PLC), formed in April 2022.[2] The conflict extends beyond the binary view of a Houthi-led government in Sana'a and Yemen's IRG based in Aden. Disagreements among groups nominally united under either the Houthis or PLC in particular, are often as sharp as the conflict between the two overarching factions.

Map 2.2: Territorial control and population density as of December 2022 (Brighter areas have higher population density)



Source: Worldpop and ICG, 2023. Note: This report refers to areas under Houthi control (on the Northwestern side) and IRG areas which are delineated on this map. While this is a simplification, it allows for the comparison of indicators of living conditions elsewhere in this report.

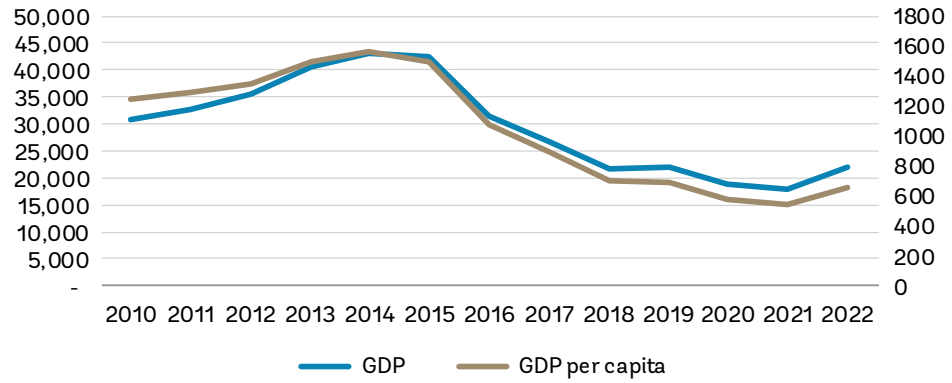
Armed conflict and economic war have exacted a disastrous toll on the life, health, and economic prospects of ordinary Yemenis (World Bank 2022). An estimated 226,000 people have lost their lives from direct conflict, while another 150,000 have died from indirect causes such as a lack of food, healthcare, or infrastructure (UNDP 2021). Nearly two-thirds of those who have died from indirect causes are children under the age of five (UNDP 2021).

The World Bank estimates that Yemen's economy halved between 2011 and 2021 (World Bank 2023c). This was largely the result of further declining oil production and export, the primary engine for pre-war economic growth and government revenues. A lack of finance has undermined the state's ability to support a significant share of the population through the public sector, a major employer for many Yemenis in 2014. A dynamic needs assessment conducted by the World Bank in 2020 found that the conflict damaged or destroyed more than one-third of the country's homes, schools, hospitals, and water and sanitation facilities, further weakening the country's historically sluggish productivity indicators (World Bank 2020b).

2 Mapping Territorial Control in Yemen, ACLED, accessed 20 November 2023.

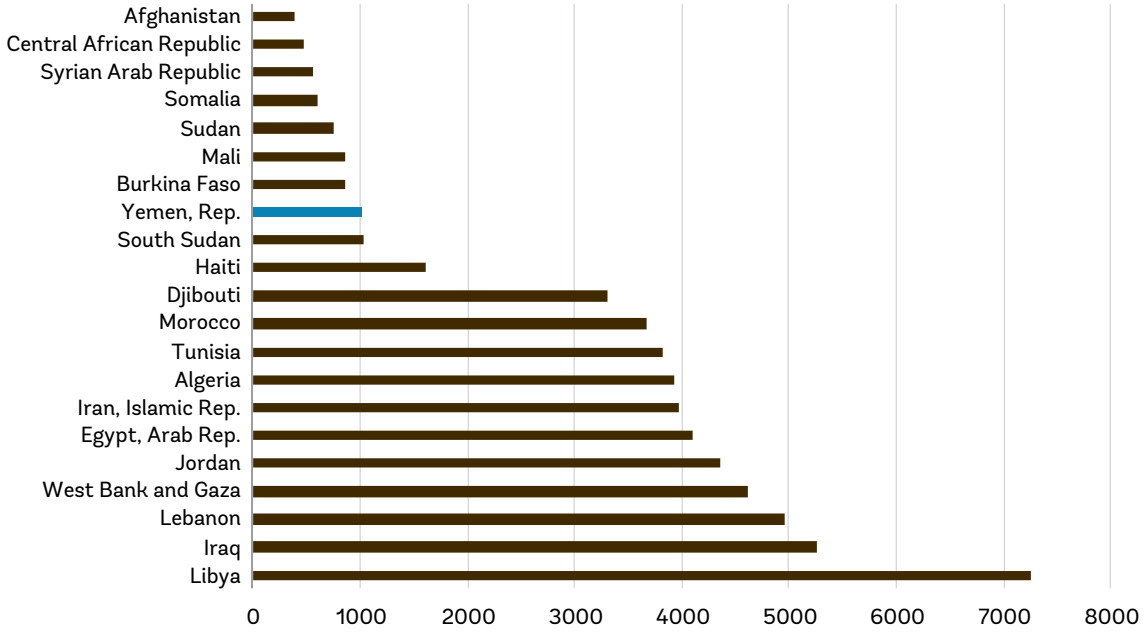
As the economy has shrunk, and state spending has fallen, the population has grown. Yemen's population is projected to have risen by 18 percent between 2015 and 2022.[3] GDP per capita fell an estimated 56 percent in the same period, to US$ 650 per person (Figure 2.1). Gross National Income per Capita is one of the lowest in the MENA regions, only slightly ahead of Syria (Figure 2.2). However, it should be noted that gross domestic product, gross national income and population estimates all suffer from similar data concerns—they are unlikely to capture the growth of the illicit economy, accurate household consumption, and population changes due to migration and displacement since the last population census in 2004.

Figure 2.1: GDP and GDP per capita between 2010 and 2022



Source: WB and IMF Staff Calculations

Figure 2.2: Gross national income per capita, Atlas method (current US$), across MENA and food insecure countries



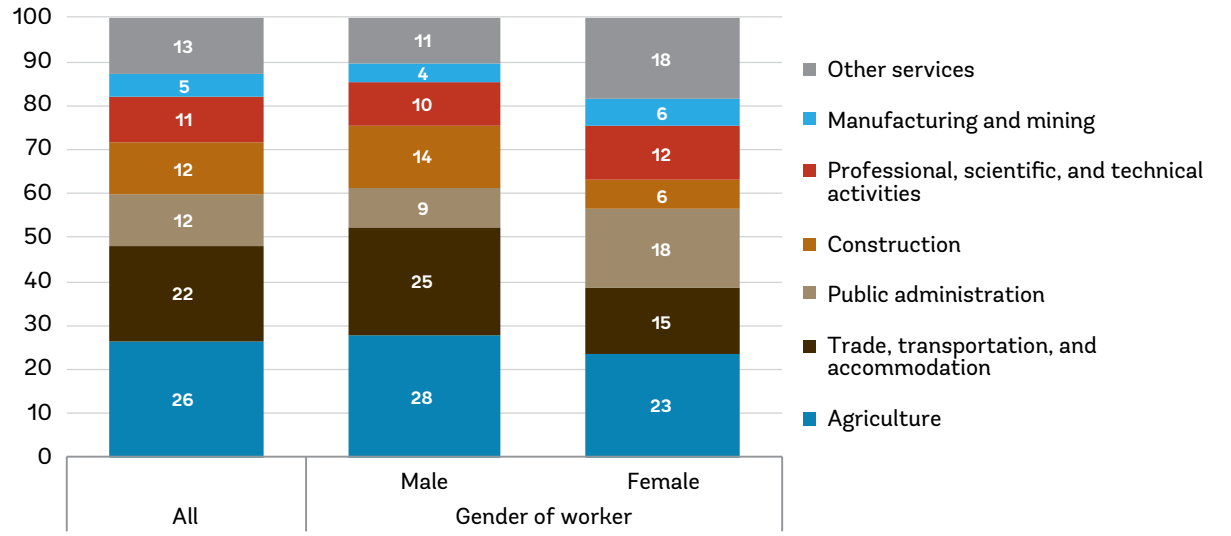
Source: World Development Indicators database. Data available for either 2021 or 2022.

3 According to data from the World Development Indicators, there were 29 million Yemenis in 2015 and 34 million in 2022. However, a census has not been completed since 2004.

Falling oil output played an important role in the economic collapse and limited recovery. In 2014, oil and gas accounted for roughly 90 percent of exports, about 75 percent of government revenue, and roughly 20 percent of GDP. Oil production collapsed in 2015, and exports were not restored until August 2016. Oil output is only around one-third of its pre-war average, but is an important source of revenues and hard currency. Official IRG estimates suggest that the government earned US$ 479 million from oil exports in 2021, about 27 percent of total government revenues.

The Yemeni economy is still directly and indirectly reliant on oil, agriculture and government services, despite shrinking oil output, crop yields and government revenues. Although private services have grown as a share of output (Lofgren, Cicowiez, and Mele 2023), Yemeni workers appear to be increasingly dependent on agriculture for employment despite the precariousness of the sector to climate-related hazards and limited water resources (World Bank 2023c). Phone surveys show that 28 percent of men and 23 percent of women are both most likely to cite agriculture as the sector of employment, the most out of all sectors (Figure 2.3). The prevalence of agricultural work, and a prioritization of cash crops within the agricultural sector, represents both a step back from efforts to shift the economy towards value-added services; and deepening insecurity in the labor market due to climate change.

Figure 2.3: Sector of employment of household's main income earner



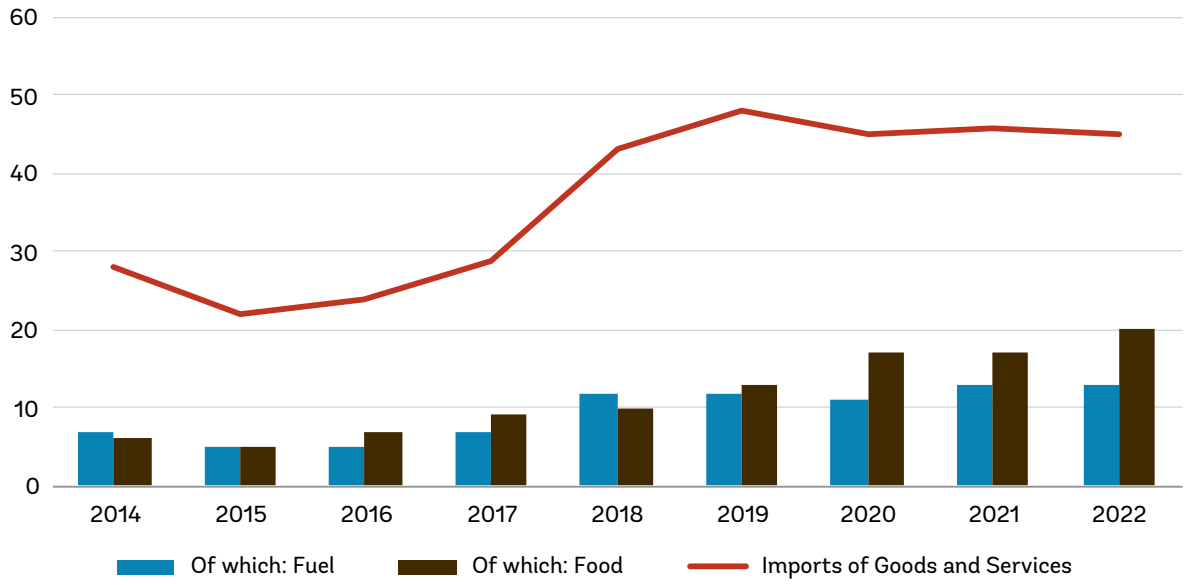
Source: World Bank Mobile Phone Survey Monitoring Round I 2022

As Yemen's economy has declined and work has become more precarious, the cost of living has risen sharply. Inflation, driven by a depreciation of the Yemeni Riyal and rising prices on global commodity markets, has played a critical role in pushing the cost of basic goods out of reach for a rising share of Yemenis. The loss of oil export receipts, a rising import bill, and the monetization of fiscal deficits by the IRG, have driven a steep depreciation of the Riyal since the beginning of the war. The Riyal lost around 75 percent of its value between 2015 and 2023 (World Bank 2023c).

Economic conflict has further complicated the economic picture. A series of maneuvers by the Houthis and the IRG during the first few years of the war split Yemen into two broad economic zones drawn down lines of military/political control with distinct monetary and fiscal policies. The subsequent decoupling of the value of the Riyal in Houthi and IRG areas since 2019 has compounded the impact of depreciation for Yemenis living in IRG areas (Box 3.3). Overall food supply has also declined on a per-capita basis, due to falling domestic output and largely steady import levels, set against significant population growth.

Yemen has become increasingly import-dependent, with remittances and aid replacing oil as the main source of hard currency. Official estimates indicate that Yemen spent US$ 9.2 billion on imports in 2021, with food and fuel accounting for 65 percent (Figure 2.4). In 2021, remittances were about US$ 4 billion according to official estimates (Lofgren, Cicowiez, and Mele 2023), but the real figure could be as much as twice this amount. By comparison, net official development assistance received in 2021 was US$ 4 billion.[4]

Figure 2.4: Estimated Imports, 2014-2022* (percentage of GDP)



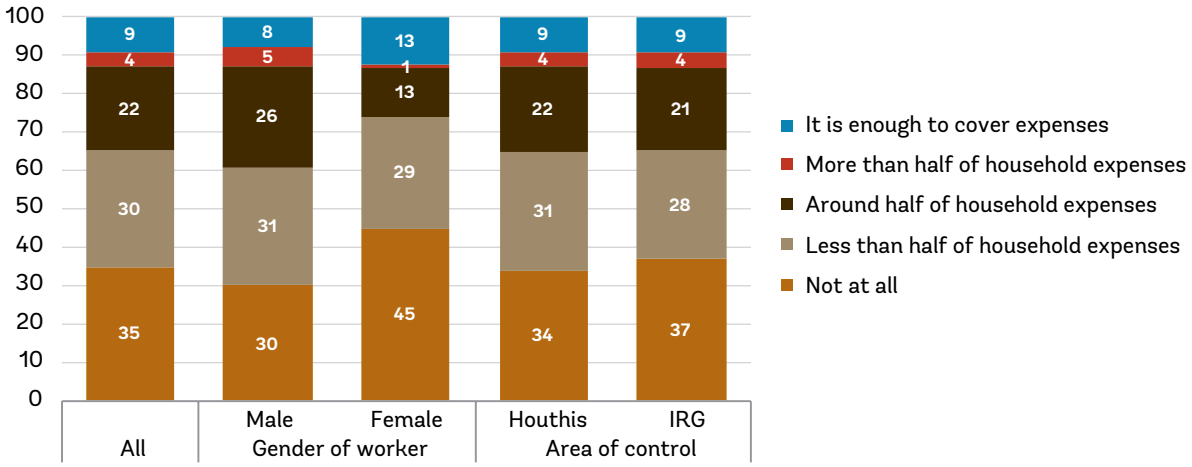
Source: IMF, World Bank, IRG authorities. (*2022-23 figures are projected)

Household incomes have not kept pace with inflation. Some 91 percent of the main income earners in households surveyed by the World Bank in 2022 reported their labor income as not being enough to meet their basic household needs (Figure 2.5). Wages appear to have risen over the course of the conflict on a pro-rated basis,[5] but work has become more irregular and precarious. While Yemeni households rely on labor income (wage, sales, and profit from business) and have at least one working member in the household, most workers are wage workers engaged in elementary occupations, and most jobs are temporary or seasonal (World Bank 2023e). Around a third of the main income earners in households surveyed by the World Bank had not worked in the week before being interviewed, most commonly because their employer did not need their services.

4 According to Word Development Indicators.

5 According to the average daily wage of skilled and unskilled workers collected by the WFP from various markets across the country. However, this data is notoriously difficult to accurately collect without a representative labor force survey.

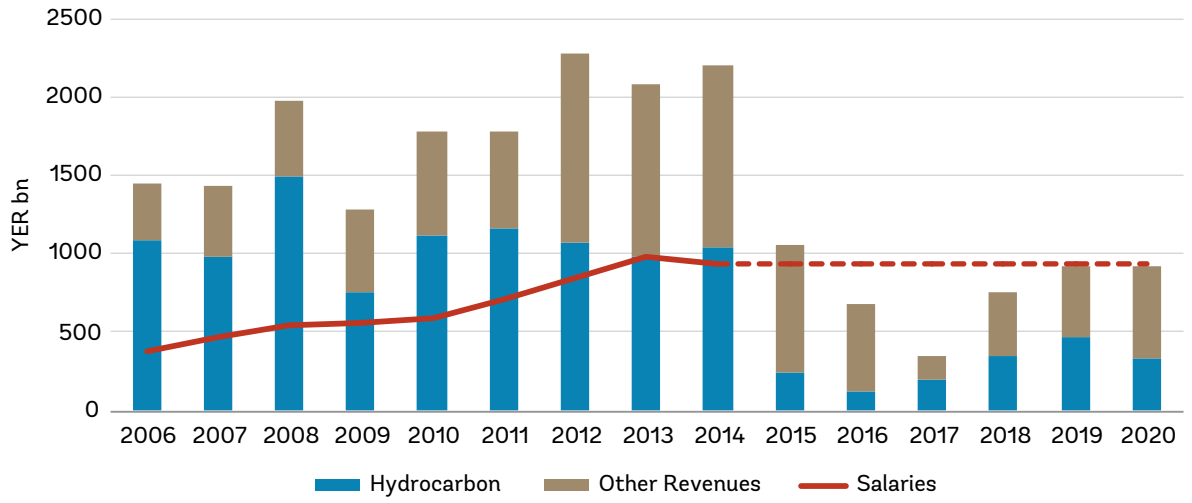
Figure 2.5: Is labor income sufficient to cover your household needs/expenses?



Source: World Bank Mobile Phone Survey Monitoring Round I 2022

Public spending has fallen far below pre-war levels. The government was an important driver of pre-war economic growth, and a major source of employment. IRG revenues and expenditures dropped by 35 percent and 26 percent (in nominal terms), respectively, between 2014 and 2021. Currency depreciation compounded the contraction. While revenues have slightly improved since 2018, this has not been enough to cover the cost of state salaries, let alone capital expenditures, since the conflict began.

Figure 2.6: Fiscal Revenue and the Public-Sector Wage Bill, 2006-2020



Source: WB staff calculations based on IMF data in 2010, 2014 and 2021

These macroeconomic developments strongly suggest that Yemenis are poorer in 2023 than they were in 2014. The overall decline in economic output, household incomes' inability to keep pace with the rising cost of living in an increasingly precarious labor market, and falling government spending set against a rapidly growing population strongly suggest that Yemenis' already limited ability to meet basic needs has been badly compromised by ten years of war. The next section grapples with the question of how poor Yemenis are.

3 Food Insecurity

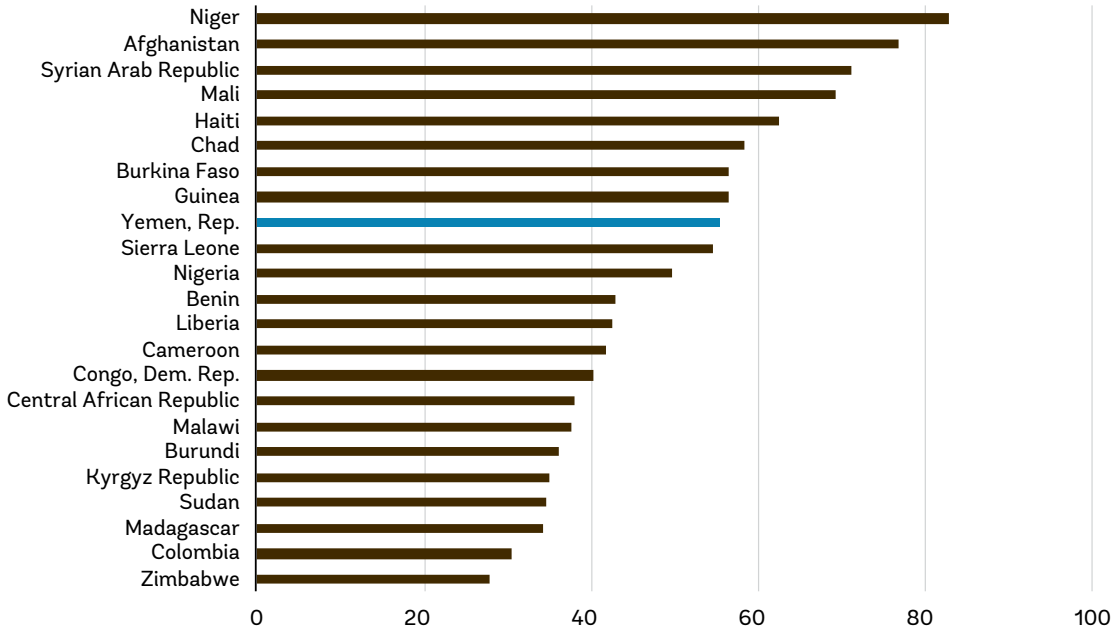
While Yemen can reliably be said to be a poor country, the data needed to establish monetary poverty has been hard to collect since conflict broke out. Monetary poverty captures a household's ability to meet critical basic needs in food, shelter, clothing and other goods that are commonly obtained through market purchase (or self-provision). While there are many ways to measure and think about poverty (in later sections, for example, this assessment considers access to basic services as a non-monetary dimension of poverty), monetary poverty remains an important unit of analysis for identifying vulnerable populations and understanding why they do not have enough money to meet their basic needs.

In the absence of total household consumption data, other data can act as stand-ins. Measures of food security, and particularly food access (Box 3.1: Measuring access to food in Yemen 3.1), are particularly insightful. Poor households are "significantly more likely to be food insecure," particularly in urban contexts (FAO 2022). In dire humanitarian emergencies such as Yemen's, monetary poverty often converges with measures of food access, as a greater share of available income is used to cover basic nutrition (Lain, Tandon, and Vishwanath 2022). There is also a strong and nearly universal pattern of the share of food expenditure increasing as income declines (Jensen 2010).

Food security data is among the highest-quality and most uniformly and frequently gathered in Yemen. For this reason, this Poverty Assessment pays particular attention to dietary diversity (measured through the food consumption score), which strongly correlates with monetary poverty and is very sensitive to income and price shocks in a wide variety of settings (D'Souza and Jolliffe 2014).

Yemen is one of the most food insecure countries in the world. In May 2023, the Food and Agricultural Organization (FAO) and WFP designated Yemen one of eight "hunger hotspots"—countries where a significant proportion of the population suffers from acute food insecurity and where hunger levels may increase in the near future (WFP and FAO 2023). This places Yemen in the company of Afghanistan, Haiti, Somalia, South Sudan, Sudan and the Sahel countries (in particular Burkina Faso and Mali). In common with Yemen, these are all FCV affected countries.

Figure 3.1: Prevalence of insufficient food consumption by country—countries reported with high (above 30%) or very high prevalence (above 40%).



Source: Compiled by the authors from WFP mVAM surveys across different countries

Comparison with peer countries gives a sense of poverty levels, albeit with caveats. With some exceptions, operational constraints have limited the ability of the World Bank and peer organizations to measure monetary poverty in almost all of the countries named above in recent years.[6] But based on available data, each is among the poorest 15 percent of all countries worldwide. Country-level comparative analysis of non-monetary poverty indicators including the Multiple Indicator Cluster Survey data gathered by Yemen's Central Statistical Organization and UNICEF yields similar results (section 4). Where monetary poverty data has been collected recently in other contexts, the picture is bleak. In November 2023, for example, the World Bank issued its first poverty assessment for the Central African Republic—where food consumption scores are better than in Yemen—and found 69 percent of the population lives in poverty (World Bank 2023g).

This chapter first provides a big-picture view of access to food over the course of the conflict, then shows the precarity and vulnerability of Yemeni households who regularly move in and out of inadequate food consumption. This viewpoint indicates both unreliability of income and livelihood sources, but also vulnerability to the many economic

6 Of the ten countries with the highest levels of inadequate food consumption, few have up to date poverty data. Only Mali has data available from the 2020s (2021) while there has been no formal poverty assessment in Syria since 2007. Somalia (69% headcount poverty, estimated in 2017-2018), Niger (50.9%, 2018), Afghanistan (54.5%, 2016), Mali (44.6%, 2021), Syria (35.2%, 2007), Guinea (43.7%, 2018), Chad (42.3%, 2018), Burkina Faso (41.4%, 2018), Sierra Leone (56.8%).

shocks experienced since the start of the war. It then asks what is driving food insecurity and poverty, with a specific focus on the role played by economic conflict-driven currency depreciation. Finally, it analyzes microdata gathered in 2022 and 2023 to provide a granular picture of the dynamic nature of poverty and food insecurity at the subnational level.

Box 3.1: Measuring access to food in Yemen

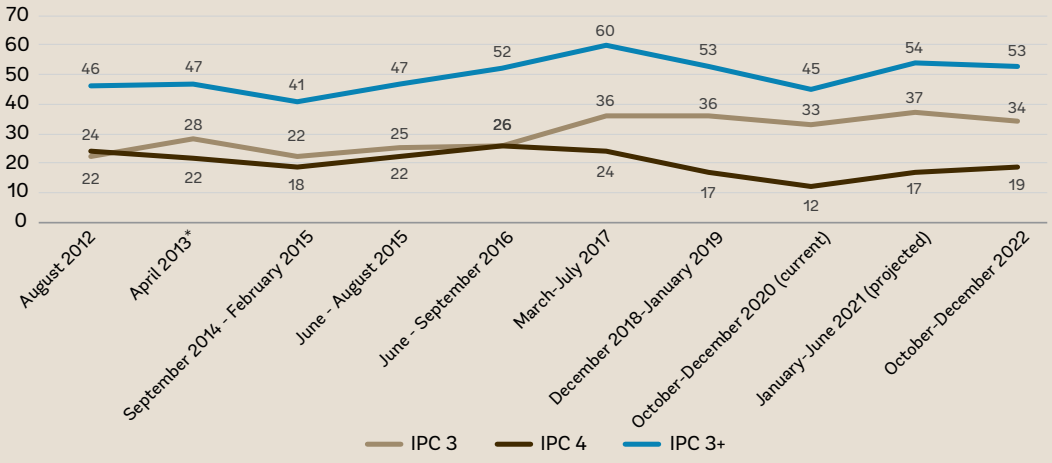
Food security is measured along four dimensions: availability, access, utilization, and stability:

- **Availability** refers to the general stocks of food available for purchase via production and import.
- **Access** describes households' financial ability to purchase food available in markets at prevailing prices.
- **Utilization** refers to health outcomes and ensuring that individuals are healthy enough to live an active and full life.
- **Stability** refers to the stability of each dimension over time.

The overall severity of the food emergency and changes in food access throughout this report are analyzed using more than one standard measure of food access: the Food Consumption Score (FCS) and the Reduced Coping Strategies Index (rCSI). Respectively, the indicators capture the weighted sum of the number of days a household consumed key food groups and the weighted sum of the number of days a households relied on negative food coping strategies in the past week. Importantly, each measure correlates with undernourishment, defined as consumption below the minimum daily energy requirement, and undernutrition, defined as insufficient consumption of nutrients needed to maintain good health (Headey and Ecker 2013; Maxwell, Vaitla, and Coates 2014)there persists significant dissatisfaction with existing measurement systems, especially in the wake of the ongoing food and financial crises. In this paper we first set out a list of criteria that an ideal food security measurement system should satisfy. In addition to standard issues of cross-sectional validity, our criteria include inter-temporal validity (the ability to gauge trends and shocks. An FCS at or below 42 and an rCSI at or above 19 is typically used as the threshold for emergency food assistance.

The WFP's monthly household monitoring survey captures both indicators, the FCS and rCSI, on a monthly basis since 2015. Along with additional a data from face-to-face annual food security assessment and subject matter experts, the monthly phone survey data is used to determine the Integrated Food Security Phase classification (IPC) of each district in Yemen on an annual basis. As of December 2022, 17 million people, over 53 percent of Yemenis, were likely to be in a crisis food security situation (IPC3) or worse. The IPC recorded the highest prevalence of food security crises in 2017 (Figure 3.2), and December 2018 recorded 63,500 Yemenis living in a catastrophe food crisis (IPC5).

Figure 3.2: Prevalence of IPC3, IPC4 and IPC3+ from 2012 to 2022



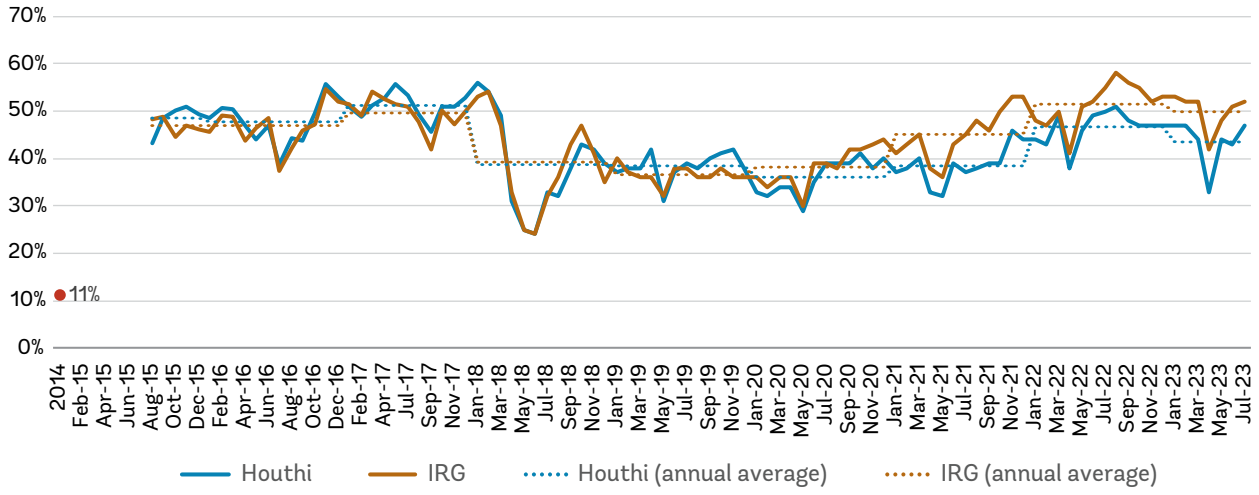
Source: Extracted from Yemen: Acute Food Insecurity Situation. Note that the data is not available on a regular basis and includes a partial analysis in April 2013 and a projected classification in January-June 2021.

3.1 OVERVIEW OF ACCESS TO FOOD SINCE 2014

Multiple events since 2015 have restricted access to food, with immediate and sharp deterioration in the war's early years followed by periods of additional decline. The relationship between events and food security is traceable because the WFP has captured prevalence of inadequate food access since early 2015 through a regular phone survey. Figure 3.3 summarizes the evolution of inadequate food consumption, which can be mapped to some of the key economic and political events in Figure 3.4. Key events can be broken down into three broad categories:

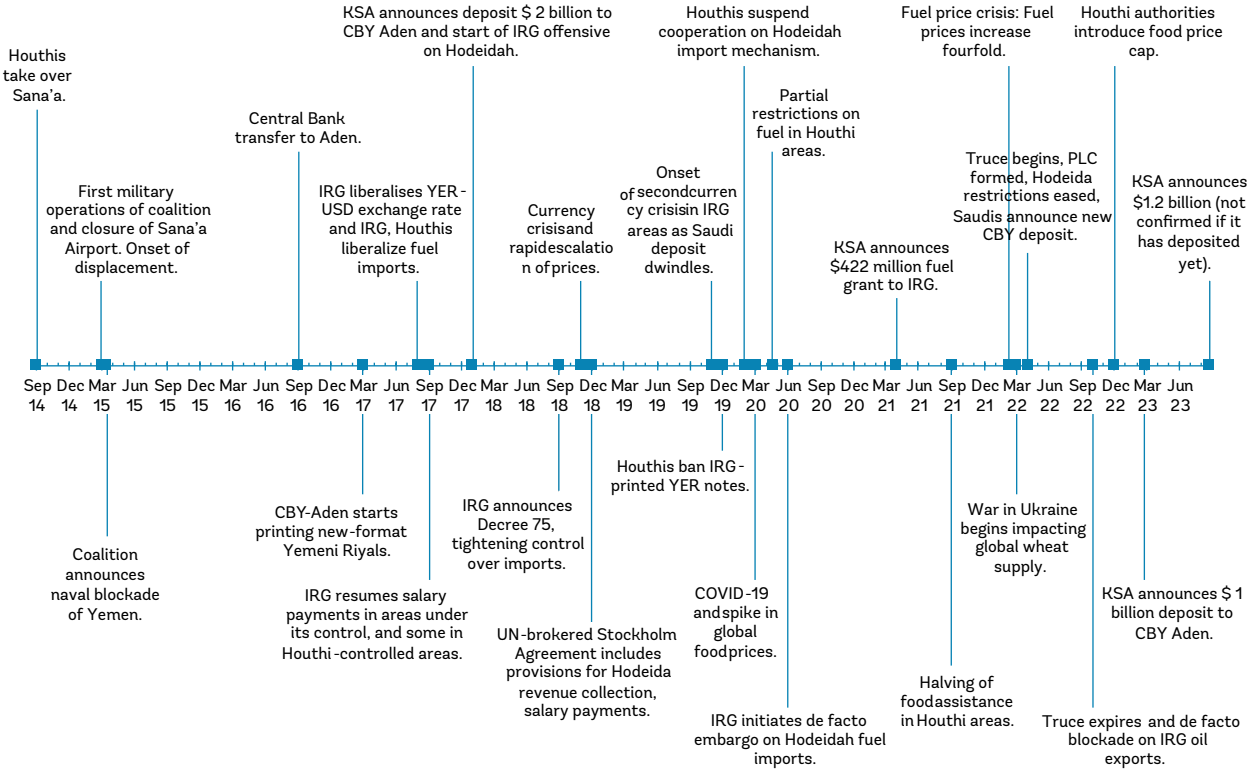
- **Direct war:** These include the destruction of infrastructure and fixed capital, limited access to electricity, and barriers to the movement of people and goods.
- **Wartime economic policies:** Implemented by the warring parties, and sometimes described as the "economic conflict".
- **External shocks:** These include the COVID-19 drain on the global economy in 2020, rising commodity prices after Russia's invasion of Ukraine in 2022, and the halving of food aid to Houthi-controlled areas in 2021.

Figure 3.3: Prevalence of inadequate food consumption score (2014- July 2023). Higher is worse.



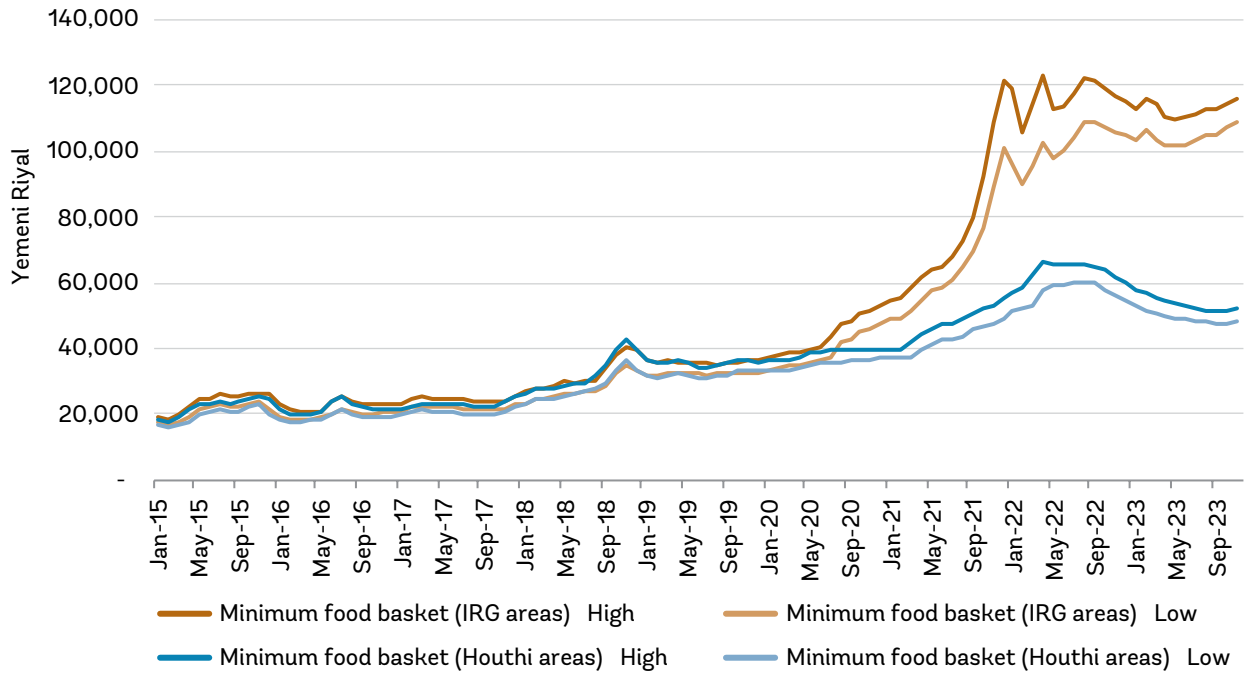
Source: Extracted from WFP regular monitoring phone surveys, available online from 2018 onwards. Data point for 2014 is calculated from the HBS 2014.

Figure 3.4: Timeline of key events in Yemen's recent history. A more detailed timeline can be found in Appendix A.



Note: The main surveys referred to in this report were the HBS collected from January to December 2014, the Yemen Human Development survey was collected in April-September 2021, and the monitoring surveys collected in August-September 2022 (Round I) and February-March 2023 (Round II). WFP phone survey data has been collected on a monthly basis since August 2015.

Figure 3.5: Nominal cost of minimum food basket



Note: The nominal cost of the minimum food basket is computed from the monthly food price estimates by product and market (Andrée 2021), which uses a combination of direct price measurement sourced from WFP weekly price surveys and machine learning estimation of missing price data. While wages are likely to have increased over the same period of time, it is not likely to be at the same rate as food price inflation. Unfortunately, accurate data on wages have not been collected for Yemen, and the purchasing power parity conversion factor has not been computed for Yemen since 2013. The minimum food basket is based on the operational guidance note from the cash and markets working group which suggests the following for a family of seven for one month: 75kg wheat flour, 10kg kidney beans, 8kg vegetable oil, 2.5kg sugar and 1kg of salt (Cash and Markets Working Group 2022). The highest and lowest price of the minimum food basket recorded in the month are shown here.

The most dramatic change in food security came in 2015, as an additional one-third of the country became food insecure. At the outbreak of conflict, 11 percent of Yemenis had a poor or borderline food consumption score (FCS) (HBS 2014). Already by August 2015, 48 percent had poor or borderline FCS in Houthi-controlled areas and 43 percent in IRG areas, indicating a major deterioration of living conditions.[7] Other data sources corroborate an immediate decline in other aspects of well-being—including household expenditure and the adoption of negative coping strategies—following the onset of conflict (Favari et al. 2023).

In 2018—the year when food insecurity was at its worst—the war's physical and economic dimensions intersected. Food insecurity reached a nadir of around 56 percent with inadequate food consumption in mid-2018. At the same time, IRG forces sought to physically seize control of Hodeidah, one of Yemen's biggest and most important ports, and to use its legal powers to re-route imports and financial flows from Hodeidah and Sana'a to Aden (ICG 2022).

7 The prevalence of inadequate food security in 2014 (11 percent) and 2015 (48 and 43 percent) are calculated from the Household Budget Survey 2014 and the mVAM phone surveys. Because of different data collection methods used (face-to-face and remote interviews), these data points are not strictly comparable, but give a sense of how quickly the food security situation changed.

As is discussed in more detail below, after improving in 2019 and 2020, reaching its lowest level since the war began in May 2020, food insecurity again steadily worsened. This decline coincided with several different shocks: the escalation of the economic conflict, which is described in more detail below, the Houthis' military campaign in Marib, the COVID-19 pandemic, the 2022 Russian invasion of Ukraine and accompanying price shocks, and declining funding for international aid.

Several periods of improvements in food security—or at least, easing of food insecurity—have occurred since the war began. Seasonal patterns, indicated by the sharp troughs in Figure 3.3 coincide with the start of Ramadan each year, where many households have better access to food and remittances up to Eid (ACAPS 2021). Food access also appears to have eased since the announcement of a UN-brokered April 2022 truce. But the baseline is so low for Yemen that even in an improving situation, large parts of the country continue to live in IPC3+ conditions, or acute food insecurity.

3.2 DRIVERS OF POVERTY AND FOOD INSECURITY: ACCESS, AVAILABILITY, POLICY

From the start, the food crisis was understood to be one of access rather than availability. Food is generally said to be available in markets, while prices have risen sharply over the course of the conflict and household incomes have become increasingly precarious and failed to keep pace with inflation.[8]

Nonetheless, availability is likely a contributing factor to hunger, and could drive future price shocks. Food import volumes have recovered since the war's early years, but domestic production—which accounted for about a third of prewar food supply—has fallen by around 55 percent. Local production accounts for about 10-15 percent of total supply, down from about 20 percent pre-war. Overall, Yemeni markets were supplied with around 3.125 million tons of basic food commodities in 2022, compared to 3.27 million tons in 2014.[9]

Given that Yemen's population grew by an estimated 18 percent between 2015 and 2022, it is reasonable to argue that food has become less available on a per-capita basis since the war began. Suppressed demand due to falling incomes and higher prices may have masked the comparative decline in availability. Some reporting from Yemen suggests that, as rural communities have become poorer, demand from local markets have withered away due to a combination of limited or erratic demand, and unpaid credit lines (ICG, 2022). Further data collection is needed to understand the extent of the food availability challenge. If food and other basic items are limited in Yemeni markets, injecting cash into the economy, through cash transfers or a resumption of public sector salaries, could have inflationary effects.

Since at least 2019 the primary determinant of higher prices appears to be depreciation of the Yemeni Riyal, particularly in IRG areas (discussed in Box 3.2). A decomposition analysis of inflation shows that the depreciation of the Riyal has played a critical role in the rising cost of living for Yemenis (World Bank 2023c). International and internal barriers to movement further increased the cost of living. Between the second half of 2016 and 2022, a 63 percent correlation was observed between changes in the Riyal-to-US dollar exchange rate and consumer price inflation (World Bank 2023c). This strong pass-through effect is due to Yemen's reliance on imports, the prevalence of exchange-rate-based pricing, and the progressive loss of confidence in the local currency (World Bank 2023c).

8 See for example, *Yemen: Global wheat supply dynamics and their impact*, ACAPS, August 2022: "While food markets are generally functional and food commodities remain available, affordability remains to be the main challenge for Yemenis".

9 *Ibid*.

Currency bifurcation also helps explain the reversal of food security dynamics between Houthi and IRG areas since 2019. During the first few years of the war, Houthi-controlled areas had the worst food security outcomes. But since 2019, the situation has reversed. As Figure 1.3 a 3.5 show, the depreciation of the Riyal in IRG areas drove a surge in the price of basic goods in IRG areas after 2019 while prices in Houthi-controlled areas, along with the Riyal, remained relatively stable.[10] Higher prices had a knock-on effect on food security in IRG areas. More recently, the Houthis have imposed price controls in their areas, improving price stability but leading to warnings from traders that local markets may suffer from supply issues if these controls cause businesses to lose money.

Food security is not sensitive to all potential shocks. Import restrictions leading to higher fuel prices in 2018-2020, for example, did not demonstrably lead to worsened food security. Higher fuel prices did not translate to rising food costs nor an increase in food insecurity, perhaps because better-off households who rely on fuel for generators or cars are more affected rather than Yemenis closer to the food poverty line (Favari et al. 2023).

Box 3.2: Yemeni Riyal Depreciation and Market Prices

Since 2015, the Yemeni Riyal has suffered repeated bouts of depreciation and Yemen has fragmented into two different currency regimes. In 2016, the IRG moved the Central Bank of Yemen (CBY) headquarters to Aden creating, in effect, a new institution. While the CBY retained access to markets and monetary instruments, it has lacked adequate foreign-exchange liquidity. Faced with mounting financial pressures, exacerbated by the collapse of oil production and exports in 2015 (and the related loss of foreign exchange), the IRG resorted to monetary financing of the fiscal deficit. A growing external deficit depleted hard-currency reserves, prompting the CBY to abandon the de facto dollar reference (see timeline in Figure 3.4), leading to rapid currency depreciation and inflation.

After several episodes of rapid depreciation between 2017 and 2019, the Yemeni Riyal briefly stabilized in early 2019 following an announced Saudi deposit of hard currency at CBY-Aden. In December 2019, as the deposit dwindled, the Houthis banned new IRG-printed Riyal notes, concentrating supply in less populous government areas. Only old bank notes were accepted in Houthi-controlled Sana'a (Figure 3.6), which remained Yemen's banking and trading center, benefiting from greater remittance inflows and foreign aid executed through the formal banking system, and hence greater hard currency liquidity. The Riyal depreciated in IRG-controlled areas as a result, while remaining relatively stable in Houthi-controlled areas.

Figure 3.6: Merchant handling old currency, the only form of currency legalized in areas under Houthi control.

Source: Ali Al-Sunaidar

continued on the next page

10 When converted to dollars using prevalent exchange rates, prices for many goods are slightly higher in Houthi-controlled areas (ICG 2022).

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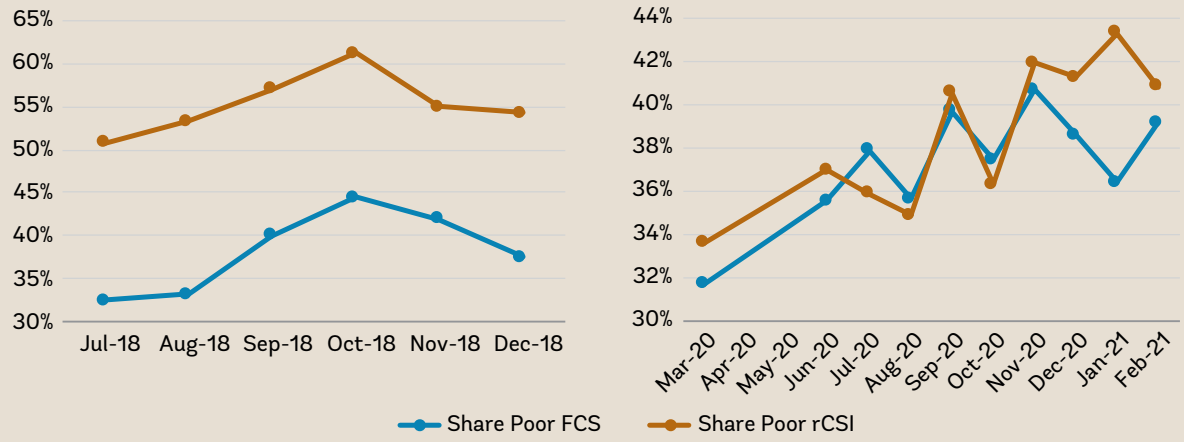
Currency depreciation has had disastrous consequences for ordinary Yemenis. The average cost of basic food items priced in Riyals increased substantially in every district in Yemen between 2015 and 2019. Bifurcated monetary policies in IRG and Houthi-controlled areas have led to sharp divergences in food pricing in Riyals, which the majority of Yemenis use for purchases, with the Riyal cost of basic items in IRG areas appreciating much more quickly than in Houthi ones (Figure 1.3 and 5).

The currency crisis and rising food prices have wreaked havoc on Yemeni households, particularly on those already on the cusp of food insecurity. Figure 3.7 plots the results of WFP phone surveys: a) the share of Yemeni households with poor or borderline FCS, and the share with a low or medium rCSI, increased by 11 and 10 percentage points, respectively, between July and October of 2018—the month when the (IRG) Riyal reached its lowest value, b) the share of households with a poor or borderline FCS and a low or medium rCSI increased seven percentage points each between March 2020 and February 2021. An estimated additional 3 million Yemenis suffered poor food access in 2018 and 2 million in 2021.

Figure 3.7: Evolution of Food Security: a) 2018 currency crisis, b) 2020 currency crisis



Source: Surviving in the Time of War (Favari et al. 2023)

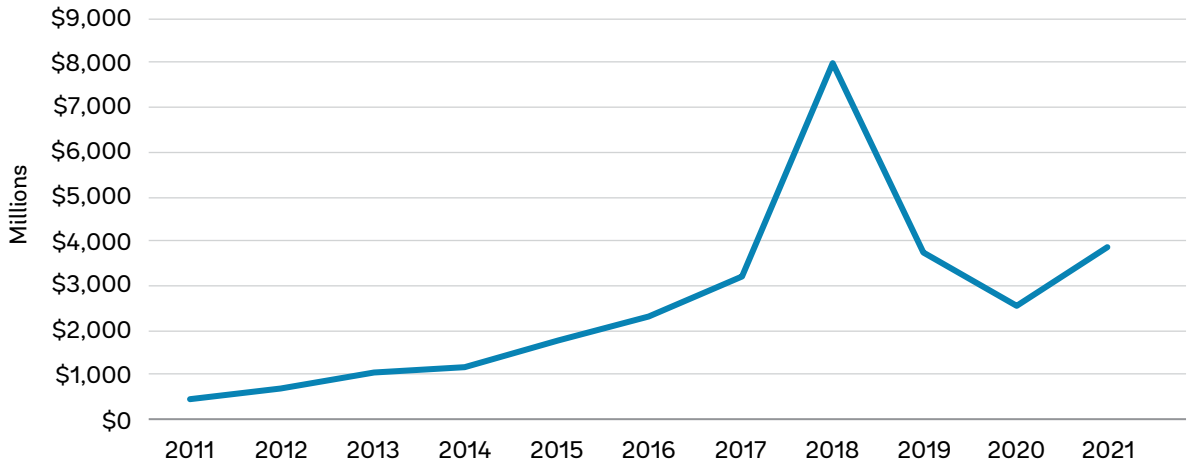
Deposits, grants, and foreign currency auctions have led to temporary macroeconomic improvements, but have been inconsistent and insufficient. Given the link between external deficits, the Yemeni Riyal-US dollar exchange rate(s), food prices, and inadequate access to food; hard currency injections have helped alleviate hunger and poverty. A Gulf state hard-currency deposit to the IRG's Aden-headquartered central bank was first rumored in the wake of the bank's transfer from Sana'a to Aden. But a first deposit—of US$ 2 billion, provided by Saudi Arabia—was not announced until 2017, and the government was not able to access funds until 2018. The announcement alone was enough to temporarily stabilize the Riyal. In 2022 and 2023 the IMF approved IRG requests to draw down more than US$ 500 million of Special Drawing Rights to help defend the currency via regular dollar auctions in Aden (World Bank 2023d).

Governance concerns have likely delayed additional deposits and grants. The government began negotiations over a new deposit in 2019 but was unable to secure the funds by the end of the year, when the Houthis banned the new IRG Riyal notes. Concerns over corruption and management of the deposit were a key factor in the lengthy negotiations. Another deposit was announced only in April 2022, and funds were again only made available the following year. The announced deposit similarly led to initial stabilization followed by a period of depreciation. Government officials believe that regular currency auctions initiated in 2021 helped stabilize the Riyal, but the set exchange rate and limited government funds muted the effect.

3.3 RELIANCE ON AID AND REMITTANCES

Yemenis have become highly reliant on external funds, in the shape of aid and remittances. Yemen received some US$ 25 billion in Overseas Development Assistance between 2015 and 2021 (Figure 3.8), while remittances have likely replaced oil and gas as the main non-aid source of hard currency in Yemen (as discussed in section 2 and the CEM (World Bank 2023c)).

Figure 3.8: Net Official Development Assistance received (current US$ millions)

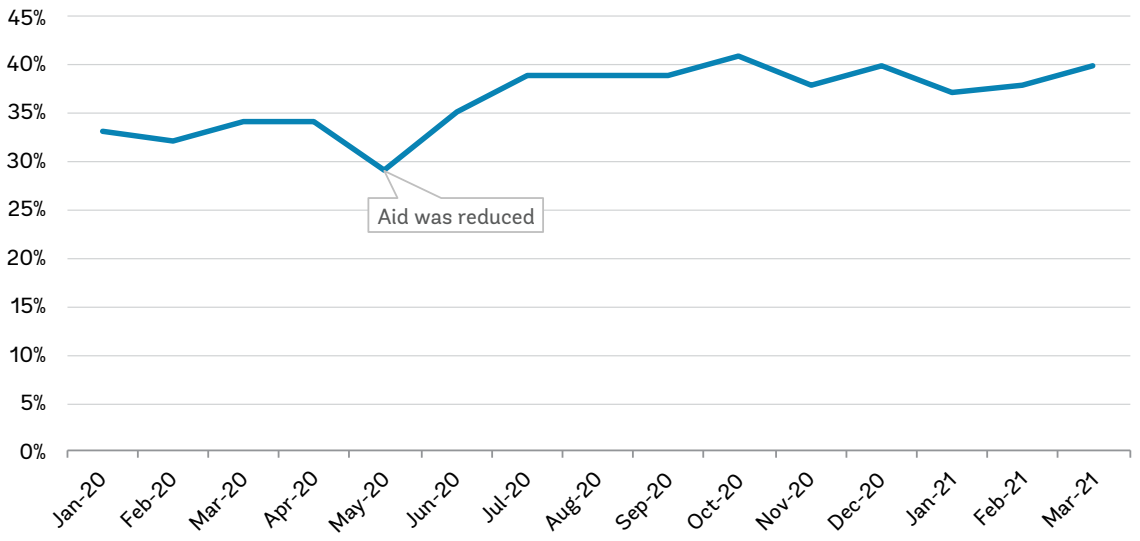


Source: Word Development Indicators.

Aid demonstrably improves food security. In 2020, after some forms of aid were halved in Houthi-controlled areas, Yemen saw a five percentage point increase in the prevalence of households with poor food security (Favari et al. 2023). WFP halved the frequency by which beneficiaries received aid because of a decline in donor support (not a change in humanitarian needs). WFP phone surveys in Houthi-controlled areas found that the share of the population with poor or inadequate food consumption scores increased from around 34 to 39 percent following the decline in food assistance, representing a worsening of 15 percent. The harm was immediate and persistent (see Figure 3.9).[11] This finding raises important concerns regarding food security in Houthi-controlled areas if WFP is unable to deliver humanitarian food packages, even for a short period of time. Along with the WFP in-kind support for needy households, the Emergency Cash Transfer Program is one the largest aid programs in Yemen, further described inBox 3.3: Emergency Cash Transfers3.

11 This finding is also robust to considering some important concerns, including increase in food prices, which would explain a maximum of 2.5 percentage point increase.

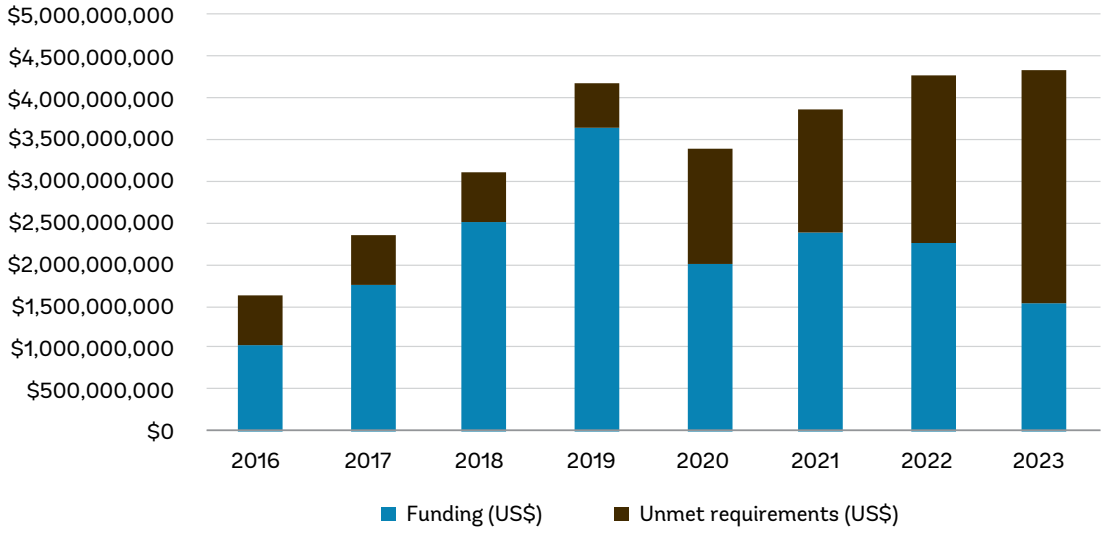
Figure 3.9: Prevalence of households with poor food consumption score in Houthi-controlled areas



Source: WFP monthly surveys, Surviving in the Time of War (Favari et al. 2023)

But humanitarian aid and development support is in increasingly short supply. Funding to Yemen has been declining since peaking in 2019. Since then, the gap between humanitarian needs and funding has widened to around US$ 1.5 billion in 2023, less than half of the UN target. It should be stressed that data on total aid commitments is inconsistent, as commitments are made by each country or entity through a variety of mediums that are hard to track, including speeches, conferences, social media, and closed-door meetings. The recent decline in aid inflows and increasing unmet requirements reflects a rapidly shifting geopolitical context, growing competition among global humanitarian and development priorities, and increasing hesitancy among donors to engage with opaque and unreliable public administration.

Figure 3.10: Humanitarian funding to Yemen, met and unmet



Source: Financial Tracking Service

Aid delivery has become increasingly politicized and challenging. International organizations face mounting allegations that aid is being diverted by local actors to reward their preferred constituencies and deprive less favored groups (Vuylsteke 2023). It is beyond the scope of this report to assess the veracity of these claims, but key donors and aid agencies have on several occasions chosen to suspend support in Houthi-controlled areas amid concerns over compromising humanitarian principles. In 2019, the WFP partially suspended its aid programming in Houthi-controlled areas during negotiations over controls designed to prevent aid diversion.[12] In late 2023, WFP paused general food distributions in Houthi-controlled areas amid global funding shortages and a standoff with the authorities over a more limited distribution program.[13]

Remittances from Yemeni laborers working abroad, mostly in Gulf Cooperation Council Countries (GCC), have long played a significant role for the Yemeni economy (Lackner 2023). Remittances have been a lifeline for many struggling families during the current conflict, while also providing a source of foreign exchange that has helped to stabilize the currency, particularly in Houthi-controlled areas (ACAPS 2021). Annual remittances may amount to one-quarter of GDP or more (World Bank 2023d). In 2021, remittances were about US$ 4 billion according to official estimates, but the 2023 CEM estimated that remittances may have been worth a figure closer to US$ 7 billion in 2021 (World Bank 2023c). Even at the low-end estimate of US$ 4 billion, remittances have clearly replaced hydrocarbon exports as Yemen's main source of foreign exchange. Additionally, the most recent Yemen Economic Monitor finds the total size of official remittances rebounded in 2022 (World Bank 2023d), growing by 11 percent in nominal dollar terms, after anecdotal evidence suggested a reduction in remittances as a result of Yemeni workers not being able to keep or find jobs in the GCC countries (Ahmed, Zaid, and Mohsen 2019).

The current volume of remittances and number of households that receive them are difficult to determine with current data. Future mobile phone surveys could attempt to explore more, but the first two rounds of the World Bank phone surveys ask households about their main sources of income. Only 1 percent of households report remittances to be the main source of income, while three percent report aid to be the main source (World Bank 2023e; 2023f). This does not mean that more households do not receive remittances or aid, but that the amount is not considered significant enough to report as the main source.

With aid declining in Yemen, more emphasis is needed to strengthen existing systems and make them more interoperable between development and aid agencies to provide long-term and sustainable solutions. Development and humanitarian partners recognize the need to provide a range of support to the most at-risk households for them to emerge from this state of precariousness, most notably through the geo-bundled continuum of support from around the world (World Bank 2022). Better targeted and higher value transfers could be more helpful than widespread transfers. Given declining aid, including from IDA, making delivery systems interoperate between development and aid agencies would help achieve this. Shifting from isolated emergency relief to a packaged, tailored model could help maximize limited aid budgets and build self-reliance for Yemen's most vulnerable.

12 *World Food Programme begins partial suspension of aid in Yemen*, WFP, 20 June 2019.

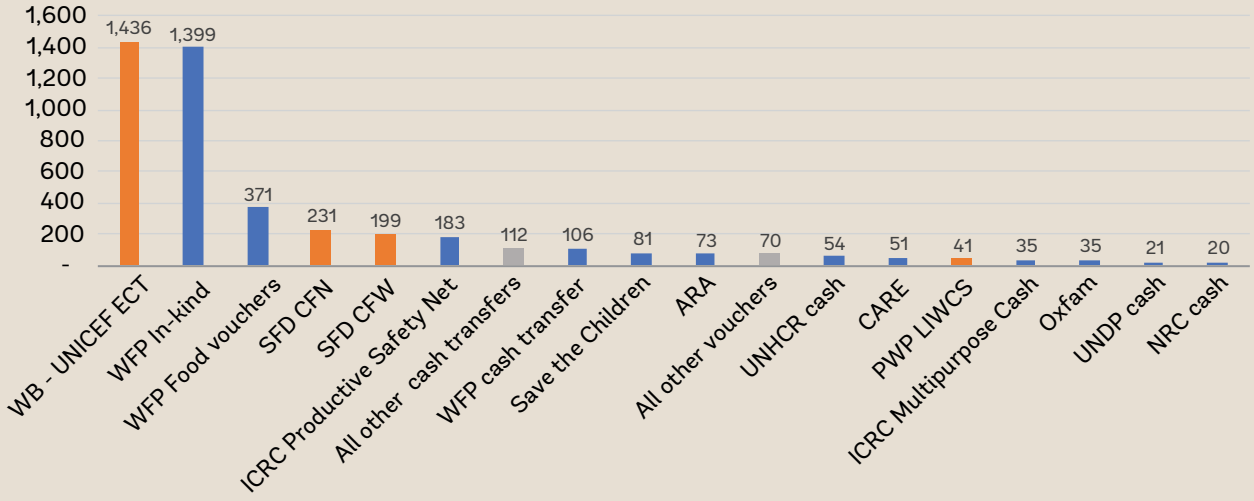
13 Lynch, Colum, *Scoop: US halts some Yemen aid, plays diplomatic hardball with Houthis,* Devex, 12 October 2023.

Box 3.3: Emergency Cash Transfers

Emergency support provided by the humanitarian and development community has provided an important lifeline to struggling households. One of the main forms of assistance that directly support Yemeni households is the Emergency Cash Transfer (ECT) program, delivered by UNICEF and the Social Fund for Development and financed by the International Development Association. The ECT program reaches just over 1.4 million households across Yemen three times a year. Initially implemented by the government of Yemen through the Social Welfare Fund, the program was discontinued after the outbreak of the civil war in late 2014. Currently, UNICEF, in partnership with the Social Fund for Development (SFD), is delivering the UCT program, with 17 payment cycles completed by the end of 2023. Key achievements of the program, as highlighted by the Third-Party Monitoring (TPM) in Payment Cycle 16 (July 2023), include a high percentage of respondents (99 percent) reporting receiving the correct amount of cash payments and 97 percent expressing satisfaction with the UCT.

The second largest form of assistance is the WFP program which delivers food assistance to around 1.4 million households per month based on the food security needs determined from an annual needs assessment. Additional programs include the Cash for Work (CFW) program, a supplement to the ECT to address temporary poverty and the Cash for Nutrition (CFN) program. Figure 3.11 summarizes the main assistance programs for Yemen.

Figure 3.11: Number of beneficiary households by main programs (in 1,000s) in 2020



Source: Social Protection at the Humanitarian-Development Nexus (Ghorpade and Ammar 2021). In orange are "development programs" while blue are "humanitarian" focused.

The ECT program is remains a crucial lifeline for struggling households in a context of widespread poverty and dire living conditions. To protect households from the rapid currency depreciation in IRG areas, the program fixed the benefit amount in US dollars in 2019. However, the purchasing value of the cash transfer remains inadequate due to rising global food prices and has gradually decreased from 20 percent to 9-11 percent of the cost of a basic food basket. Declining adequacy reduces the ability of the program to protect beneficiaries from shocks while maintaining minimum levels of consumption. As poverty levels are so high in Yemen, most households should qualify for the program. But the beneficiary list originated from Yemen's national Unconditional Cash Transfer program and was developed by the Social Welfare Fund in 2011. The

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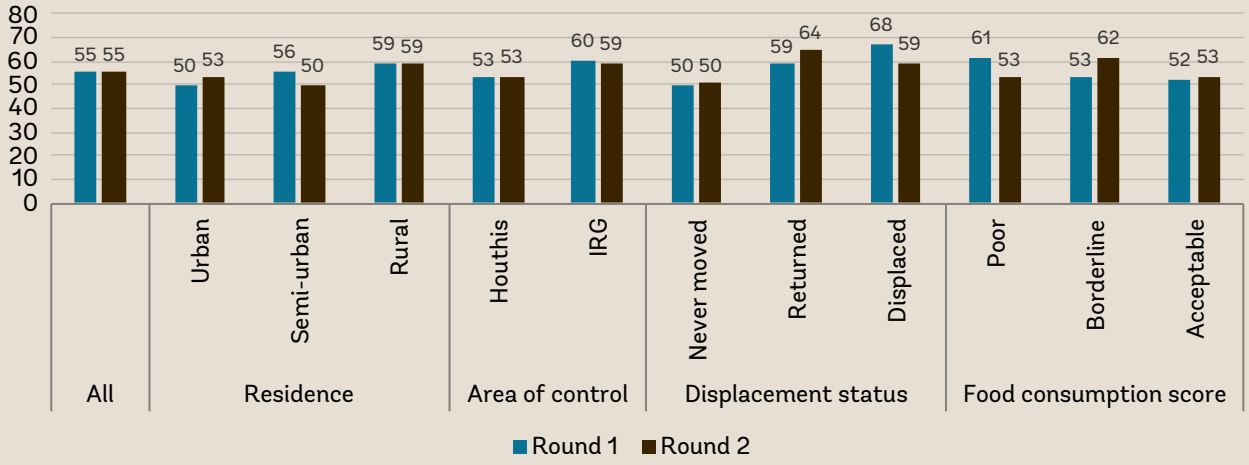
Social Welfare Fund was viewed as a pioneer in the region for using a sophisticated household survey-based proxy means test to identify the poor using the 2005 HBS. Unfortunately, this beneficiary list does not reflect the changing reality of poverty for Yemeni families, many of whom might have been above the poverty line in 2005 but have been devastated by years of conflict. Additionally, the beneficiary list excludes entirely new families formed in the last 18 years. In a context of widespread and extreme poverty, these concerns are less problematic. In addition, political considerations make the retargeting of the program extremely challenging and contentious.

While the exact type of assistance a household receives cannot be determined from the World Bank's phone surveys, 55 percent of households reported receiving some type of assistance in the last three months, and most of these beneficiaries report receiving in-kind support. Some differences in the prevalence of aid received exist. For example, rural households, those living in IRG areas, the displaced and returnees, are more likely to receive aid, but the relationship with food security is not so clear (World Bank 2023e; 2023f). In particular, in Round II, households with borderline food consumption scores were more likely to receive aid compared to those with poor consumption scores. This result could indicate that reception of aid has improved the household's food consumption score, or could be evidence that better targeting is required.

Figure 3.12: Reception of aid by phone survey round and subgroup



Source: World Bank phone surveys Round I (World Bank 2023e) and Round II (World Bank 2023f)

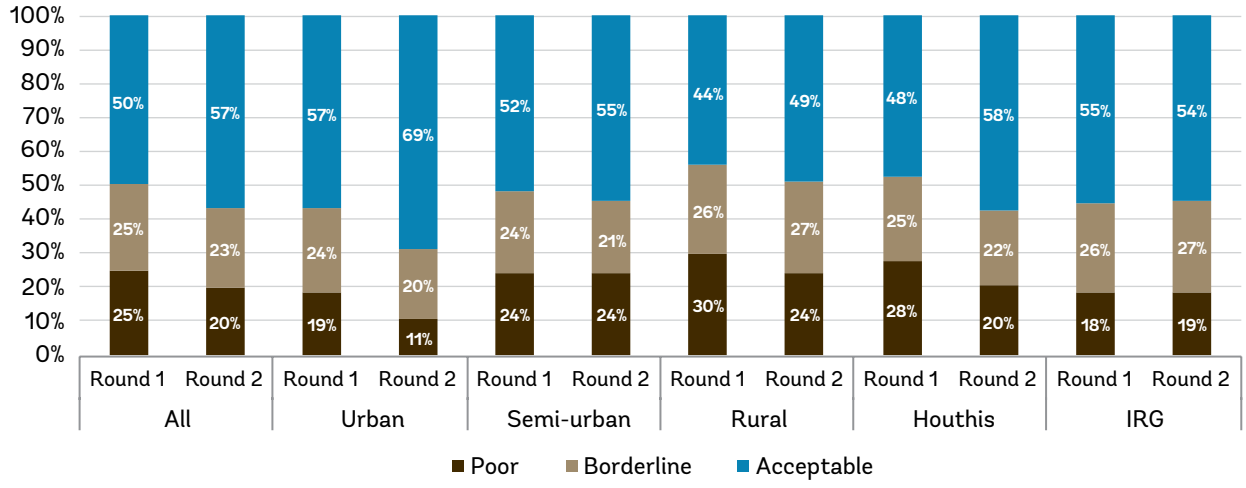
While less pressing than adequacy and targeting accuracy, benefit accessibility and financial inclusion are additional dimensions that the ECT program is working to improve. As per successive Third-Party-Monitoring Reports (TPM) some respondents report having to travel long distances or endure lengthy wait times at payment sites, particularly in southern governorates like Aden and Lahj. To address this, the ECT program successfully piloted provision of benefits via mobile phone e-wallets in eight districts, with over a third of ECT beneficiaries having successfully opened e-wallets to receive payments in the December 2023 payment cycle. A prerequisite to opening e-wallets is having a National ID, which less than half of ECT beneficiaries reportedly own. To cover the cost of acquiring one, the ECT project offered top ups to benefits in pilot districts to cover the cost of acquisition. The expansion of digital payment options toward the majority of districts in Yemen through 2026 will thus improve accessibility to benefits, increase national ID ownership – which bears additional development impacts and promotes financial inclusion among ECT beneficiaries, half of which are women.

3.4 MICRO-TRENDS IN POVERTY AND FOOD INSECURITY

To better understand the drivers and dynamics of food insecurity and poverty, the World Bank conducted two phone surveys in 2022 and 2023, during a period when the conflict was halted by a nationwide truce. The microdata from these surveys provides new insights into recent trends. The first survey was conducted over August and September 2022, while the second round took place between February and March 2023. They demonstrate the stickiness of poverty and food insecurity in rural non-Houthi areas, the complex interdependencies between poverty, food insecurity and political and conflict dynamics, and the continued precarity most Yemenis experience.

Food security experienced limited improvements in the period between the 2022 and 2023 surveys. Figure 3.13 compares food consumption over the two rounds and for individual groups. The share of households reporting poor or borderline food consumption scores decreased from 50 to 43 percent. This improvement is likely related to three key factors: the easing of restrictions of fuel at Al Hodeida port in 2022 and 2023,[14] a decrease in international wheat prices, and introduction of price caps for food items in Houthi-controlled areas since December 2022 (Yeti 2022). It should be noted that while price caps are currently protecting households from falling into food insecurity—and could explain why the Red Sea conflict has not caused an immediate increase in food prices—price caps are not considered an efficient method to protect the most vulnerable. Rather, the increased global costs will be passed onto producers who will be less willing to provide goods to the market, potentially creating a shortage.

Figure 3.13: Prevalence of poor, borderline, and acceptable food consumption score by survey round

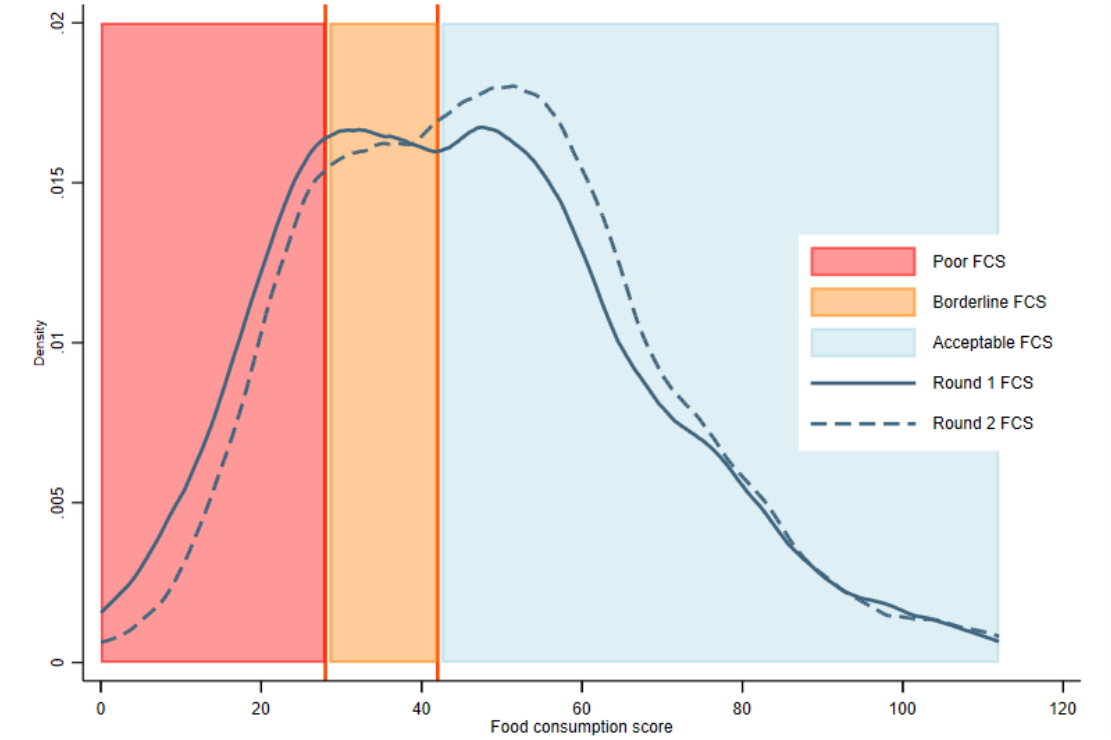


Source: World Bank phone surveys Round I (World Bank 2023e) and Round II (World Bank 2023f)

Despite these small recent improvements, the survey results highlight the continued precarity of household living conditions and vulnerability to shocks. Most households are living in extremely difficult conditions, barely hovering above the threshold of adequate food access. As Figure 3.14 shows, many households are clustered around the thresholds for borderline food access and can be considered vulnerable to potential shocks.

14 https://www.aljazeera.com/news/2023/1/4/after-months-calm-yemen-looks-anxiously-new-year

Figure 3.14: Kernel density distribution of food consumption score in Round I and II of World Bank phone surveys



Source: World Bank phone surveys Round I (World Bank 2023e) and Round II (World Bank 2023f)

Not all Yemenis experienced improvements in 2023. The overall easing of food insecurity was driven by households shifting from borderline to acceptable food access, but some segments of the population had the opposite experience, as Figure 3.15 shows: 7 percent of those surveyed with borderline food access in 2022 had poor food access by 2023, and 13 percent with acceptable food consumption saw a deterioration to borderline or poor food consumption. This highlights how Yemeni households routinely move in and out of food security depending on the season, exposure to shocks, and coping strategies available to them. It also emphasizes the importance of regular monitoring of food security in an ever-evolving conflict environment.

Figure 3.9: Flow of households experiencing poor, borderline, and adequate food access between World Bank phone surveys

Source: World Bank phone surveys Round I (World Bank 2023e) and Round II (World Bank 2023f)

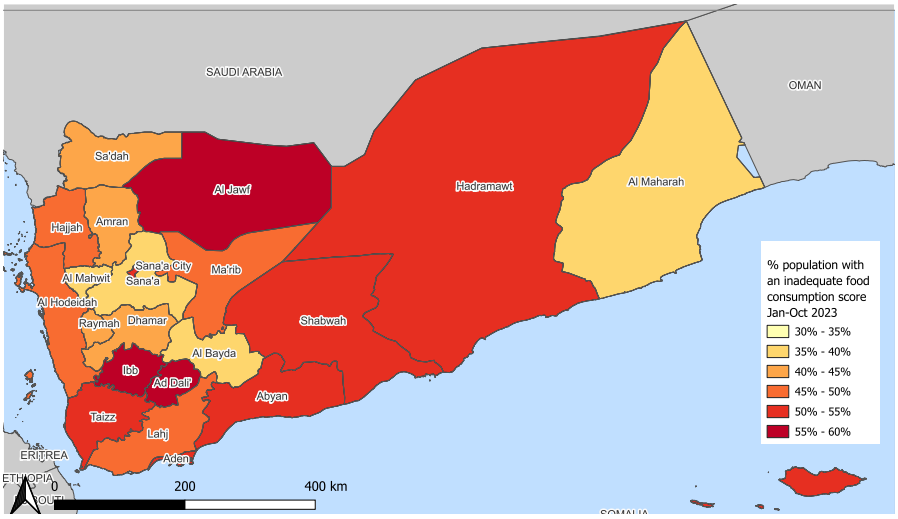
An analysis of governorate-level food security indicates that outcomes are correlated with conflict dynamics, subnational economic trends, global economic drivers and donor priorities—but governorates are not affected uniformly. Most governorates experienced improvements between 2015 and 2018, before suffering a reversal. Figure 3.17 highlights how a few governorates, mostly in Houthi areas of control,[15] started with initially poor food security outcomes, experienced relatively significant overall improvement from 2015 to 2023, with outcomes improving from 2015 to 2019 before declining and improving again from 2022 onwards. Others shown in Figure 3.18, mainly in IRG areas,[16] experienced a significant decline over the same period, with deterioration setting in after 2019. Map 3.1 shows the governorate level prevalence of inadequate food consumption, averaged from January to October 2023. Lahj, Al-Jawf, and Al-Beida are the worst performing governorates—59 to 60 percent of the population have inadequate FCS; while Al-Mahwit, Aden and Sana'a city are the best performing governorates—35 to 38 percent of the population have inadequate FCS.

These more dramatic improvements and declines are explained by factors discussed in detail elsewhere in this report. Improvements in Houthi-controlled areas are precipitated by rising aid volumes, which peaked in 2018 before reversals driven by the sharp drop in aid post-2019, the more limited but nonetheless evident decline in the value of the Yemeni Riyal, and rising global commodity prices during the COVID-19 pandemic and Russian invasion of Ukraine. Improvements recur after the 2022 truce allows for more fuel and food shipments to Houthi areas. IRG areas follow similar patterns but suffer a much deeper decline from 2019 onwards due to the greater depreciation of the Riyal in these areas. Declines in IRG areas occur mainly in governorates that are on key conflict frontlines and either lack indigenous resources, or see income cut off due to the Houthi oil export blockade from October 2022 on (in Shabwa and Hadramout).

15 Amran, Dhamar, Raimh, Sana'a City; with the exceptions of Taiz, control of which is contested by the Houthis and IRG, and Al-Jowf, which has shifted hands several times and is currently under Houthi-control.

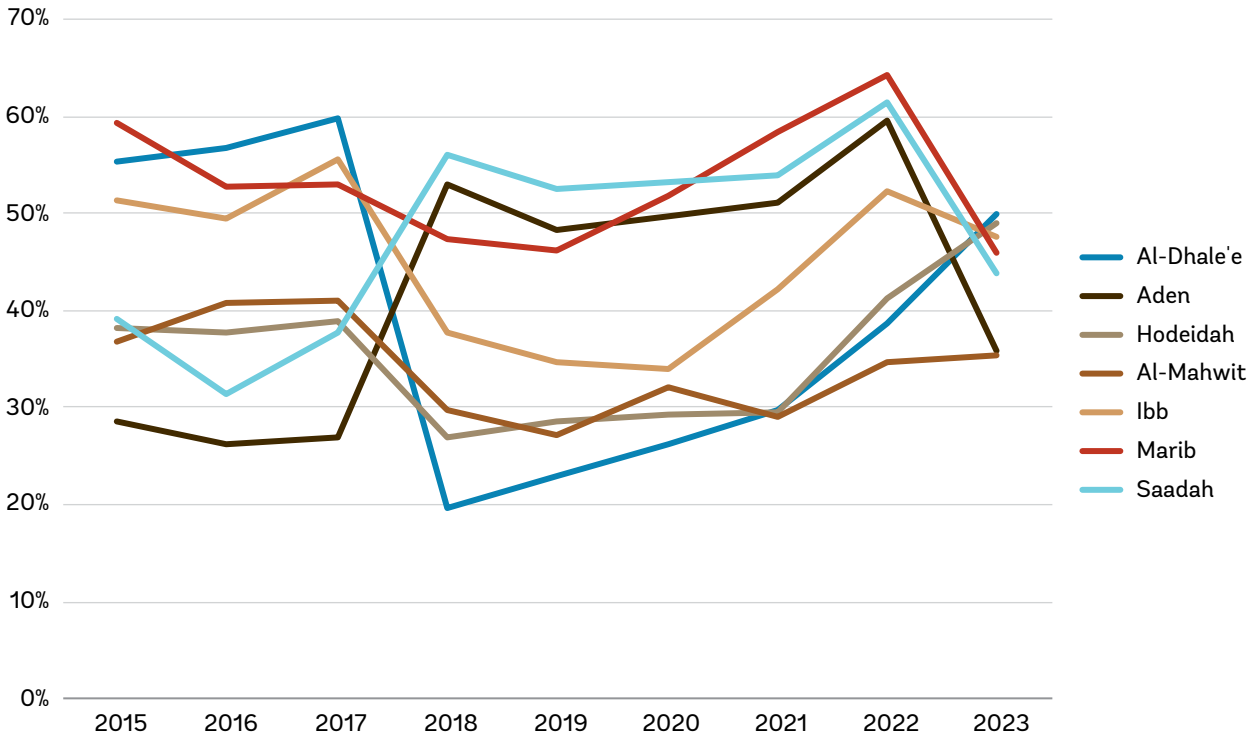
16 Abyan, Hadramout, Lahej and Shabwa; the exception is Al-Beida which until 2021 was primarily under Houthi-control but contested, and is now fully under Houthi-control.

Map 3.1: Prevalence of inadequate food consumption score, average prevalence from January to October 2023



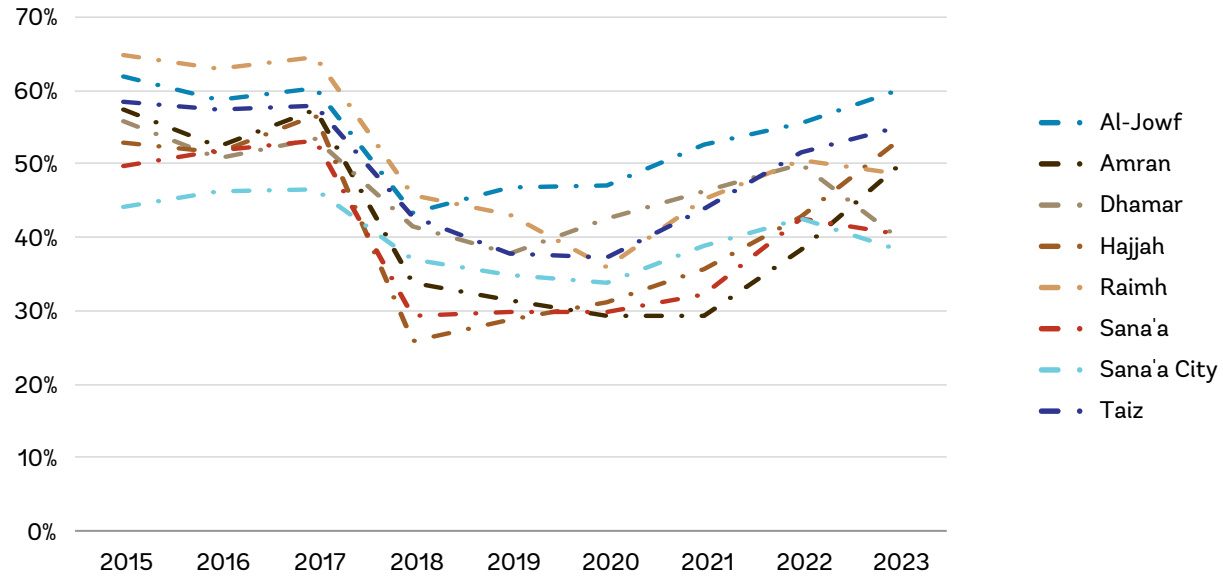
Source: Authors calculations using WFP regular monitoring phone surveys, available online.

Figure 3.16: Prevalence of inadequate food consumption score from August 2015 to October 2023, annualized by governorates: Governorates that do not exhibit a clear trend.



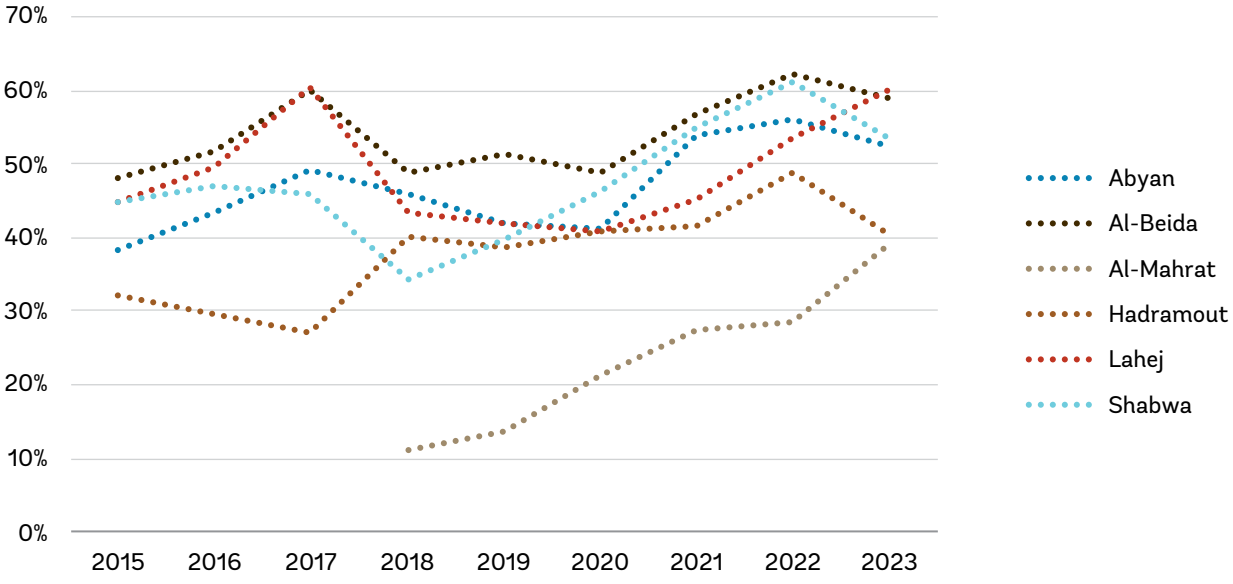
Source of Figure 3.16 to Figure 3.18: Authors calculations using WFP regular monitoring phone surveys, available online from 2018 onwards.

Figure 3.17: Prevalence of inadequate food consumption score from August 2015 to October 2023, annualized by governorates: Governorates with greatest decreases in inadequate food consumption score



Source of Figure 3.16 to Figure 3.18: Authors calculations using WFP regular monitoring phone surveys, available online from 2018 onwards.

Figure 3.18: Prevalence of inadequate food consumption score from August 2015 to October 2023, annualized by governorates: Governorates with greatest increases in inadequate food consumption score



Source of Figure 3.16 to Figure 3.18: Authors calculations using WFP regular monitoring phone surveys, available online from 2018 onwards.

4 Non-Monetary Dimensions of the Poverty Crisis

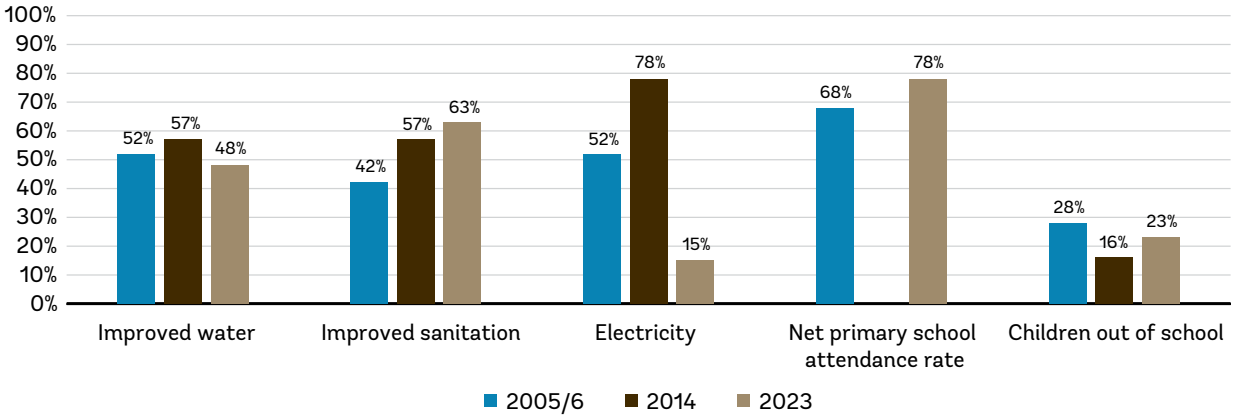
Poverty is increasingly understood to be multidimensional. That is, people can suffer multiple deprivations at the same time beyond financial hardship that contribute to their poverty.[17] For example, households might not only be monetarily poor, they may also not have access to clean drinking water or electricity or lack access to healthcare or education. Combined, these disadvantages can have long-term destructive consequences on the population, especially youth (Strokova, Hassani, and Yuan 2021).

Despite increases in monetary poverty, Yemen had made important gains in non-income dimensions of well-being before the current crisis (Figure 4.1). For example, despite declining water-resource availability within the country,[18] access to improved water slightly improved from 52 percent in 2005 to 57 percent of the population in 2014. Similarly, access to improved sanitation increased from 42 percent to 57 percent during the same period, with larger proportional improvements realized by poorer Yemenis. Electricity access increased from 52 to 78 percent during the same period, propelled by a significant increase in rural electrification. The rate of children out of school decreased from 28 percent to 16 percent.

17 https://www.worldbank.org/en/topic/poverty/brief/multidimensional-poverty-measure

18 Sana'a city has been described as the first capital city in the world likely to run out of water (Lackner 2023).

Figure 4.1: Non-monetary dimensions of well-being – access to key services

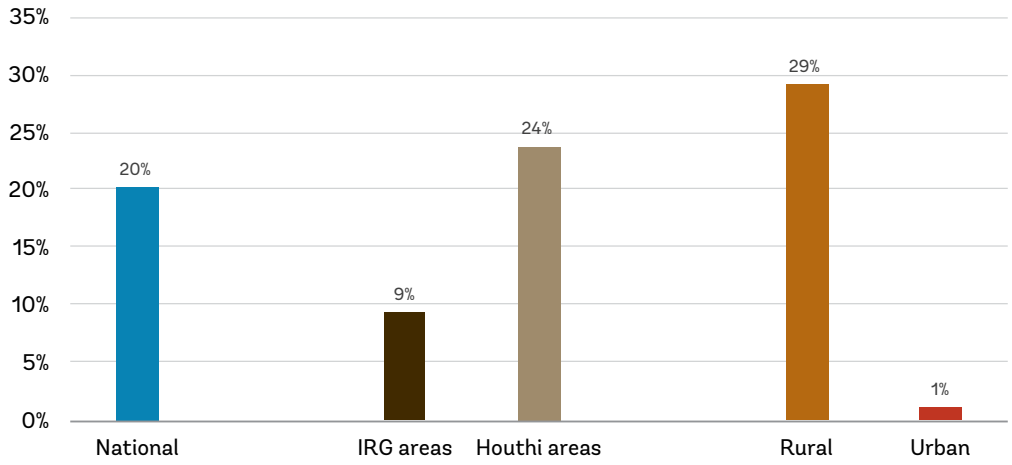


Source: Compiled from various sources including Yemen Poverty Notes 2017 (World Bank staff calculations based on HBS 2005 and HBS 2014), World Development Indicators Database, World Bank Mobile Phone Survey Monitoring Round II 2023, the Yemen MICS 2006 and 2023. Note that access to improved water does not consider packaged or delivered water as an improved water source to remain comparability with earlier years.

The conflict has had devastatingly negative consequences for non-monetary poverty. According to the World Bank phone survey and the MICS of 2023, gains in non-monetary dimensions of wellbeing—particularly access to water, electricity and the percentage of children out of school—have reversed after nearly a decade of conflict. Access to basic services such as clean water and electricity have declined substantially since 2014. On the other hand, access to improved sanitation has increased, and primary school attendance is higher in 2023 compared to 2006.

The MICS 2023 gathers a range of information on ownership of household assets and access to key services. Combining information on asset ownership (radio, gas cooker, sofa, TV, refrigerator, washing machine, bicycle, motorcycle/scooter, car/truck/van, boat, computer/tablet, and mobile phone), dwelling characteristics, water and sanitation and other variables, the wealth index provides an indication of the long-term underlying wealth. Principal components analysis is used to produce a wealth score, and households are then ranked from poorest to richest. We can then consider those in the bottom quintile as "wealth poor".

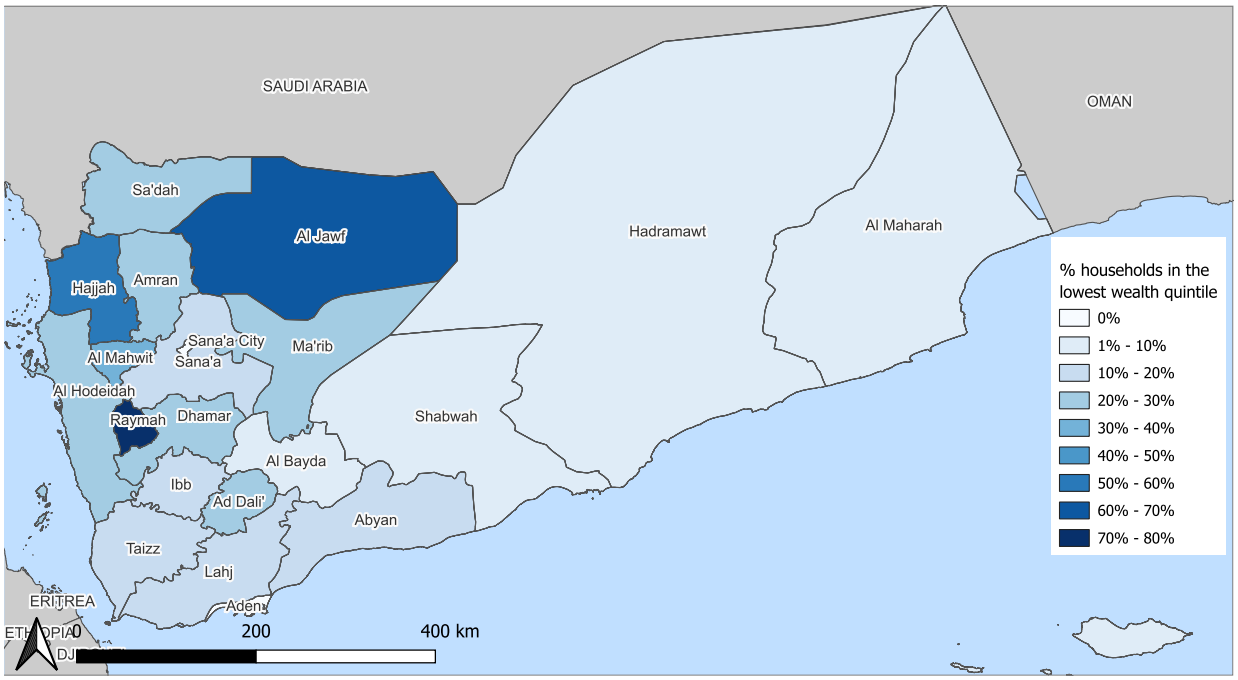
Figure 4.2: Prevalence of households in the lowest asset-based wealth quintile



Source: Yemen MICS 2023

When comparing the proportion of those considered wealth poor by location, it is clear that those living in areas controlled by the Houthis are significantly worse off compared to those living in IRG areas (24 percent versus nine percent). Those living in rural areas are also significantly more likely to be wealth poor (30 percent in rural areas versus one percent in urban areas). Raymah, al Jawf, and Hajjah (all under control of the Houthis) are particularly wealth poor, as 72 percent, 62 percent and 56 percent of the population live below the bottom national quintile.

Map 4.1: District level percentage of households living in the lowest asset-based wealth quintile



Source: Author's calculations from Yemen MICS 2023

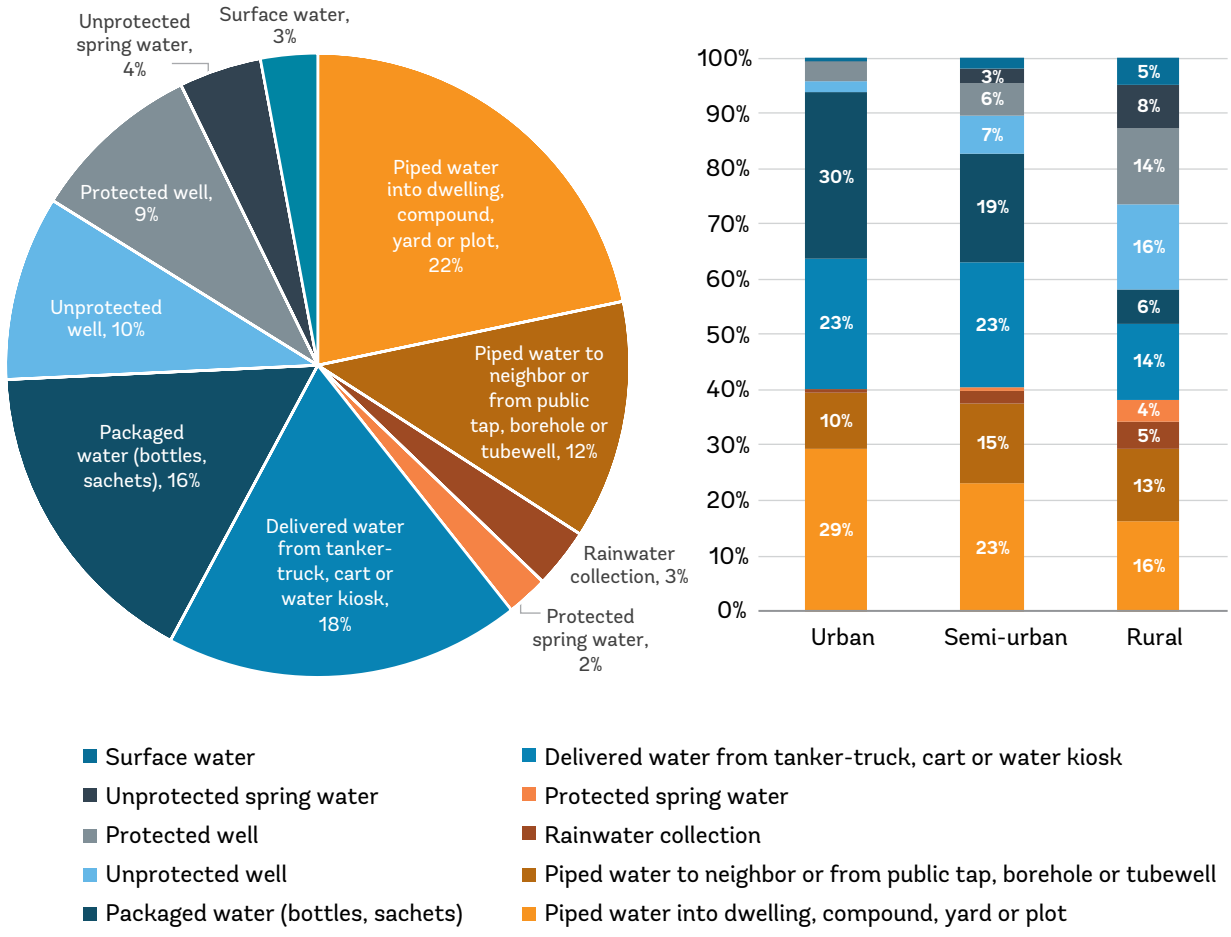
Governorates with the highest levels of asset-based wealth poverty are not necessarily the same governorates with the highest levels of food insecurity. In fact, there is a 30 percent correlation between governorate level wealth poverty and percentage of those with inadequate food consumption. This could be because the wealth index does not capture monetary poverty based on consumption or expenditure, nor does it capture income. A household could be rich in terms of wealth, but without disposable income they could struggle to afford basic goods and services. The inadequate food consumption score is more likely to reflect short-term shocks faced by households in an ever-changing environment which is better captured through their food security status. These results show the importance of capturing various dimensions of poverty in an environment like Yemen where the population is exposed to different and compounding dimensions of deprivation.

Conflict has degraded non-monetary aspects of wellbeing integral to human development. As efforts toward recovery and reconstruction continue, improving equitable access to basic services should be prioritized alongside addressing monetary poverty. A multidimensional lens is critical to fully understand the nature of deprivations facing Yemenis and to promote resilience and opportunity for all.

4.1 ACCESS TO WATER

World Bank phone surveys reveal that access to basic drinking water services represents a major challenge for ordinary Yemenis. Around one-third of households have access to water through a piped connection, but this is much lower for rural households. About 79 percent of households do not collect drinking water in their own dwelling or on their own land; around 67 percent take more than 30 minutes to collect water if not located on the premises.

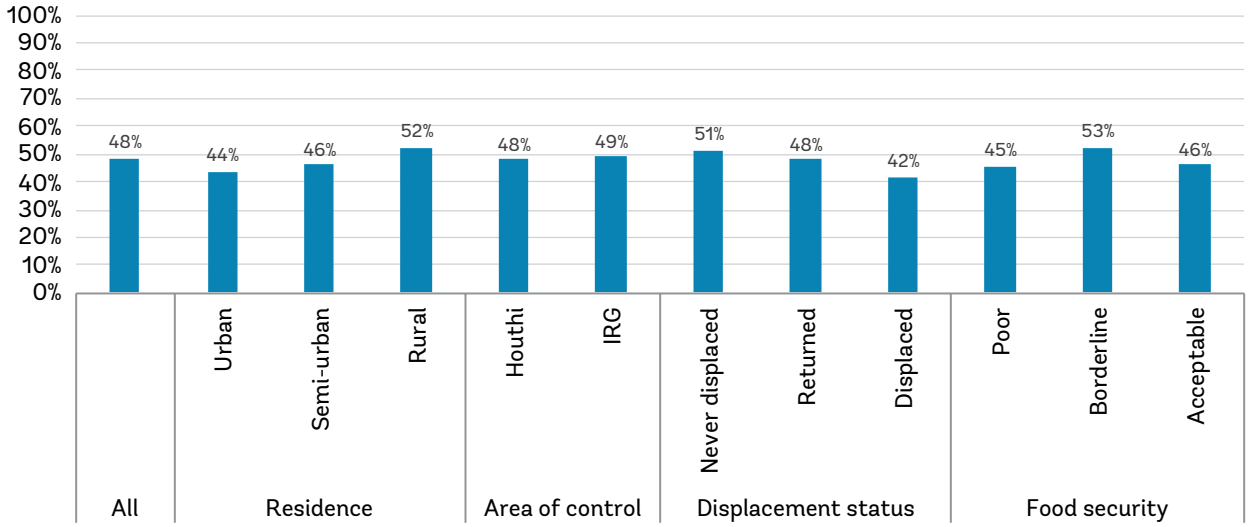
Figure 4.3: Main source of drinking water for households. Orange shading are water sources considered to be improved.



Source: World Bank Mobile Phone Survey Monitoring Round II 2023

Access to improved drinking water services is increasingly limited. About 48 percent of respondents said they were able to access improved drinking water services compared to 57 percent in 2014.[19] Displaced households have the lowest access to improved drinking water sources across most groups (Figure 4.4). Otherwise, while access appears similar across different groups of households, this indicator could be masking differences in access. For example, rural households are more likely to rely on rainwater collection (classified as an improved source), while urban households rely on water delivered by a tanker/truck (defined as unimproved).

Figure 4.3: Access to improved drinking water services



Source: World Bank Mobile Phone Survey Monitoring Round II 2023

There is no easy fix to water access. Yemen is the only country in the world experiencing low-per capita income and absolute water scarcity. The country has among the world's highest population growth rates and per capita water availability has decreased by roughly 60 percent since 1990, with the 65 cubic meters per person in 2020 equivalent to two- and one-half standard sized water tankers.[20] The demand for water in Yemen outweighs available supply, leading to overexploitation and persistent depletion of fossil, non-renewable, aquifers. Without meaningful improvement in governance and water management—both of which require far higher state capacity than Yemen has at present—Yemen is likely to become even more water insecure.

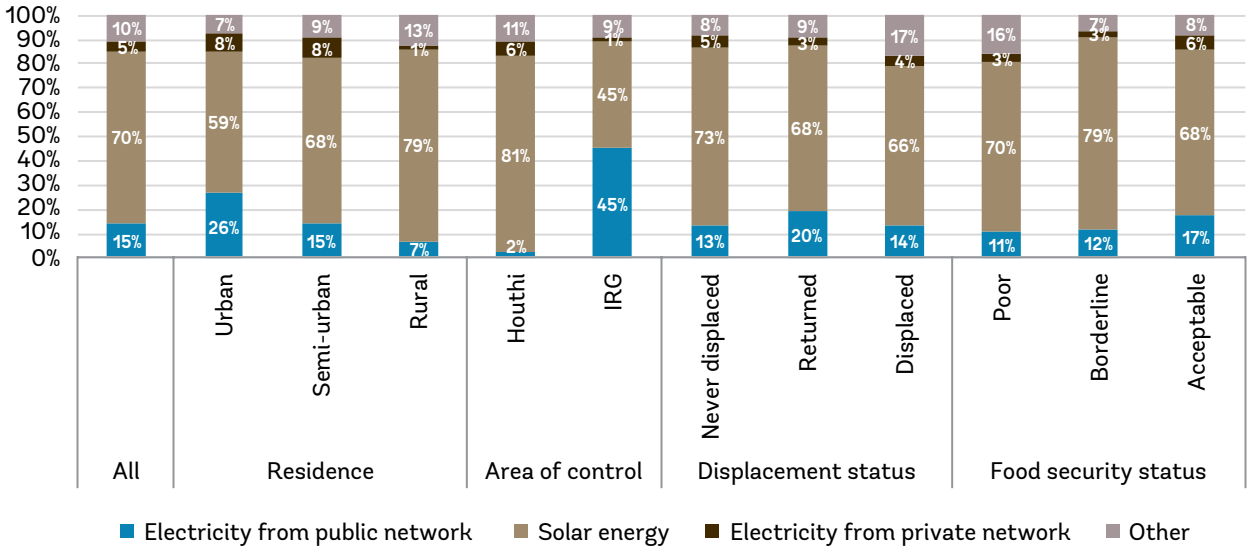
19 Improved drinking-water sources are defined as those likely to be protected from outside contamination, and from fecal matter in particular. Improved water sources include household connections, public standpipes, boreholes, protected dug wells, protected springs, and rainwater collection. Unimproved water sources include unprotected wells, unprotected springs, surface water (for example river, dam, or lake), vendor-provided water, bottled water (unless water for other uses is available from an improved source) and tanker truck-provided water. The MICS 2023 uses an updated definition of improved sources that includes packaged and bottled water. According to this definition 74 percent of households have access to improved sources, which is comparable to the results reported by the MICS.

20 World Bank World Development Indicators database (Renewable internal freshwater resources per capita (cubic meters)).

4.2 ACCESS TO ELECTRICITY

Access to electricity from the public grid is very limited. According to the World Bank phone survey, only 15 percent of Yemeni households use electricity from the public network as the main source of lighting, while 78 percent were connected to the public grid in 2014. This results is comparable to the MICS 2023 results, which find 17 percent of households have access to the public grid (CSO and UNICEF 2023b). The penetration of the public grid is lower in rural areas (7 percent) than in either urban (26 percent) or semi-urban areas (15 percent). With little coverage of publicly-provided electricity in Houthi-controlled areas, households tend to use solar energy as their main source of lighting. Solar use has reached 81 percent in Houthi-controlled areas compared to 45 percent in IRG-controlled areas. Around three-quarters (73 percent) of the population use wood as their main cooking fuel, with wide variations across areas of residence.

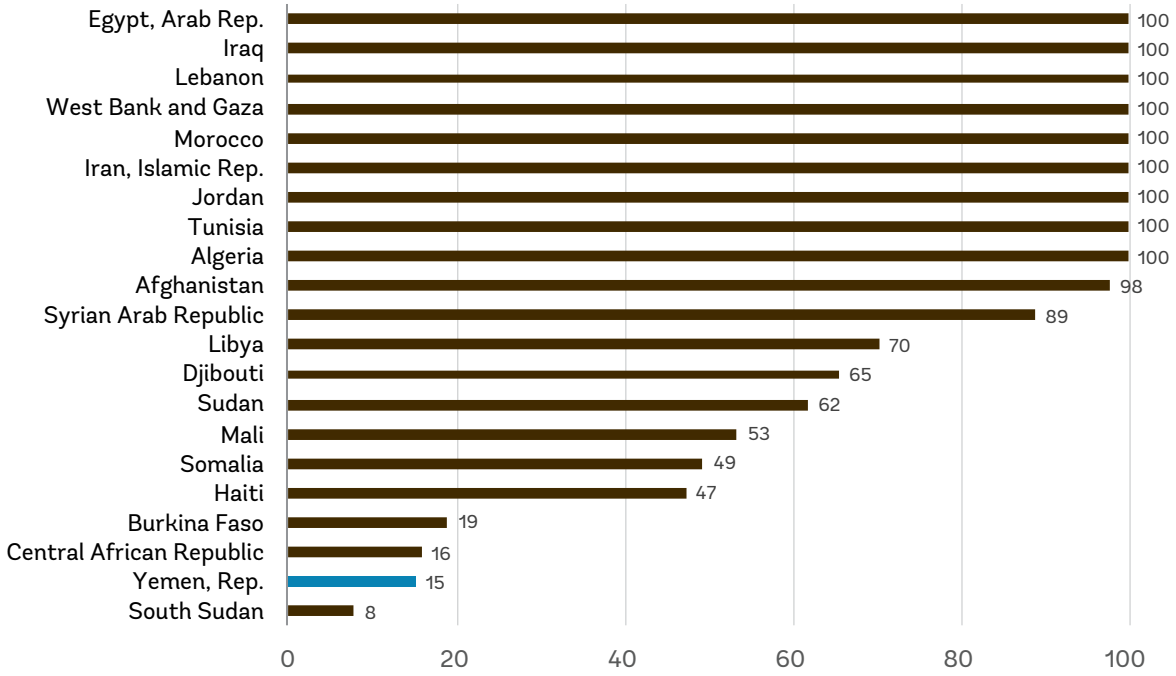
Figure 4.5: Households' main source of electricity for lighting



Source: World Bank Mobile Phone Survey Monitoring Round II 2023

Yemen has one of the lowest levels of access to public network electricity when compared to other countries in the MENA region and, again, some of the poorest countries in the world. Many years of conflict has inflicted severe damage to public infrastructure, and while many households have been able to connect to solar panels and private networks, this remains a significant gap in the public infrastructure, particularly in Houthi controlled areas.

Figure 4.6: Percentage of households with access to public network electricity across MENA and most food insecure countries

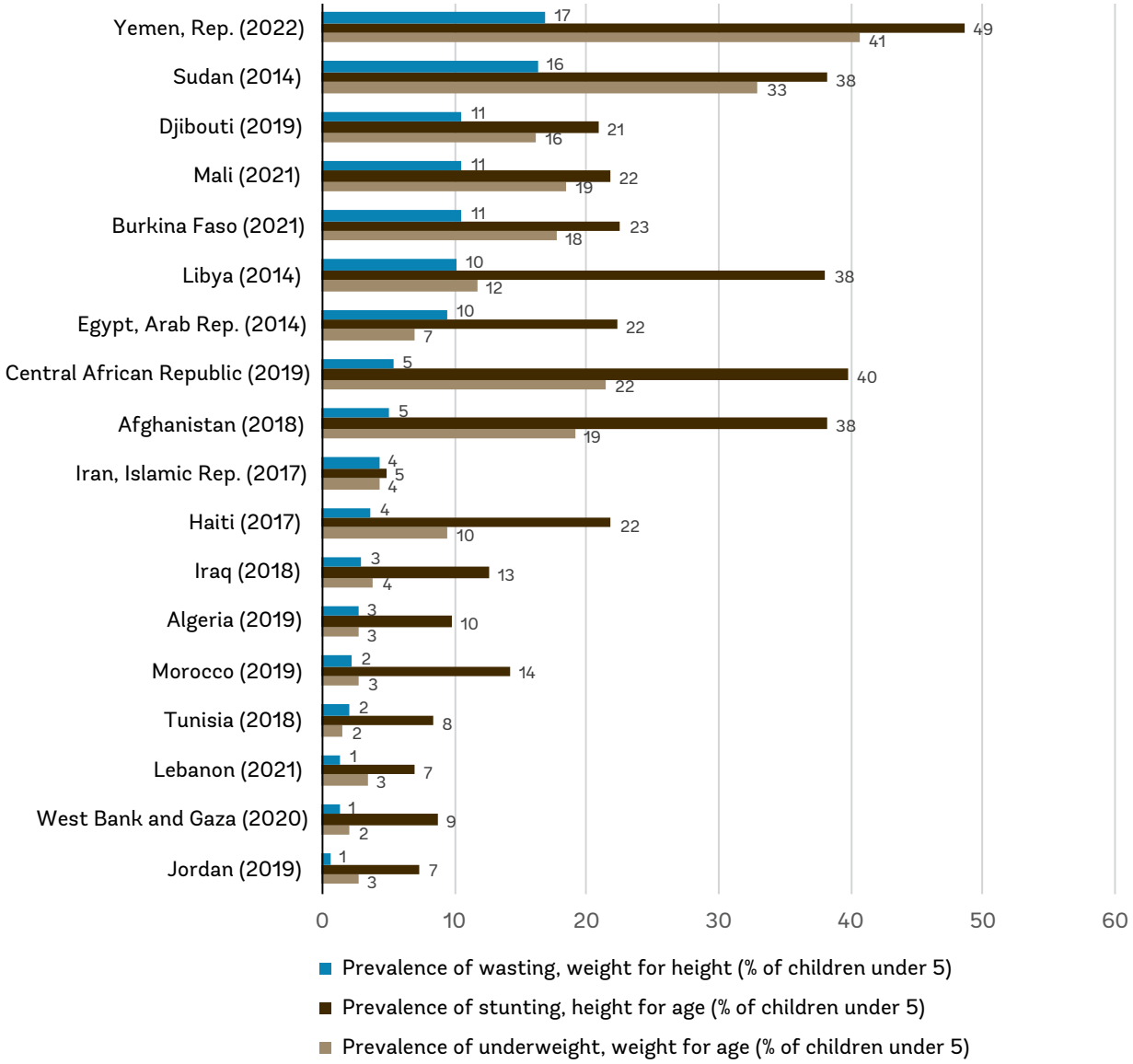


Source: World Development Indicators 2021. Yemen Data from World Bank Mobile Phone Survey Monitoring Round II 2023.

4.3 EDUCATION AND HEALTH

Yemen's protracted conflict, through its direct and indirect effects on access to food and services, has taken a toll on its children. According to the MICS 2023, Yemen suffers from some of the highest levels of wasting (17 percent), stunting (49 percent) and being underweight (41 percent) compared to countries in the MENA region, and other countries suffering from similar levels of food insecurity—Mali, Burkina Faso, Central African Republic, Haiti and Afghanistan. This means that some Yemeni children have excessively low weight for their height (wasting), and close to half are excessively short for their age (stunting) or underweight for their age. These poor nutrition outcomes are not surprising, as the indicators reflect extreme nutrient inadequacy resulting from poor diet and potentially repeated bouts of disease that Yemen has continuously seen since the start of the conflict. The consequences of poor nutrition outcomes, and wasting in particular, is detrimental to the health of children. These conditions will affect the child at every stage of their life-cycle, including their income generating capacity in adulthood (Galasso et al. 2016).

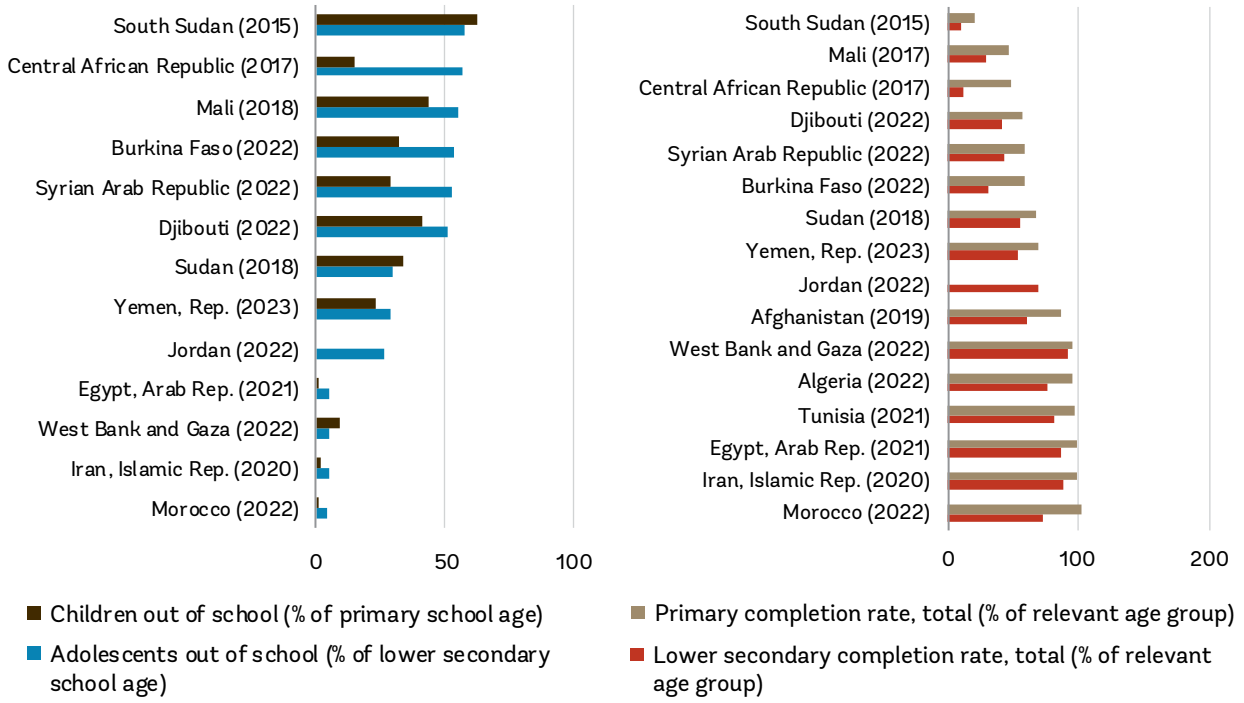
Figure 4.7: Prevalence of underweight, stunting and wasting across MENA and most food insecure countries



Source: Most recent available data per country extracted from World Development Indicators database. Yemen Data from Multiple Indicator Clusters Survey 2023. Children are considered underweight, stunted or wasted if below 2 standard deviations from the mean weight for age, height for age or weight for height.

Yemen performs in the middle of the group on comparable education indicators. According to the MICS 2023, 23 percent of primary school age and 29 percent of lower secondary school age children are out of school. While these are amongst the highest rates in the MENA region, many other poor and FCV affected countries have even higher rates. The national average also hides some of the higher rates among parts of the population, including those living in rural areas, in governorates under Houthis control, and those from the poorest wealth quintiles (CSO and UNICEF 2023a). Similarly, while Yemen has some of the lowest primary and lower secondary school completion rates in the MENA region, at 68 and 53 percent respectively, these levels are still better than Sudan, Djibouti and Syria, as well as other conflict affected countries. These education indicators could also be masking challenges with school attendance, absenteeism and the quality of education received, as 20 percent parents report their children not being able to attend school because of teacher absence, strikes or school closure (CSO and UNICEF 2023a).

Figure 4.8: a) Prevalence of children and adults out-of-school, b) Primary and lower secondary completion rate for MENA countries and select food insecure countries



Source: Most recent available data per country extracted from World Development Indicators database. Yemen Data from Multiple Indicator Clusters Survey 2023.

Qualitative interviews with key informant reveal significant challenges to education and health. Voices from Yemen (World Bank 2023b) has analyzed various interview transcripts to find common stories and themes of inadequate access of education and health services summarized as follows.

Yemeni children are missing out on critical education. Yemeni parents send children to school if close by, consistently offers classes, and does not charge fees. Otherwise, they needed to prioritize which child to send to school based on safety, accessibility, and financial circumstances. If they can afford to send children to school, they still must support children at home due to the reduced quality of education. Schools also face many struggles, such as sustaining teachers, providing supplies, and maintaining basic infrastructure.

A school principal from Hajjah said: "*My school has 1050 students, and it is only six rooms, one of which is residential for two teachers, one for the principal's office, and the remaining four rooms for all grades. We have three shifts for different grades. One of the teachers had to bring his family from Al Hodeidah as confrontation intensified there, so we had to move the other teacher to live under the staircase. There is no restroom or water in the building*".

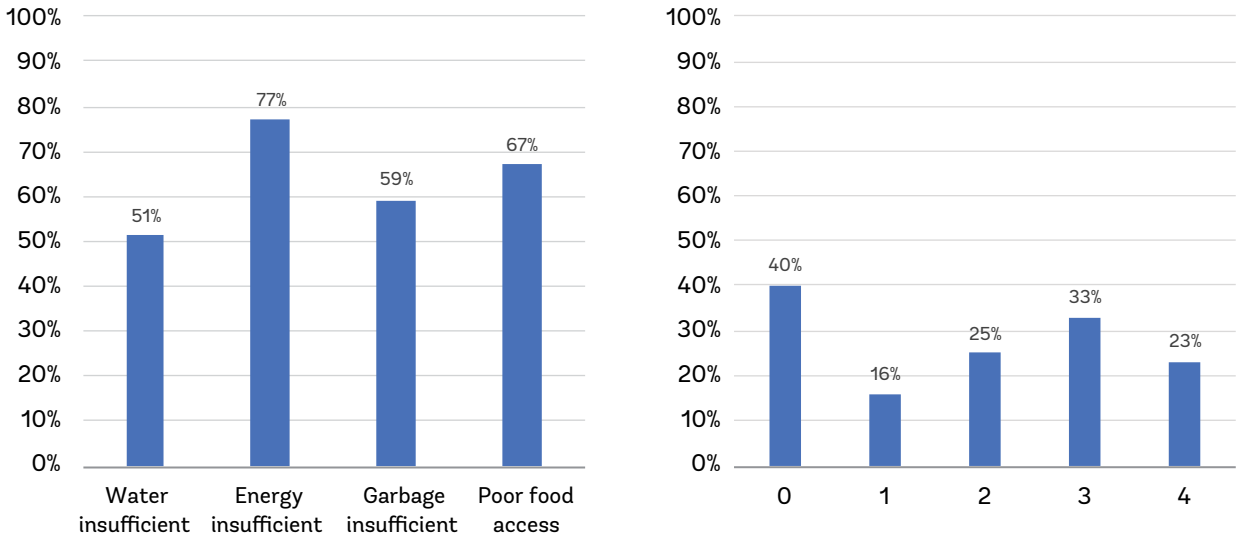
Most respondents only accessed health care in case of emergencies. Health shocks were considered the main shocks households faced. However, health professionals had to cope with patient emergencies under limited facilities and drug supplies.

A manager of a health center in Hodeidah governorate said: "*We used to offer services and medicine for free. Now we have to charge the patients and write them a prescription to buy medicine from pharmacies. People stopped coming, and they shy away. They can't afford all that, given that commuting here will also cost them a lot. It is even a hardship for staff who spend half of their salaries on transportation.*"

4.4 OVERLAPPING DEPRIVATIONS

Yemeni households are commonly subject to multiple, overlapping deprivations. Figure 4.9(a) shows that between one-half and three-quarters of Yemenis have insufficient access to water, energy, garbage collection or food. These deprivations significantly overlapped in individual households; that is, they suffer deprivations in access to food along with basic services at the same time. Figure 4.9(b) shows that around one-quarter of households lacked adequate access to all three basic services and food, and only four percent of households experienced adequate access all basic services and food.

Figure 4.9: a) Share of Households with Poor Access to Food and Basic Services- November 2017, b) Share of Households by Number of Deprivations- November 2017



Source: Surviving in the Time of War (Favari et al. 2023)

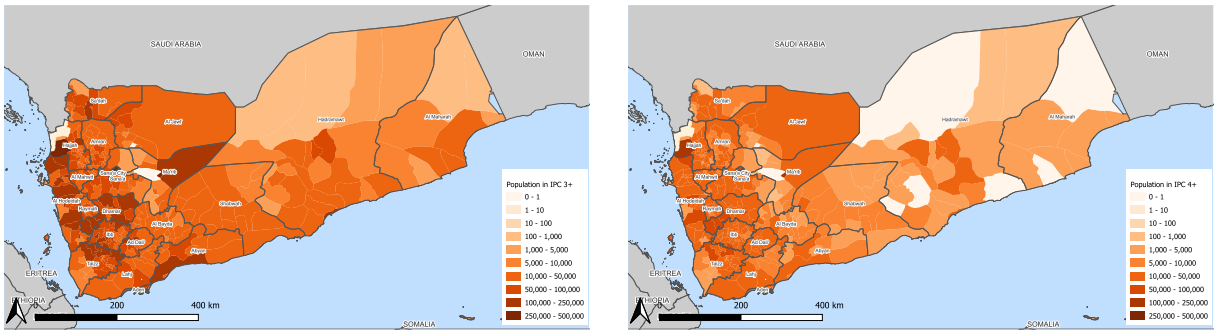
We further explored Yemenis' exposure to multiple deprivations using geospatial data.[21] Overall, 53 percent of the population, or around 17 million Yemenis, are classified in IPC phase 3 (crisis) or above. The district-level Map 4.2 shows concentration of food insecurity in the western part of the country, with pockets of more severe food security in the governorates of Saadah, Hajjah, Amran, Marib, Hodeidah, Raimh, Dhamar, Al Dhale'e and Abyan. Some of these areas also experience a heightened number of conflict events, aggregated from the Armed Conflict Location & Event Data (ACLED) database, particularly in the north and some of coastal areas (Map 4.3).

21 Many of these indicators will be included in a forthcoming Project Targeting Index for Yemen, which allows users to give a certain weighting to different humanitarian, development, and environment related geospatial indicators to create a district-level index for targeting and planning purposes (Finn and Masaki 2020).

Map 4.2: Population in IPC 3+ and IPC 4+ by district, as of December 2022.

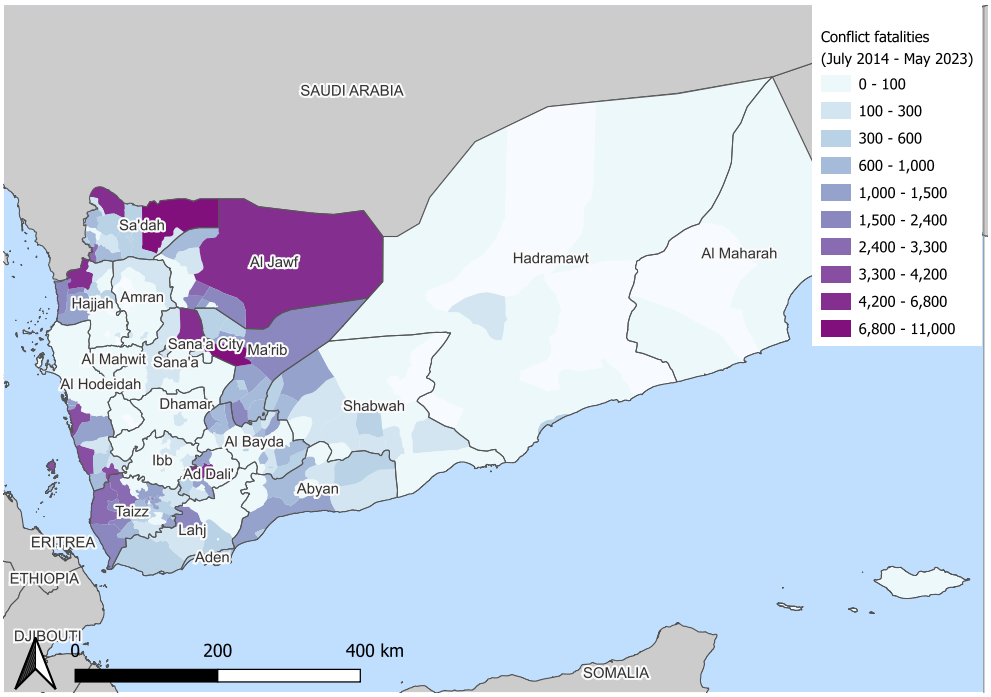
a) Population in IPC 3+ by district, as of December 2022. IPC 3+ caseload 16.9 million.

b) Population in IPC 4+ by district, as of December 2022. IPC 4+ caseload 6 million.



Source: IPCinfo.

Map 4.3: Conflict fatalities by districts



Governorate	Conflict fatalities (2014-2023)
Ma'rib	23,483
Taizz	21,885
Sa'dah	20,225
Al Hodeidah	17,122
Al Jawf	15,753
Hajjah	10,574
Ad Dali'	9,613
Al Bayda	8,079
Sana'a	7,750
Shabwah	4,397
Lahj	3,494
Abyan	3,287
Aden	3,155
Sana'a City	1,656
Ibb	1,410
Hadramawt	1,057
Dhamar	627
Amran	450
Al Mahwit	72
Raymah	38
Al Maharah	25

Source: ACLED. Note, Yemen conflict fatalities since commencement of conflict in July 2014 to May 2023.

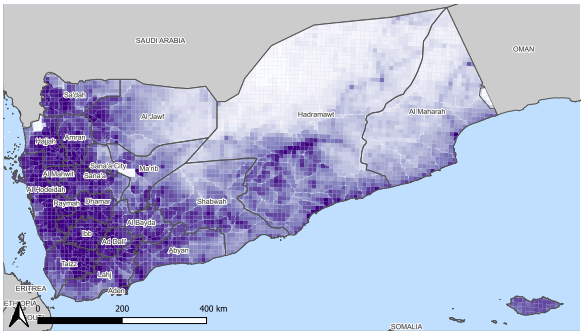
Many Yemenis are exposed to high levels of air pollution, flooding, drought and extreme heat levels. As part of the "whole-of-the-economy" climate change regional effort, the World Bank's poverty team has developed a series of gridded datasets capturing vulnerability to climate-related hazards including: extreme heat, flooding, drought and air pollution (World Bank 2023a). By overlaying indicators of extreme hazards with gridded population data from Worldpop,[22] we can estimate the number of people exposed to extreme weather events. Practically every Yemeni is exposed to harmful air pollution levels, while 7.2 million are exposed to extreme heat, 6.7 million to drought, and 7.4 million to flooding.

22 Worldpop uses a combination of satellite imagery and geographical layers to estimate the number of individuals living in an approximately 1km grid. This is then calibrated to official population estimates at the governorate level.

Considering Map 4.4(b) and Map 4.4(c), we observe significant geographical overlap in areas where people are exposed to extreme heat and drought. This implies that the average probability of a compound shock involving extreme weather events is likely to be much higher in some areas, such as the coastline. When also considering exposure to conflict related events, the vulnerabilities levels are likely to be even higher.

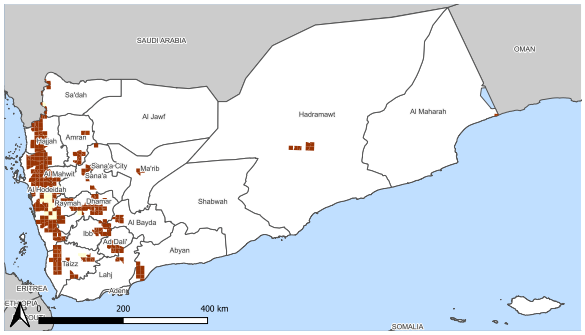
Map 4.4: Number of people exposed to climate-related hazards, darker color implies higher exposure

a) Air pollution: Above WHO threshold for PM2.5 concentration over 2016-2021



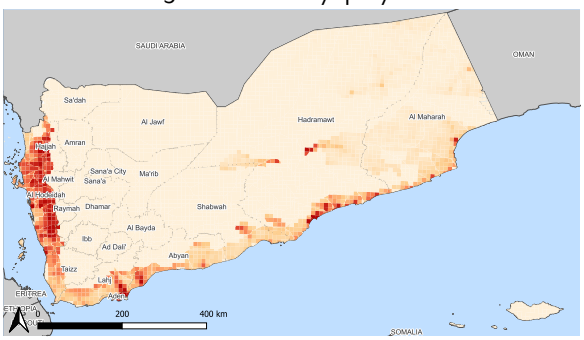
Source: van Donkelaar et al. (2021)

b) Drought: 30% of cropland affected by severe drought more than 20% of the time



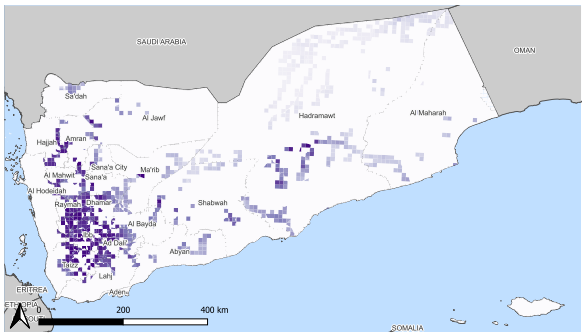
Note: Grey area is not defined as cropland. Source: FAO agricultural stress index

c) Extreme heat: Temperature reaches deadly levels over 3 consecutive days per year



Source: Heat stress index created by GFDRR, World Bank

d) Flood: 10% chance of water level exceeding 50cm



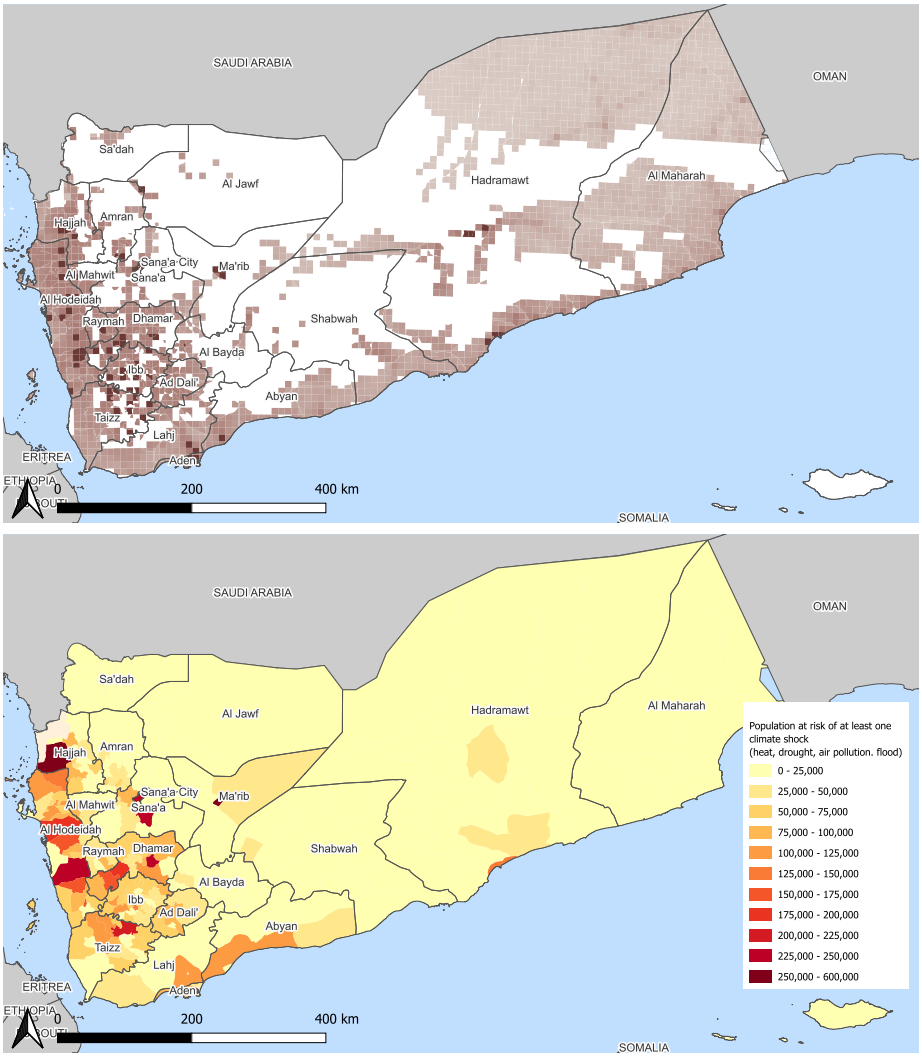
Source: FATHOM

Around half of Yemenis are exposed to at least one of these three extreme climate-related hazards—extreme heat, drought, or flooding—and one-quarter are exposed to these events and are food insecure. Gridded population data can be aggregated at the district level, to provide the number of individuals in each district exposed to at least one climate-related hazard. When combined with the district-level prevalence of IPC3+, we can compute the number of individuals in a district exposed to a climate-related hazard and food crisis, as shown in Map 4.5.[23] Overall, the average probability is 26 percent that an individual is in a food security crisis and exposed to an extreme climate-related hazard. The districts that see the highest number of individuals affected by compounding shocks are Al Hali and Bayt

23 This methodology assumes that the prevalence food insecurity is homogeneous within a district. This is unlikely to be the case, and in fact food security could be higher in parts of the district that is more exposed to climate-related shocks—as demonstrated by a positive correlation between the number of food insecure and number of climate affected individuals in each district (correlation coefficient of 0.47). This implies that 26 percent is a lower bound for the prevalence of people affected by climate hazards and food insecurity.

Al Faqiah districts in Hodeidah governorate, Al Mansura in Aden governorate and Dhamar city in Dhamar governorate. Combined, these districts have a total of almost one million Yemenis that face food crisis and at least one climate-related hazard (extreme heat, drought and/or flooding).

Map 4.5: a) Individuals exposed to one climate-related hazard b) Individuals exposed to one climate-related hazard and food insecurity



Note: Authors' calculations using data sources in Map 4.2, Map 4.5(b), Map 4.5(c), and Map 4.5(d).

These multiple, intersecting deprivations will cause long-term intergenerational harm. Countries systemically experiencing multiple deprivations decreases the probability that current and future generations will fulfill their capabilities and opportunities. For example, reduced food access coupled with lack of medical care and access to clean drinking water could exacerbate the malnutrition challenges Yemenis already face. Or, being food insecure while being exposed to flooding will push households even further into a state of extreme poverty. Implementing shock-responsive social protection systems will be critical to address these heightened and overlapping vulnerabilities.

5 Who are the Most Vulnerable Yemenis?

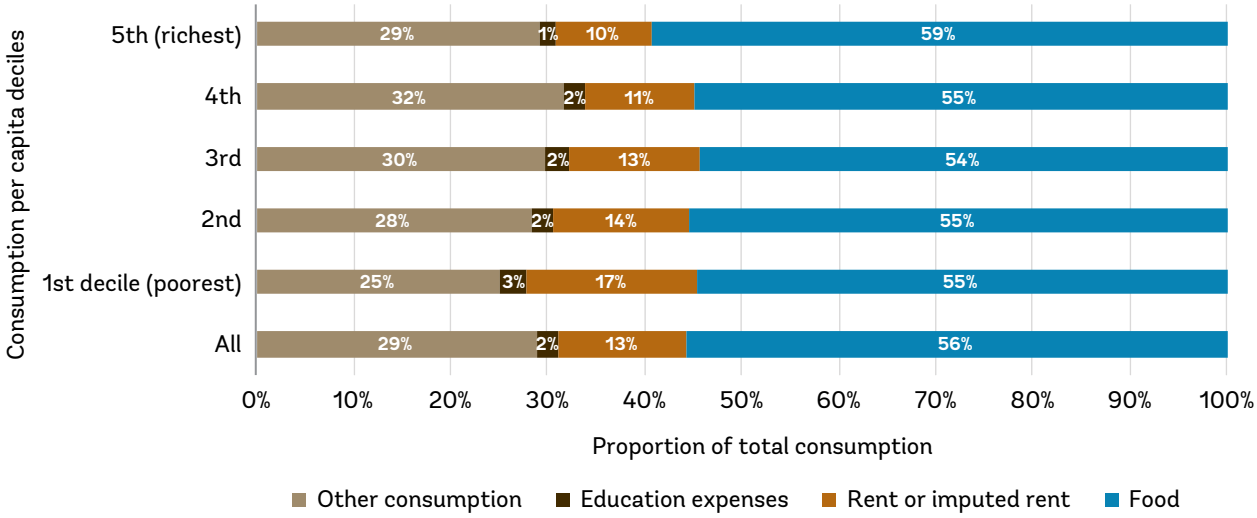
5.1 HOUSEHOLD CONSUMPTION IN IRG AREAS

The Yemen Human Development Survey (YHDS) collected in IRG areas in 2021 provides some understanding of the most vulnerable and needy households. This analysis is limited for two reasons: it is not fully representative because the majority of Yemenis (between 70-80 percent) live outside the IRG areas, and it does not include a detailed consumption/expenditure module to allow poverty estimation. Instead, respondents are asked about expenditures for aggregated categories, which likely underestimates total expenditure (Jolliffe 2001). Yemeni households are also more likely to rely on in-kind assistance for food, and while the YHDS 2021 asks households about this type of consumption, it is not possible to report in-kind assistance and purchases for the same good at the same time. Price instability also makes comparison of consumption across regions and time difficult. These limitations make it impossible to produce precise poverty numbers.

Nonetheless, the YHDS does provide a crude measure of household consumption per capita (see Appendix B). We can use this crude measure to rank households across a consumption distribution to provide a better understanding of those at the bottom end of this distribution.

Most households are stressed and spending most of their budget on basic necessities. Median monthly consumption per capita is 43,813 Yemeni Riyals, or US$ 45,[24] around 4.5 times the price of the monthly minimum food basket per person. Most households spend the majority of their budget (56 percent) on food purchases. This is higher than the weight given to food and non-alcoholic beverages within the Consumer Price Index (CPI) of other countries in the region.[25] The share of spending on food does not significantly differ by consumption decile (Figure 5.1: Relative share of consumption groups to total household consumption), indicating that most households across the distribution spend most of their budget on necessary food items.

Figure 5.1: Relative share of consumption groups to total household consumption[26]



Source: Author's calculations using the YHDS 2021 (representative of IRG areas).

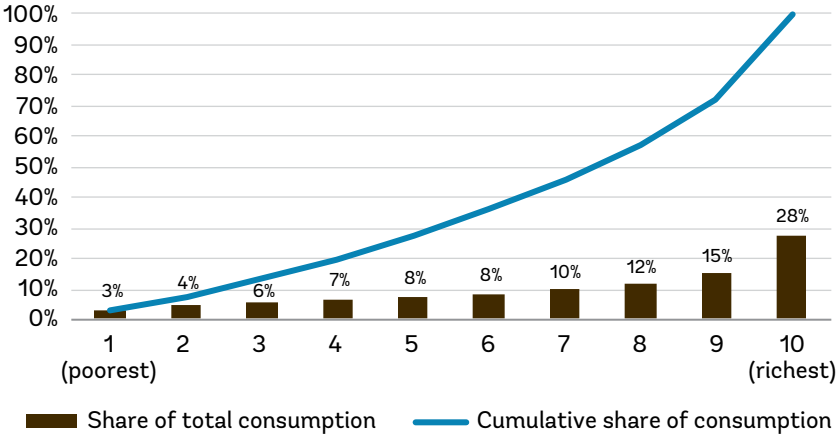
The poor have limited and dwindling resources, and the little remaining consumption for the country's population concentrates within the top 10 percent of households. Figure 5.2a shows that most Yemenis have a similar share of total population consumption—less than 15 percent of total consumption for each decile by consumption aggregate, except for the top decile, responsible for about 28 percent of total population consumption. The average consumption of the top 10 percent is 4.5 times as much as the bottom 10 percent Figure 5.2b).

24 This conversion does not adjust for purchasing power parity and is based on the average unofficial exchange rate in the survey governorates during the months of data collection. The cost of the minimum food basket is also averaged over the survey months. Source: WFP MFP Price and Exchange Rates

25 The average weight given to food and non-alcoholic beverages for non-GCC countries in the MENA region is 33 percent, and Sudan has the highest weight at 53 percent. Based on latest available data for most countries in February 2023. Source: IMF Access to Macroeconomic and Financial Data

26 While the richest decile appears to spend the most of their budget on food, this result is not statistically significant and is explained by richer households spending more of their food budget on meats and vegetables.

Figure 5.2: Consumption based inequality. a) Share and cumulative share of total consumption by centile and b) various measures of inequality



Measures of inequality	
Gini	34
Rate 90/10	4.5
Rate 75/25	2.1
Rate 90/50	2.2
Rate 10/50	0.5
Rate 25/50	0.7
Rate 75/50	1.4

Source: Author's calculations using the YHDS 2021 (representative of IRG areas).

Poorer households tend to be larger, more rural, and more agricultural. As Table 5.1 shows, poorer households in IRG areas are more likely to be displaced, live in rural areas, have lower levels of literacy and education, work in agriculture, and have larger households. Poorer households are less likely to receive remittances but more likely to receive aid. This has important implications for the rest of the country, since the majority of the population in Houthi-controlled areas live in rural areas and come from large households.

The data underscores the prevalence of overlapping vulnerabilities. Poorer households live in districts that have a higher level of conflict intensity, measured through the weighted average of ACLED events that have occurred since the start of the conflict in 2015. Moreover, poorer households are also more likely to report being exposed to a natural disaster, such as flooding, drought, or a cyclone, in the 12 months before being interviewed. Evidence from geospatial indicators of exposure to hazards and poor food security in section further support this finding. While the direction of causation cannot be determined, these results reinforce the finding that Yemeni households are exposed to compounding shocks in terms of food insecurity, conflict exposure, and climate-related events.

Table 5.1: Profiles by household consumption quintile compared to the overall population

	All	1 (poorest)	2	3	4	5 (richest)
Displaced	8%	13%	6%	7%	8%	5%
Urban	39%	35%	35%	36%	43%	43%
Female headed household	17%	19%	16%	19%	15%	19%
Household head is literate	79%	71%	79%	73%	85%	82%
Education:						
Household head has no education	22%	30%	20%	26%	15%	19%
Household head has basic education	37%	37%	36%	38%	36%	39%
Household head has secondary education	23%	16%	26%	22%	25%	25%
Household head has tertiary education	17%	16%	19%	13%	23%	16%
Household head is working	45%	48%	46%	46%	45%	42%
Household head working in public sector	12%	8%	11%	16%	15%	10%
Household head working in agriculture	12%	19%	17%	13%	10%	7%
Household head working in non-agriculture private sector	76%	74%	72%	71%	76%	83%
Household size	5.7	7.4	6.6	5.8	5.5	4.1
Dependency ratio	41%	50%	46%	43%	41%	31%
Household receives domestic or international remittances	20%	17%	18%	21%	14%	25%
Household receives aid	45%	49%	46%	48%	43%	43%
Intensity of the conflict	8.2	13.5	9.9	7.9	6.6	5.7
Exposure to natural disasters over the last 12 months	16%	17%	17%	16%	15%	14%

Source: Author's calculations using the YHDS 2021 (representative of IRG areas

Cells provide the prevalence or average of each category, for example across all the IRG population, 8 percent are displaced, but 13 percent are displaced amongst the first quintile by household consumption per capita (the poorest quintile). All cells are in terms of percentages, or prevalence, except for household size and intensity of conflict which are averages. Cells highlighted in blue imply an overrepresentation compared to the general population in IRG areas.

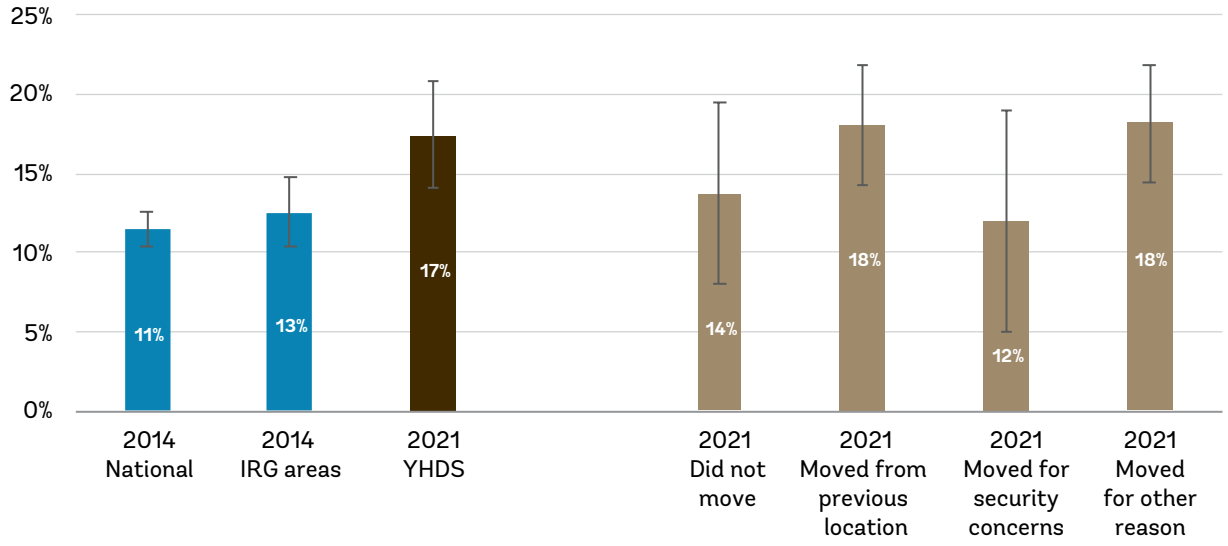
5.2 CHANGING HOUSEHOLD DYNAMICS

Household gender roles have shifted over the course of the conflict, with women have taken increasing responsibility for household decision-making. Female-headed households are more prevalent than at the start of the war. According to the YHDS 2021, the prevalence of female-headed households in IRG areas increased from 13 percent in 2014 to 17 percent in 2021 (Figure 5.3). This increase is largely driven by households who have moved since the start of the conflict, albeit for non-conflict related reasons. Male members are overall more likely to leave households during times of war (Justino 2018), either because they have been killed in battle, are currently fighting, or have migrated in search of stable economic opportunities.[27]

27 See, for example, a study of the disproportionate killing of men in the Rwandan genocide and the effects on female-headed households (Brück and Schindler 2009).

Households exposed to conflict in IRG areas are more likely to involve women in decision making; but this is largely driven by the increase in female-headed households in conflict-affected areas (Ishak, Aghajanian, and Ghorpade 2023). Limited evidence also points to an increase in female entrepreneurship in Yemen (Fawzia Al-Ammar and Patchett 2019; Fawziah Al-Ammar, Patchett, and Shamsan 2019). Despite these indications of improved decision making and economic outcomes, women still face numerous challenges. Reports on restrictions to women's movement and integration with men in public spaces, including universities, are increasing across the country, but particularly in Houthi-controlled areas (ACAPS 2023). Working women across the country describe some of these challenges, as outlined in Box 5.1: Barriers and challenges for working women based on semi-structured interviews with female enumerators.

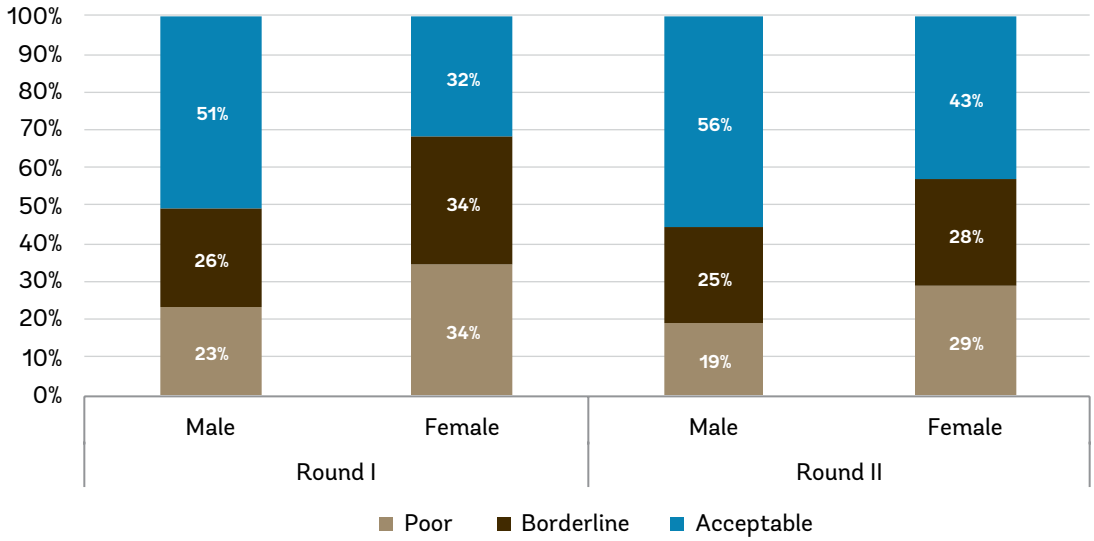
Figure 5.3: Prevalence of female headed households



Source: Author's calculations using the YHDS 2021 (representative of IRG areas).

Food access outcomes are much worse for female-headed households. When restricting the phone survey sample only to respondents who are the head of a household, both the prevalence of poor and borderline food consumption scores are higher for female-headed households in both World Bank phone survey rounds (Figure 5.4). This pattern is observed in other countries in the region and elsewhere (Alazzawi 2018), where households headed by women represent a unique form of vulnerability. This could be because women have less access to income generating assets and resources, such as land, financial services and human capital; have less time to spend on income generating activities because of household duties; or face legal and social restrictions to the labor market (World Bank 2020a). Women in Yemen likely face a combination of these factors.

Figure 5.4: Prevalence of poor, borderline and acceptable food consumption scores by gender of the head of household



Source: WB phone surveys Round I & II (limited to cases where respondent is the head of household)

Box 5.1: Barriers and challenges for working women based on semi-structured interviews with female enumerators

Using a roster of survey data collectors, we interviewed 51 randomly selected women to understand the factors that facilitate and hinder women in accessing employment and how they navigate a challenging labor market. While the sample is small and biased in terms of its focus on women available to work, it is spread across 17 governorates[28] and has almost equal proportions of women from urban and rural areas. Given their experience of data collection and household surveys, these respondents are also likely to be aware of local conditions, norms and attitudes. The average age of the sample was 33 years, 53 percent currently working, and 71 percent having completed a bachelor's degree or higher. Interviews were carried out remotely using a questionnaire that included both closed-ended and open-ended questions.

Lack of childcare options, low wages, and mixing with men are the top three barriers to women entering the workforce. When asked about the most challenging barriers Yemeni women commonly face to enter the workplace, the lack of childcare options emerged as the top reason (80 percent). Low wages (59 percent), women and men working alongside each other (45 percent), and lack of means of transportation (22 percent) also emerged as significant barriers (Figure 5.5). Women who have children reported parents-in-law as the most common source of childcare support.

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28 These governorates are Abyan (4), Aden (3), Al Dhale'e (4), Hodeidah (2), Al-Jowf (2), Al-Mahrat(3), Al-Mahwit (2), Hadramout (6), Hajjah (2), Ibb (2), Lahej (6), Marib (2), Raimh (1), Sanaa (2), Shabwa (4), Socotra (2), and Taiz (4).

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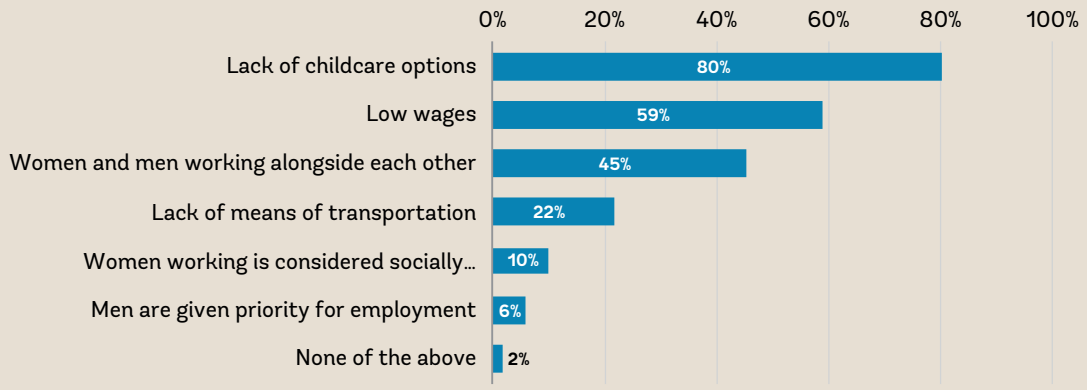
Figure 5.5: In your opinion, which of the following poses the most challenging barrier to entry into the workplace for women in Yemen?



Source: Semi-structured interviews with female enumerators selected from a survey firm's roster of data collectors. N=51

Open-ended questions to probe about day-to-day work challenges revealed transportation barriers. As field enumerators, the majority of the sample reported facing difficulties traveling to areas with rugged roads with no or limited public transport. They also shared how they need to adhere to the social custom of "Mahram",[29] as described by a woman from Ibb:

> *"I faced many challenges. I was a student and at the same time, I was teaching at the university. The head of the department wrote a statement to the university that I was a distinguished student and they allowed me to teach. Sometimes I would go to the university on foot without transportation. When I was teaching at an institute, I would walk for a full hour. Now I find it difficult to get teaching rights from the university. When I go to the university, it takes two full hours. Even being on the bus requires a Mahram, otherwise, I will have to reserve two chairs on the bus. One chair costs 1500 Riyals, and if I book the two chairs, I must pay the right for three chairs. Also, the same problem takes place when I go back home unless I ride a bus in which passengers are women." (RE_016, Ibb_Urban)*

Another respondent from Abyan describes her experience facing restrictive social norms on women's work and how she navigated the practical and social challenges of transportation:

> *"Talking about [District Name] in the past differs from [District Name] at the present time. Previously, ignorance prevailed and a large group, if not all of them, protested that women work and go out of their homes. In the past, when I started working, I faced a lot of challenges because most men criticized women who went out to work. However, with God's grace, and then the support of my husband, I was able to overcome these challenges. Another problem was the lack of means of transportation, especially to go to distant villages to do field work to work. To overcome this, we, a group of women, take a car with a well-known [driver] accompanied by my son." (RE_004, Abyan Rural)*

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29 Mahram relates to the norm where a woman marrying a family member would be considered permanently unlawful (haram). The requirement for a Mahram applies to various types of travel, including travel one day and night, acts of worship like Hajj, visiting parents, or other permissible journeys. Mahrams include close male relatives and can be differentiated into blood, such as a father, husband, brother, or even a young son. Blood Mahrams include all direct ancestors, all direct descendants, siblings, siblings of parents, grandparents, and further antecedents, and children and further descendants of siblings. In-law Mahrams (through marrying someone) include all the ancestors of one's spouse, all the descendants of one's spouse, and all who marry a direct ancestor.

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High support for women's work declines when it has certain implications. The sample shows overwhelming support for women's work in general: 96 percent or respondents report they agree that women should be able to work, 90 percent support women working outside the home, 96 percent support women running home-based businesses, and 90 percent support women working even after marriage (Figure 5.6). However, support begins to decline when it would have certain implications, such as the work requiring leaving a child under age six with a relative, working at a workplace where a majority of colleagues are male, or when the married women would return from work after five pm. Also, despite high support for women's work, a majority thought women were putting their reputations on the line by working outside the home, signaling the reputational risks associated with women working outside (Figure 5.7).

Figure 5.6: Do you agree that it is okay for women to do the following...?

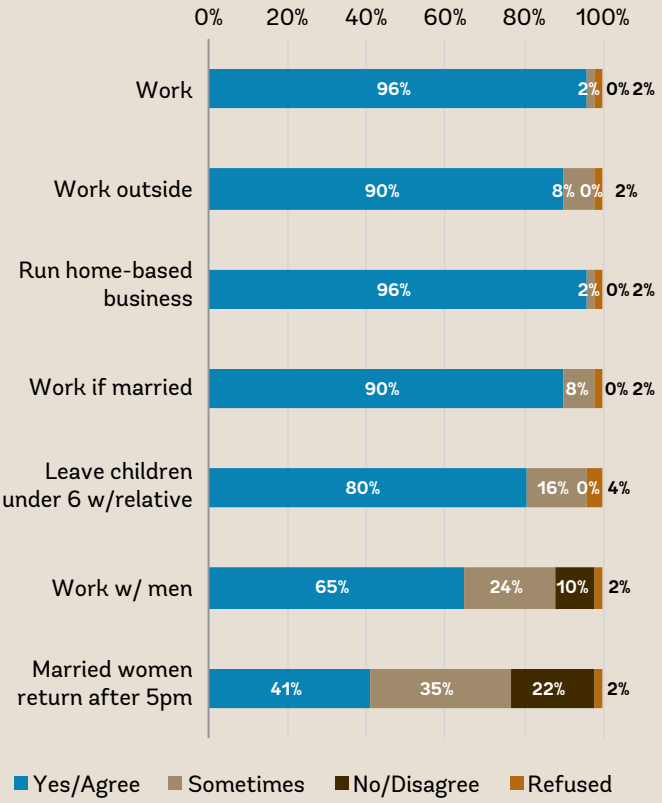
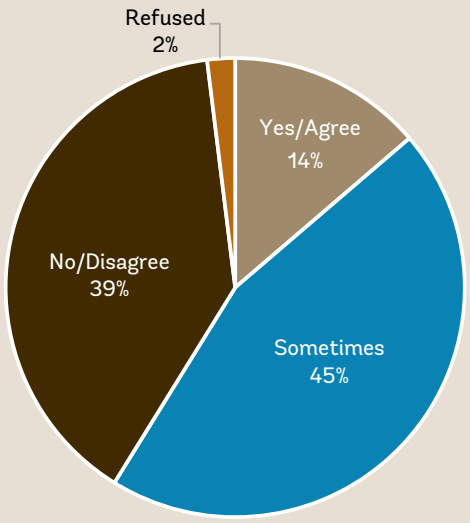


Figure 5.7: Do you think "Women are putting their reputation on the line by working outside their home"?



Source: Semi-structured interviews with female enumerators selected from a survey firm's roster of data collectors. N=51

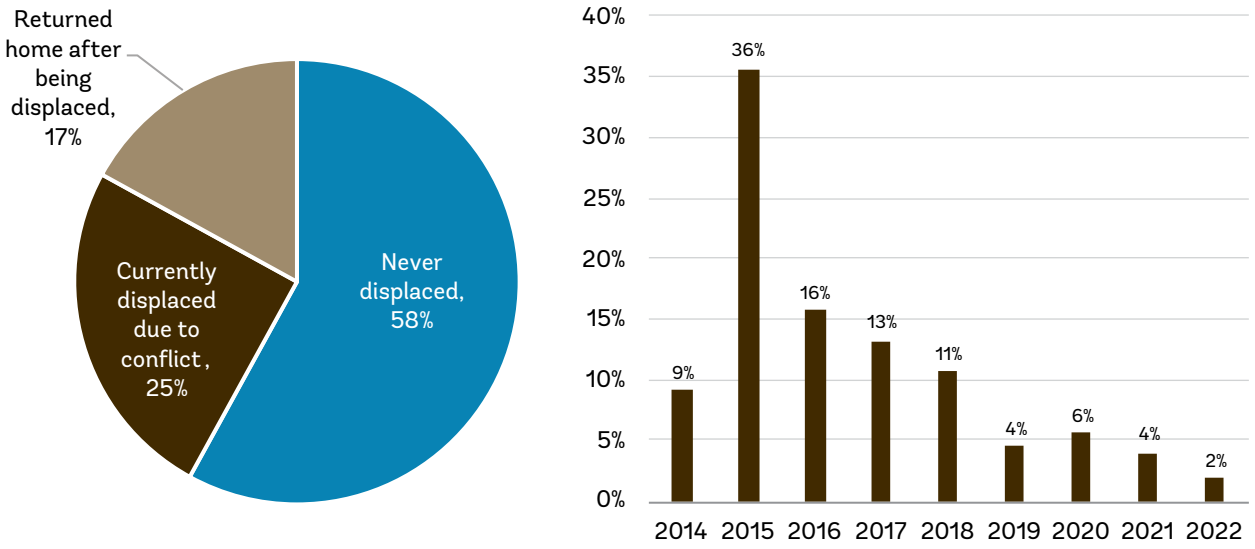
5.3 DISPLACEMENT

A compounding factor in Yemen's food security and poverty crisis is a parallel—and intertwined—crisis of displacement. Internally-displaced households in Yemen experience some of the largest deprivations in food security, access to housing, and access to key services (OCHA 2019; TFPM 2018; WFP and World Bank 2020). The harm that displacement wreaks on food security is immediate and drastic at the time of displacement.

Although all data suggest that the forced displacement crisis began immediately after the conflict escalated in March 2015, there is little agreement on the total number of those displaced and those who remain displaced. Official estimates suggest that approximately 10 percent of Yemenis became displaced in the months after the conflict escalated in March 2015, with a constant flow of new displacements and returns roughly equal to that number over time ever since (OCHA 2019). The latest Humanitarian Response Plan suggests that 14 percent of the population are displaced. The YHDS 2021 finds that eight percent of households are displaced, but this is representative of IRG areas which have seen less displacement than Houthi-controlled areas. Phone surveys suggest even higher numbers: The monthly WFP phone surveys show that at a minimum 29 percent and at maximum 41 percent of the population were displaced between 2016 and 2021 (Favari et al. 2023), and the World Bank phone surveys suggest that 23 and 25 percent of Yemenis were displaced in rounds I and II (World Bank 2023e; 2023f). Capturing the prevalence of displaced persons is notoriously difficult (World Bank 2017a), and the difference between the estimates might be due to differences in survey methodologies and coverage: official estimates are based on key informant interviews at the sub-district level, and other methodologies are based on household level respondents. Or the divergence could be driven by different definitions and interpretations of forced displacement according to households, key informants, or survey interviewers.

Households who moved because of the conflict did so early on, and many remain displaced today indicating a protracted displacement crisis. The second round of the World Bank phone survey enquired further details on displacement patterns. Around 43 percent of respondents were displaced because of the conflict, among whom 18 percent have been able to return home, meaning that 25 percent remain displaced (Figure 5.8a). Those who return home do so out of desperation due to the difficult living conditions in areas to which they have been displaced, and returnees have limited information on the safety or living conditions of the homes they return to (Norwegian Refugee Council 2023). Around half of internally displaced households (48 percent) moved within one year of the conflict start, with the proportion of those displaced tapering out after 2016 (Figure 5.8b). Respondents continue reporting displacement because of the conflict even in 2022, but to a lesser degree.

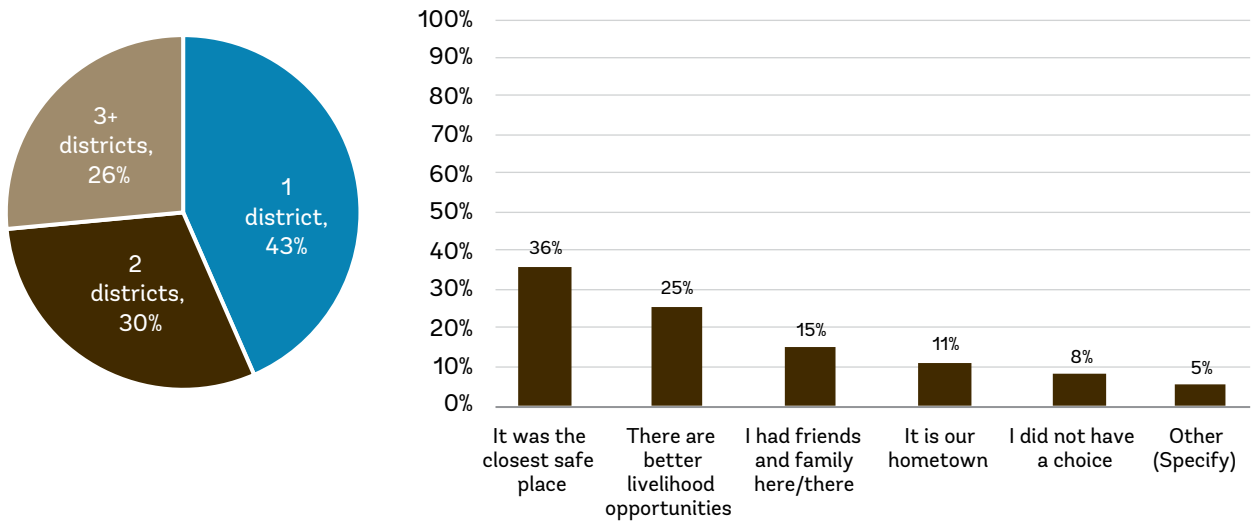
Figure 5.8:a) Displacement status, and b) year of displacement



Source: World Bank Mobile Phone Survey Monitoring Round II 2023

Households are often displaced multiple times, amplifying the precarity and vulnerability of their living conditions. Around 60 percent of households forced to move resided in at least two districts since first moving, with 40 percent living in only one district (Figure 5.9a). Around 36 percent of displaced households chose their current destinations because it was the closest safe place, while 30 percent reported they remained in their current residence mainly because of livelihood opportunities (Figure 5.9b). Six percent reached their current place of residence because they did not have a choice. Box 5.2 further conveys how Yemenis have been displaced in their own words.

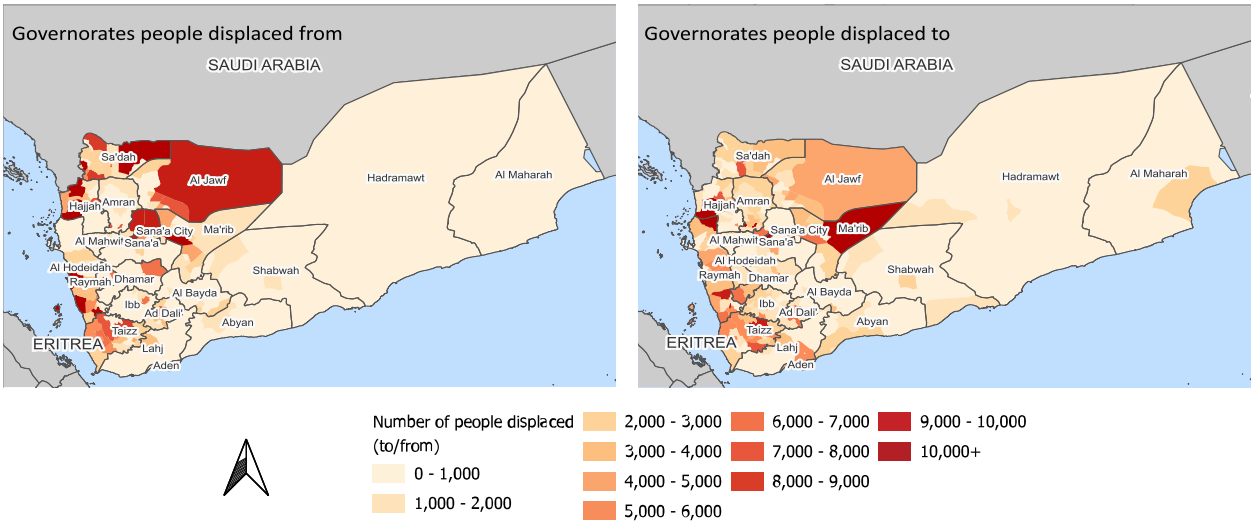
Figure 5.9: a) Number of districts of residence since displacement and b) reasons for choosing destination



Source: World Bank Mobile Phone Survey Monitoring Round II 2023

Displacement also concentrates in a few Yemeni governorates, which see both the largest number of IDPs fleeing as well as arriving. The International Organization for Migration (IOM) Displacement Tracking Matrix (DTM) identifies both IDP and returnee locations and tracks displacement trends on a daily basis in Yemen. However, due to access constraints in many of Yemen's governorates, and not accurately accounting for all returnees, the data is not considered accurate. Inaccurate population data ultimately makes it difficult to accurately locate vulnerable communities likely experiencing significant displacement throughout the duration of the war. Nonetheless, it is the most widely used source for planning purposes, and the data estimates areas experiencing the largest changes in population. While Hodeidah, Taiz, and Hajjah governorates have seen the most households fleeing, these same governorates have also received a high number of households that have fled because of violence (Map 5.1). Marib governorate has seen the establishment of camps outside of the city as a result of households fleeing conflict in governorates such as Al-Jowf and Saadah, significantly increasing pressure on services throughout the governorate.

Map 5.1: Number of IDPS by district between January 2014- June 2023



Source: IOM DTM's Rapid Displacement Tracking tool

Box 5.2: Findings from qualitative interviews on reasons for displacement

This box considers some of the in-depth qualitative interviews conducted with Yemenis, as analyzed in Voices from Yemen (World Bank 2023b), related to Yemen's displacement crisis.

Most respondents were displaced due to the conflict itself or due to indirect conflict events, such as increased prices and unemployment. They decided to migrate when they experienced violence firsthand or expected that the violence was near them in the form of loss of lives or destruction of property. Many fled in fear to keep their families safe. A male respondent from Al-Beida summarized:

> *"We moved after the war to the city. Everyone was moving. Some people died there and those who wanted to live moved. [Our house] was destroyed in the war and we all moved."*

Permanent displacement occurs when violence has been so damaging that the displaced have nowhere to return to or could not re-enter the area due to ongoing fighting and blockades. Often their dwelling or much of the neighborhood was destroyed in aerial bombardment, which also resulted in loss of lives. A male from Raimh who was displaced from Sana'a recollects his experience:

> *"I (with my wife and kids) moved out of Sana'a. Everything was lost. We had no electricity, water, or anything. I did not go back to Sana'a."*

In the case of temporary displacement, the reasons were similar to permanent displacement, but often Yemenis left their homes in anticipation of violence. They returned once the fighting stopped, or when the fighting had moved away from their areas. They came back to dwellings that were not severely damaged to resume the life they had left behind. A male respondent from Marib, who was temporarily displaced due to the war, returned to Marib in 2016 and described the painful process of displacement:

> *"I escaped the war [...] We were not allowed to [go back] due to the war. We all moved away. No one stayed in Marib. I was on my way to Marib. The aircraft shelled our homes. My family was at home, and we had to flee the war. I went back to Marib in 2016. The whole of the town was destroyed."*

Displacement has taken many forms. In some cases, a few family members, usually men, stayed back to look after their houses and land. Sometimes other family members either fully or partially moved back to their native area after being displaced for some time. If people migrated to cities and they could not afford to live there, they returned to their native area or moved elsewhere. Some discussed being displaced more than once and needing to move again to an area where they could hope to find livelihood options. A male respondent from Al Beida describes the reason and process of displacement and the difficult reality of the high cost of living, especially as IDPs:

> *"We had to leave our town because of the air raids that destroyed our homes. We had four homes. We were terrified and used to cry. Our life is very tough here and there. My mother passed away. The rent is also very expensive. We cannot afford that. We struggle to find food, then how about paying the rent. [...] All of us moved, even my in-laws. From Raada we first moved to a house that was expensive to rent, then we moved to another house where we could afford to pay the rent. It is difficult to live everywhere in Yemen."*

Extended family and kinship were key enablers that facilitated displacement. People moved to places where they had extended families or social networks that could help them set up temporary or permanent living arrangements. Of course, not all could benefit from extended family and kinship networks. In those cases, they resorted to living in tents either in camps or outside. The generosity of extended family and kinship, host community members—and in some cases even strangers—helped people find shelter, food, and other basic needs. Some also mentioned receiving help from organizations when they were IDPs, but not after they returned to their native areas. A male respondent from Al-Mahwit describes the temporary nature of the movement, decision-making, and enabling factors that facilitated the process.

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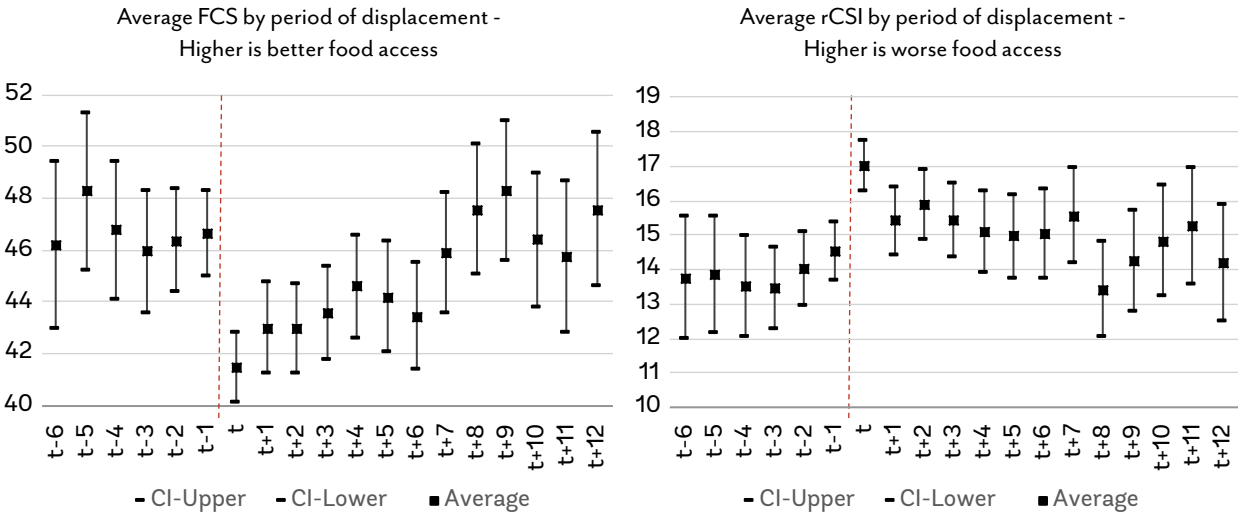
> *"The bombardment was near our neighborhood in [Name of the Street and Area]. A missile hit next to our house, it was our neighbor's house, which is only two units away from my own house, four people died in that house. It was raining bullets and some bullets would go through our house. We were all scared. Our house roof went down (half a meter down), and we did some mending to it. We decided to move, we rented in the [Name of the Street and Area in a different district]. We first took the women and children to the new house we rented, and we kept going back and forth to pack our stuff. After a while, the conflict expanded to reach our new place, so we had to leave the whole governorate Hodeidah. We all moved, my cousins, and brothers, each went to different places. I moved to Al Mahwit, which is my grandparents' hometown. We still have our grandparents' house there, but my cousins went to Sana'a."*

There is a sharp decline in food access in the month of displacement that lasts for up to three- or four-months following displacement. The WFP monthly monitoring panel survey reaches a substantial number of households that were not displaced at first but become displaced in subsequent interviews. Figure 5.10 summarizes evidence from D'Souza et al. (2022) and Favari et al. (2023) and reveals three important patterns illustrated in the evolution of food access:[30]

- **First, food access was very stable leading up to displacement.** This suggests that households becoming displaced due to the humanitarian situation or looking for better opportunities are not doing so in response to a sharp change in well-being, on average.
- **Second, a sharp decline in food access in the month of displacement lasts for up to three- to four- months following displacement.** In the month of displacement, the average FCS worsened by 11 percent and the average rCSI worsened by 17 percent—large declines from an already very low base.
- **Third, despite having worse food outcomes compared to those never displaced, food access for displaced Yemeni households rebounds relatively quickly.** Four months following displacement, food access is statistically indistinguishable from the month before displacement.

30 These results are robust to considering the potential selection bias of displaced households represented in the phone surveys, as food security prior to displacement is uncorrelated with the likelihood of participating in subsequent surveys (D'Souza et al. 2022).

Figure 5.10: a) Food consumption score and b) reduced coping strategy index, leading up to and following displacement



Source: Surviving in the Time of War (Favari et al. 2023)

Note: t averages the food security score for the month of displacement of each household, while t-2 represents two months prior to displacement and t+2 represents two months after displacement (as an example).

Living conditions of displaced households are consistently worse compared to those never displaced. Figure 5.11 shows that displaced households are more likely to report income being insufficient to cover household expenses, are more likely to have poor or borderline food consumption scores (Figure 5.12), and are less likely to access improved drinking water sources (Figure 5.13). On the other hand, displaced households are more likely to receive aid, reflecting the targeting of some aid programs towards displaced households (Figure 5.14). Returnee households have slightly better outcomes compared to displaced households, but this could represent only better off households that are able to return home (Favari et al. 2023), and outcomes are still worse compared to those never displaced.

Figure 5.11: Is income sufficient to cover household expenses?

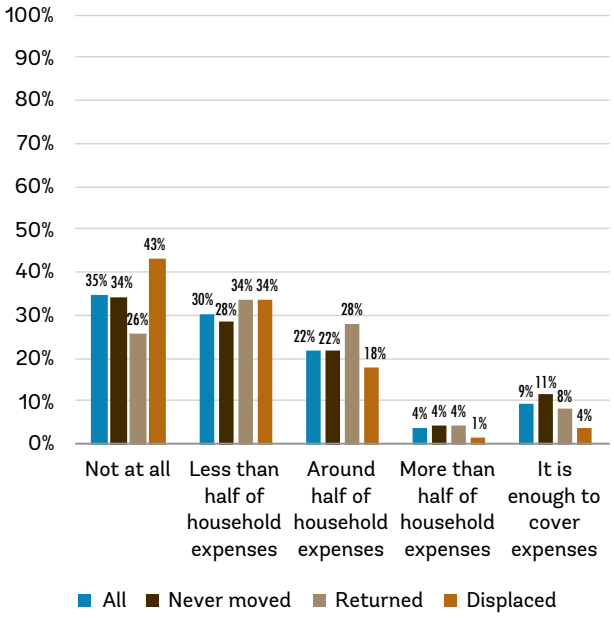


Figure 5.12: Prevalence of poor, borderline, and acceptable FCS

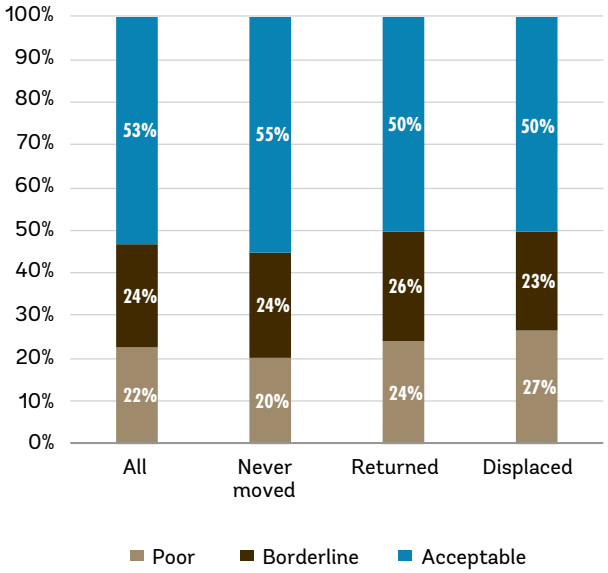


Figure 5.13: Main drinking water source

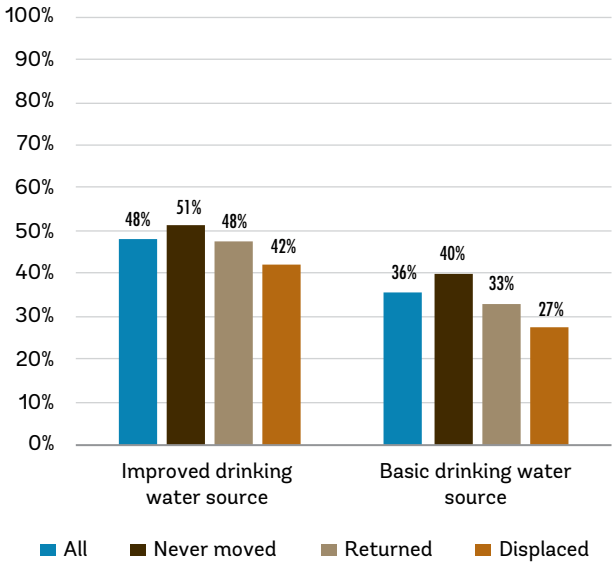
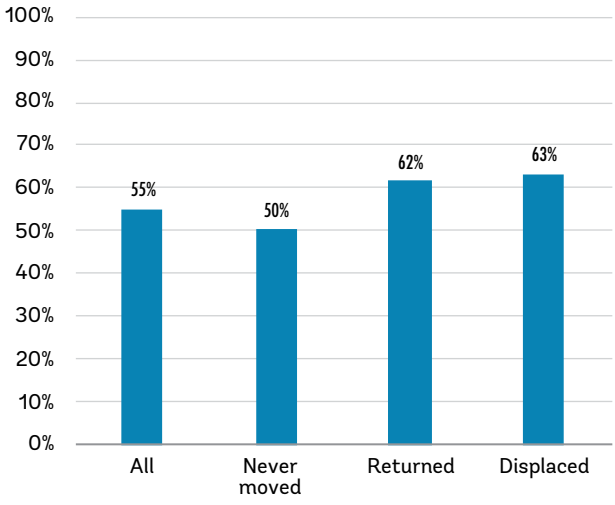


Figure 5.14: Ever received food assistance



Source: World Bank Mobile Phone Survey Monitoring Rounds I and II.
Note: The FCS and reception of food assistance are averaged over both rounds.

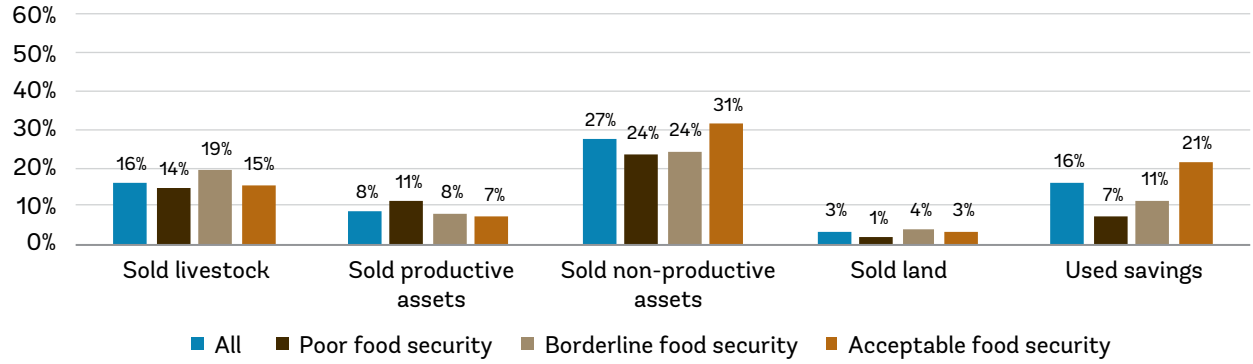
6 In Crisis: Yemenis Have Run Out of Coping Strategies

Aid and development actors have long expressed surprise at the levels of resilience ordinary Yemenis display in the face of considerable deprivation.[31] But Yemenis may not be able to absorb future shocks as well as in the past: a World Bank phone survey shows that the poorest and most food-insecure Yemenis are running out of coping mechanisms. In times of stress, some households, particularly the more food secure, are able to sell assets or use savings to ease their financial situation.[32] The less food secure are less likely to report the use of any of these coping strategies because they do not have assets or savings to sell or use.

31 See, for example, Yemen Aid Work: Resilience Amidst Chaos.

32 The sale of non-productive assets is more common than selling livestock, selling productive assets, selling land, or using savings, all of which are uncommon ( ).

Figure 6.1: Coping strategies adopted in the last three months to make ends meet

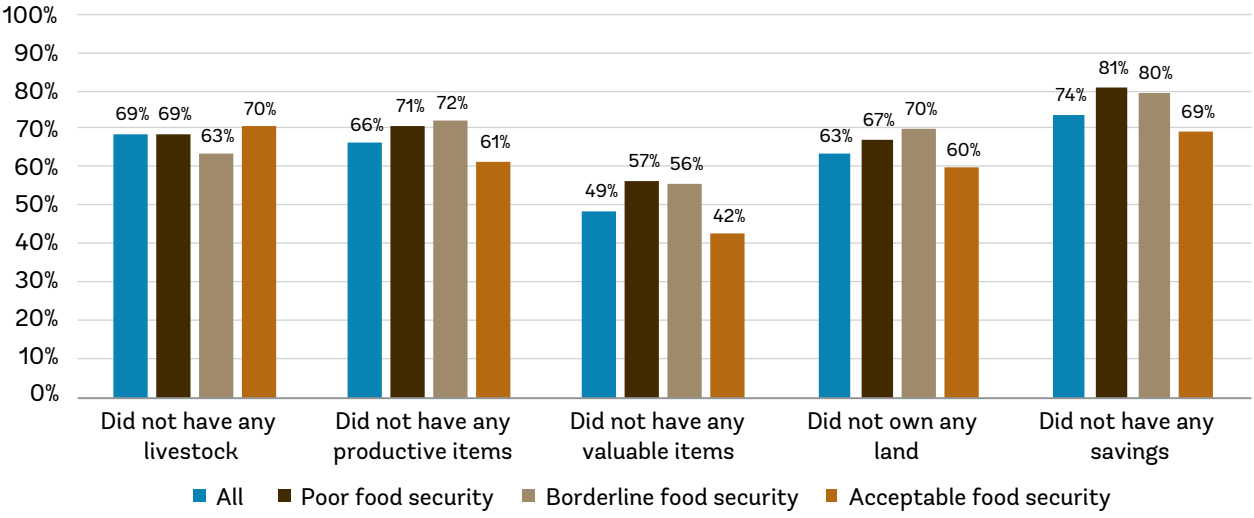


Source: World Bank Mobile Phone Survey Monitoring Round II.

Many households have already exhausted common coping strategies. Around 86 percent of households have adopted at least one coping strategy. But about 69 percent of households did not have any livestock, while 66 and 63 percent of households had neither productive assets nor land, respectively (Figure 6.2). This absence of coping strategies is more common among the relatively more food insecure. For example, 42 percent of households with a poor FCS did not have any valuable items compared with 57 percent among those with an acceptable FCS.

Alarmingly 45 percent of Yemenis are also adopting last resort coping strategies. Pulling children out of school is a common coping strategy adopted on a temporary basis when conditions are particularly bad for the household. One-third of households report withdrawing children from school to ease financial pressure in the last three months (Figure 6.3). This finding is consistent with qualitative interviews that indicate temporary withdrawal of children from school, and sometimes into work, is a necessary coping strategy during times of hardship (World Bank 2023b). In an interview from Voices from Yemen (World Bank 2023b), a parent from Sanaa said: "The school is far away, that is why we are sending one and keeping two at home. We cannot afford transportation and school supplies for three of them."

Figure 6.2: Availability of various coping strategies to households in the last three months

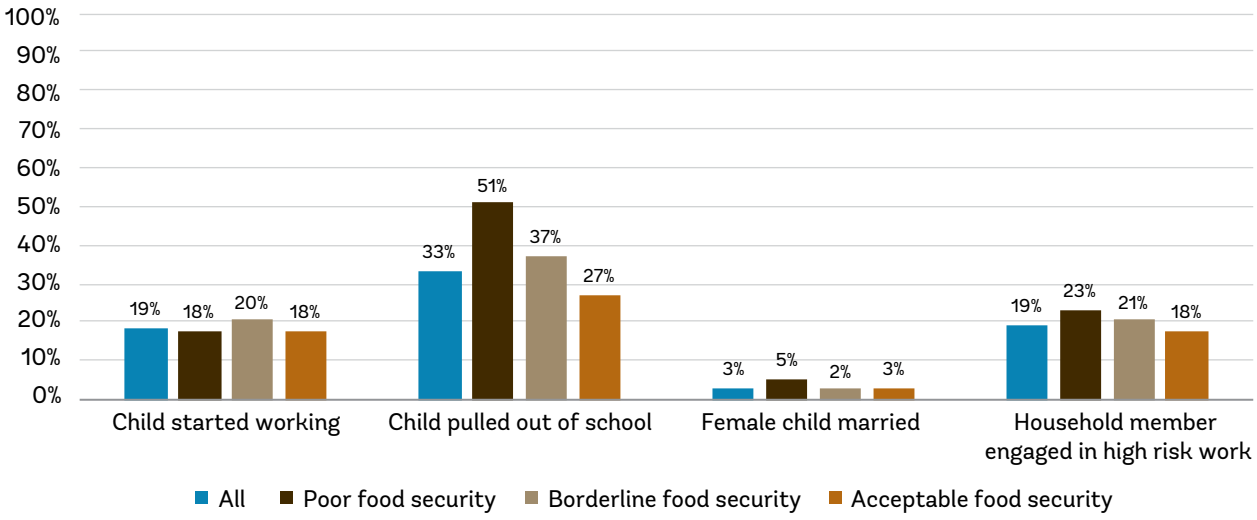


Source: World Bank Mobile Phone Survey Monitoring Round II.

Many households are turning to even more destructive coping strategies, such as sending children to work or engaging in high-risk work (Figure 6.3). Around 19 percent of households report a child younger than 15 entering work in the last three months to support household income. Around 19 percent of respondents say household members have engaged in high-risk employment, including working in an uninsured iron factory, working late at night in isolated regions, engaging in stone-breaking or mountain climbing in mountainous areas, smuggling qat across borders, working alongside the military or other armed forces, and traditional well digging without the use of machinery.

Alarmingly, three percent of respondents said that female children were married to ease financial stress over the last three months alone (Figure 6.3). Child marriage was a critical issue in Yemen even before the current conflict. About 16 percent of women between the ages of 20 and 49 were married before 15 years of age in 2013, according to the Demographic Health Survey of that year (MOPHP et al. 2015). Yet in 2013, the median age of marriage was higher among younger women, potentially indicating an improvement in the incidence of child marriage in the future. However, today any positive trends are likely to be reversed, as more households are forced to marry their female children for financial relief amidst devastating living conditions.

Figure 6.3: Last resort coping strategies adopted in the last three months (November 2022 to February 2023) to ease financial distress

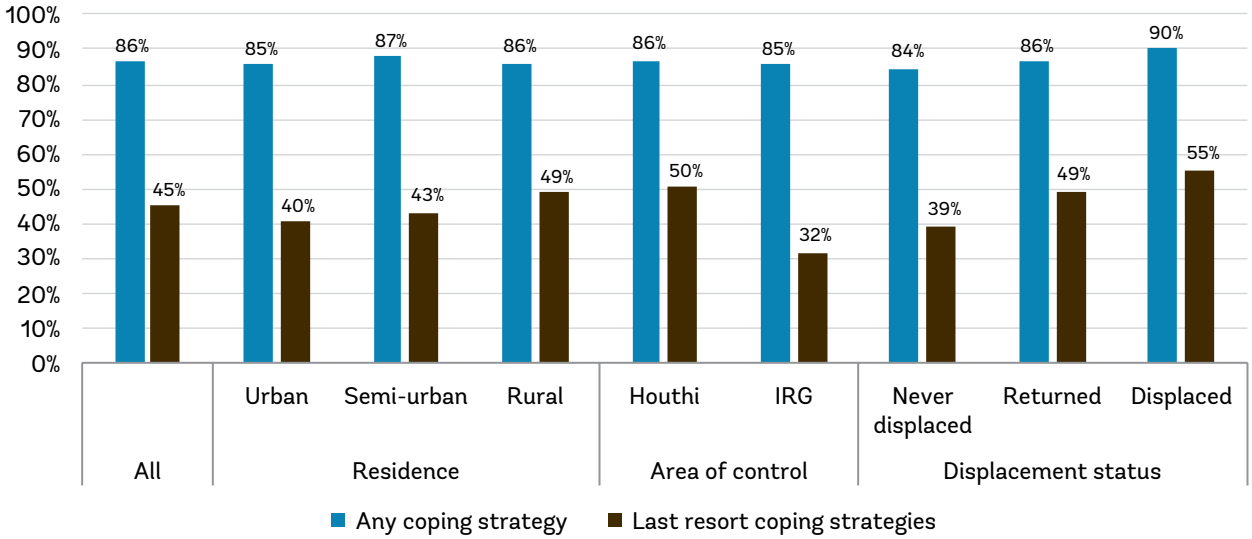


Source: World Bank Mobile Phone Survey Monitoring Round II. Note: Child defined as younger than 15 years old.

These kinds of coping mechanisms make poverty even more intractable. Learning poverty—the failure to educate children under age 10 at least to the point of basic literacy—has serious long-term implications for individual earnings, aggregate human development, and long-term economic growth (Schady et al. 2023).

Unsurprisingly, these strategies are more prevalent among the displaced and food insecure. Reliance on last-resort coping strategies is more pronounced in Houthi-controlled areas and in rural areas (Figure 6.4). The agriculture off-season, from February to March 2023, may be a particularly difficult time for rural households who rely on agricultural income. Both displaced households and those who have returned are more likely to adopt destructive coping strategies, highlighting how these households are vulnerable even after returning home, a topic further explored in section 5.3. The destructive nature of these coping strategies and their long-term consequences for Yemenis implies that these indicators should be regularly monitored.

Figure 6.4: Household reliance on coping strategies



Source: World Bank Mobile Phone Survey Monitoring Round II.

7 Conclusions and Way Forward

The majority of Yemenis live in poverty, and Yemen is at a minimum among the most food insecure countries worldwide. Given the extent of Yemen's economic deterioration, precipitous rise in the cost of living, rising population, and comparisons with non-monetary data gathered in other countries, it is reasonable to claim that poverty has risen drastically from the 49 percent recorded in 2014. As many as 74 percent of Yemenis could live in poverty, and Yemen is likely among the top 15 percent of poor countries.

Yemen's situation remains precarious and its future uncertain. The Poverty Assessment was prepared during a period of relative calm and qualified optimism for Yemen—a nationwide truce agreed in April 2022 held throughout 2023 amid negotiations over a longer-term ceasefire. It was finalized in early 2024 as the outlook darkened. In January 2024, the Houthis entered into a direct military confrontation with a US-led coalition of maritime forces over control of the Red Sea. The Houthis have said they will continue their attacks on commercial and military vessels in the Red Sea until the war in Gaza, ongoing at the time of writing, ends and humanitarian supplies reach the Gaza strip. The US and other powers have vowed to continue their own retaliatory strikes against targets in Yemen until the Houthi attacks on the Red Sea abate. With tensions high across the Middle East, there is a real risk that Yemen could be further drawn into a complex regionwide conflict, whose economic repercussions could exacerbate the poverty and food security crisis.

If poverty is to be alleviated, there is no alternative to a political process that ends war and institutes security and stability for ordinary Yemenis. In the most optimistic scenario assessed for the 2023 CEM—one in which de-centralized governance produces a degree of stability, aid and development assistance flows into Yemen and both government and

private sector investment increases—poverty could fall to levels approaching those seen pre-war by 2030. And indeed, as noted in this report, during the truce period food security (and hence poverty) improved modestly. The peace process, even in the current context, should remain a priority for the international community and Yemeni leaders.

The marginal gains in food security observed during the truce risk being reversed, if they have not already. In December 2023, the WFP suspended general food distributions in Houthi areas after a dispute over more limited aid distributions, due to lower donor commitments for Yemen in 2023 and expectations of more limited funding in 2024. At the same time, the Yemeni Riyal fell to its lowest level in several years in IRG areas, more than YR1,500 to the dollar. While the effects of the Red Sea confrontation and the US SDGT designation for the Houthis has not yet registered in the cost of imported goods, Yemeni traders are already warning that prices would soon increase.

Yemenis remain highly vulnerable to future economic or other shocks. This Assessment has demonstrated the severity of food insecurity and non-monetary dimensions of poverty across Yemen, how vulnerable the population is to compounding and overlapping shocks, and how degraded coping mechanisms have become. And it has noted that the most vulnerable Yemenis increasingly lack the coping mechanisms needed to absorb additional shocks.

The effects of protracted food insecurity, poor access to services, and destructive coping strategies demonstrated in this Assessment will have long-term effects on Yemen's human resources and economic potential. Conflict experienced even for babies *in utero* can have long-term effects on children's health and their future income earning potential, extending poverty to future generations (Phadera 2021). Poor food security and nutrition *in utero* and during the first 1,000 days of life will also long-term harm on physical and mental health and cognitive ability (Almond and Currie 2011; Corral et al. 2020). Mental health and psychological wellbeing are also likely to deteriorate because of the conflict.

The conflict, through its effect on access to food and services, has exacted a particularly brutal toll on Yemeni children. Yemeni children are among the most underweight, stunted, and wasted in the MENA region and when compared to other poor countries suffering from similar levels of physical and food insecurity like Mali, Burkina Faso, the Central African Republic, Haiti and Afghanistan. World Bank research suggests that, on average, countries lose 7 percent of the per capita GDP because they did not eliminate stunting when their current workers were children (Galasso and Wagstaff 2018).[33]

Realistically, little headway on hunger and poverty will be made if the war continues. In its most recent Country Economic Memorandum (CEM) for Yemen (2023c), the flagship publication on the state of Yemen's economy, the World Bank conducted two complementary scenario planning exercises for Yemen. One reflects possible political economy outcomes for Yemen's future, based on a rigorous political economy analysis, and the other a complementary set of potential macroeconomic outcomes, based on the macroeconomic CGE extrapolations described elsewhere in this report. The CGE analysis projected that, if the war continues along similar lines to the past ten years or effectively becomes frozen, poverty will remain stuck above 74 percent by 2030. Only if Yemen achieves what the authors call "imperfect peace", and large amounts of aid are delivered, will poverty fall to around 62 percent.

Even if the fighting stops and a political settlement is agreed, Yemen will remain unstable, and growth tentative. Peace, decentralization and increased public investment efficiency can yield dramatic gains in employment and poverty reduction. If conflict subsides and the economy responds positively to increased investment in infrastructure and human capital, Yemen could renew growth and poverty reduction by 2030. However, effective public spending will require

33 It is even higher for Madagascar: the losses due to stunting are estimated at 7 to 12 percent of GDP annually.

stronger governance, including more efficient public expenditure management and tax collection, with adequate support for poor households and positive incentives for the private sector. International aid will be vital to finance investments in Yemen's development. But, the CEM authors note, "While a political settlement would be a critical step towards recovery, it would not guarantee a return to stability or broad-based growth. Yemen's social, political and institutional fragmentation is likely to persist into any post-conflict period, with territorial control divided into *de facto* zones of authority and multiple overlapping formal and informal administrative frameworks."

What, then, can the World Bank, aid and development actors do? Significant poverty reduction in Yemen is likely to remain a long-term goal and maintaining short-term food security should be an immediate priority. But efforts must also be made to prevent Yemeni youth and children becoming a "lost generation" whose monetary and non-monetary poverty, including poor health, severely limit their long-term economic prospects.

On the basis of this report's findings, efforts to alleviate poverty and help Yemeni households absorb future shocks are contingent on some form of progress towards a political settlement and improvements in the macroeconomic environment. Other specialized reports and World Bank products, for example the 2023 CEM, provide detailed recommendation on how such improvements might be achieved. An upcoming Agricultural Assessment will also consider how to boost domestic agricultural production to shield Yemenis from global price shocks. If food availability is further constrained, domestic agricultural production will be a crucial lifeline. If domestic production is not boosted, and barriers to trade not alleviated, then Yemen could face a situation of further inflationary pressures if public sector salary payments resume. In addition, there are several areas where international effort can be concentrated to help alleviate suffering in the short-term and lay the groundwork for a more intensive program in the event of a political settlement.

This Poverty Assessment acknowledges that the funding and operational environment for Yemen will face considerable constraints in the coming months and perhaps years. The authors propose three short-term priorities and three long-term areas of focus that can help prevent further deterioration, alleviate poverty in the medium term and lay the groundwork for long-term gains in human development.

In addition, this Assessment repeats the call made by numerous humanitarian and aid organizations to international donors to maintain funding for aid and development in Yemen. Evidence from 2018, when aid was cut temporarily and the prevalence of inadequate food consumption increased by 15 percent, clearly demonstrates that the humanitarian situation will deteriorate in a lower funding environment.

The short-term priorities are:

1. Rebuild coping strategies

Household shock absorption capacity has been eroded by ten years of war, and the poorest households are more vulnerable than ever to the kind of shocks that have become a recurrent feature of the conflict and climate. In line with the CEM, this Assessment argues that poverty will be hard to alleviate for some years to come. For this reason, several measures should be taken to rebuild household buffers to shocks and ensure that poverty does not deteriorate further. Among possible measures are:

- Restore basic assets, particularly livestock, to households. After almost a decade of relying on increasingly extreme coping strategies, this will help address the crisis of children's education. As noted in the report, pulling children out of school, even if temporarily, has been used as a coping strategy in the absence of assets and savings.

- Increase livelihood options through targeted investments in the private sector, this can include improving access to finance and business registration, investing in domestic agricultural potential, and supporting economic opportunities for women.

- Increase cash-for-work opportunities to ensure some jobs are available even during periods of stress.

In this context, as violence declines, it will be critical to support safe, voluntary, and dignified return. In the interim, displaced households require prioritized assistance across basic services and livelihoods to mitigate their relatively poorer living conditions.

2. Redesigned Cash Transfers

Second, the Cash Transfer Program would benefit from improved targeting, once the context allows., In the short term, improvements could rely on a combination of geographical targeting, potentially through the project targeting index, other household survey-based data, community-based participatory assessments, and community-level lotteries.[34] Targeting should take into account some of the forms of vulnerabilities identified in this Poverty Assessment: displacement, exposure to conflict, exposure to climate-related hazards, living in rural areas and engagement in agriculture, and female-headed households. In the long term a new Household Budget Survey (next recommendation) would allow for a redevelopment of the cash transfer targeting mechanism.

3. Data

Thirdly, investment in data and statistics are a crucial component of efforts to monitor humanitarian and development outcomes. In particular, the current period of relative calm offers space for the first national Household Budget Survey in almost a decade. The Central Statistical Offices, although separated between Sana'a and Aden, have demonstrated technical coordination to complete the Multiple Indicator Cluster Survey across the entire country. The Household Budget Survey (HBS) is a crucial data source for micro and macro-level economic indicators that have been lacking for many years, including poverty statistics, the Consumer Price Index and National accounts. The survey should be a priority focus for Central Statistical Offices and the international community.

Beyond the HBS, it will be crucial to expand monitoring capacity and early-warning systems by investing in data collection and analysis. This Poverty and Equity Assessment highlights the precarity of living conditions and how quickly the context has changed in the last ten years. High-frequency surveys will shed light on the changing conditions. This report has also shown that there is a wealth of data available in Yemen, but more effort should be devoted to harmonization across UN partners, coordination with the Central Statistical Offices, improving the quality of data that is regularly collected, and enhancing analytical products.

34 In situations where the needs of the poor are so high and widespread data gaps exist, lotteries can be argued to be an efficient and fair method to distribute cash transfers. See the blog "Can the luck of the draw improve social safety nets?"

LONG-TERM PRIORITIES

There are also three priority areas where upfront investment can yield long-term dividends:

1. Human Development

Investing in human capital—physical and psychosocial health, education, and skills—will be a crucial channel for mitigating and reversing the harm done by ten years of conflict. The peace dividend of growth after conflict can only be sustained if human capital can adjust (Barro and Sala-i-Martin 1995). While the current political and economic environment provides extremely limited space for such efforts, the World Bank has invested immensely in these areas and should continue to do so.

2. Governance

While Yemen remains divided, it should be noted a number of important sources of local resilience continue to structure social life in rural Yemen which can be leveraged for better data systems, program monitoring and operations. This includes social structures, grassroot initiatives, traditional institutions, and social religious obligations, and self-help groups that have helped communities mitigate the crisis and meet some basic needs. One way of supporting local social structures is through community-driven development (CDD) programing, which fosters greater inclusion of the vulnerable groups identified in this Assessment. CDD can also improve program targeting and monitoring. But CDD is not without challenges, particularly in FCV contexts, where the policy, institutional, and operational environment is highly dynamic. Overcoming these will require keen attention to lessons learned in past community-based efforts, both in Yemen and other complex FCV environments.

3. Gender

The impacts of conflict on gender emerge as complex and context-specific, requiring nuanced responses to support women equitably. As women navigate through these challenges, policy must address systemic constraints and risks to empower women economically and socially in a post-conflict future.

Ultimately, the decision to improve or worsen the lot of ordinary Yemenis lies with the country's political and economic elites. Fluctuations in food security correspond with key political economy developments, most notably the economic bifurcation between the two main zones of control. Spikes in food insecurity coincide with significant political and economic events. Absent wise political leadership and support from the international community, millions of Yemenis will continue to live in poverty, and the prospects of future generations will be literally and figuratively stunted.

Appendix A

DETAILED EVENT TIMELINE

Date	Events
Feb-12	Hadi elected as president and launch of National Dialogue
Sep-14	Houthis take over Sana'a
Mar-15	First military operations of coalition and closure of Sana'a Airport. Onset of displacement
Mar-15	Coalition announces naval blockade of Yemen
May-16	UNVIM becomes operational
Jul-16	IRG asks IMF, Yemeni banks to suspend cooperation with CBY-Sanaa
Jul-16	CBY-Sanaa struggles to pay civil service salaries.
Sep-16	Central Bank transfer to Aden
Oct-16	Cholera outbreak
Mar-17	CBY-Aden starts printing new-format Yemeni Riyals
Aug-17	IRG liberalizes YER-US$ exchange rate
Aug-17	IRG, Houthis liberalize fuel imports
Sep-17	IRG resumes salary payments in areas under its control, and some in Houthi-controlled areas.
Nov-17	Closure of Sana'a airport after brief opening which lasted until 2022
Jan-18	KSA announces deposit US$ 2 billion to CBY Aden
Jan-Dec-18	IRG offensive on Hodeidah
Sep-18	IRG announces Decree 75, tightening control over imports.
Oct-18	First tranche of funds from Saudi deposit to CBY Aden approved
Nov-18	Currency crisis and rapid escalation of prices
Dec-18	UN-brokered Stockholm Agreement includes provisions for Hodeida revenue collection, salary payments.
Jul-19	IRG announces Decree 49, imposing customs and taxes on fuel imports before offloading, leading to fall in imports to Hodeidah.
Nov-19	IRG suspends salary payments in Houthi-controlled areas.

Nov-19	Onset of second currency crisis in IRG areas as Saudi deposit dwindles
Dec-19	Houthis ban IRG-printed YER notes.
Jan-20	Houthi offensive on Marib
Feb-20	Houthis suspend cooperation on Hodeidah import mechanism.
Mar-20	COVID-19 and spike in global food prices
Apr-20	Significant flooding damaging housing, crops and vital infrastructure
Apr-20	Partial restrictions on fuel in Houthi-controlled areas
Jun-20	IRG initiates de facto embargo on Hodeidah fuel imports.
Mar-21	KSA announces US$ 422 million fuel grant to IRG.
Jul-21	Exchange rate reached YER 1,000 per US$
Sep-21	Halving of food assistance in Houthi-controlled areas
Sep-21	Increased violence in Marib
Dec-21	Rapid appreciation of YER after replacement of CBY Aden governors
Feb-22	Fuel crisis impacting humanitarian activities (Fuel remained sporadically available. Prices of oil in market increased four folds, especially with the embark of the Russian invasion of Ukraine.)
Mar-22	War in Ukraine begins impacting global wheat supply
Apr-22	Truce begins and formation of PLC; fuel restrictions on Hodeida lifted.
May-22	First commercial flight in six years leaves Sana'a
Aug-22	Truce extension
Oct-22	Truce expires
Oct-22	First Ukrainian wheat shipment
Dec-22	Price cap on food items in Houthi-controlled areas
Feb-23	KSA announces US$ 1 billion deposit to CBY Aden
Mar-23	KSA and Iran restore diplomatic ties
Mar-23	The Houthi parliament approved a law banning usurious transactions
Apr-23	KSA Ambassador visit to Sana'a
Apr-23	Ukrainian wheat shipment to Yemen
Aug-23	KSA announces US$ 1.2 billion (not confirmed if it has deposited yet)

Appendix B

CONSUMPTION AGGREGATE FROM THE YHDS 2021

Well-being or welfare can be measured through a monetary value of consumption and expenditures, with higher expenditure indicating a higher level of well-being. Construction of the household consumption aggregate is based on the quality of available data, inclusion and exclusion of certain items, and a set of assumptions. The YHDS 2021 components of the household aggregate consumption measure are included below:

- **Food**: Food consumption is computed based on the questions asked for a selected, reduced number of items totaling 18, in comparison to the Yemen Household Budget Survey (HBS), which had 260 food items. The main drawback of the questionnaire is that it relies on a reduced list of food items and does not allow to record consumption from purchases and other sources at the same time. This could be a concern in Yemen as households are likely to rely on a combination of purchases, food baskets, and own production for their food needs.
- **Education expenditures**: Individual expenditures are collected for all individuals aged six or older for the 12 months preceding the survey. We include them fully in the consumption aggregate.
- **Health expenditure**: This is excluded from the aggregate consumption measure as the YHDS only asks about expenditure in the last visit to a health care facility.
- **Housing**: Around two-thirds of households report owning their dwelling, with almost one-quarter renting it. The consumption flow associated with the dwelling in which the household lives is measured using a question asking respondents the rental value of their housing unit if owning, and the monthly rent if renting. It is hard to assess the accuracy of the owners' estimated rent, especially if the rental market in certain regions is not well-developed, but the rental and ownership markets are likely to diverge in a context like Yemen.
- **Other non-food items:** The YHDS asks for expenditure across 25 different non-food items, including transportation, communication, and personal care items. For comparison, the Yemen HBS has 200+ non-food items. Some of the other non-food items might include expenditures on consumer durables, and we construct two different aggregates: one including the consumption flow from durables and one excluding them. The differences are minimal (results not reported here).

The total consumption aggregate sums up these components for each household over the last month. To obtain an equivalent household expenditure comparable across households with different compositions, we use per-capita consumption as an equivalence scale. A basic cleaning of all consumption items is done on the per-capita value of purchases, replacing zeros and extreme values with the median within a certain group.

Finally, we also adjust expenditure for regional and temporal differences in prices using a Paasche index based on price data collected within each enumeration area and averaged to the urban and rural level (results are also robust to averaging at the governorate level). This will ensure that people who spend more consume more in value or quality, and not just spend more due to higher prices.

These adjustments can be represented by the following equation:

$$Household\ consumption\ per\ capita = \frac{Total\ household\ nondurable\ consumption\ expenditures + imputed\ consumption\ flow\ from\ durables}{(household\ size)(price\ index)}$$

After these adjustments, we obtain equivalent real household consumption expenditure per capita, the best estimate of monetary well-being in IRG areas. However, the adjustments are not perfect as not all relevant goods are measured, and we do not account for differences in taste. Nonetheless, when comparing total household consumption per capita with other measures of welfare in the YHDS, including the reduced coping strategy index and asset ownership, we see encouraging correlations indicative of the reliability of this indicator.

Figure 0.1: Asset index and monthly per capita consumption (100 bins)

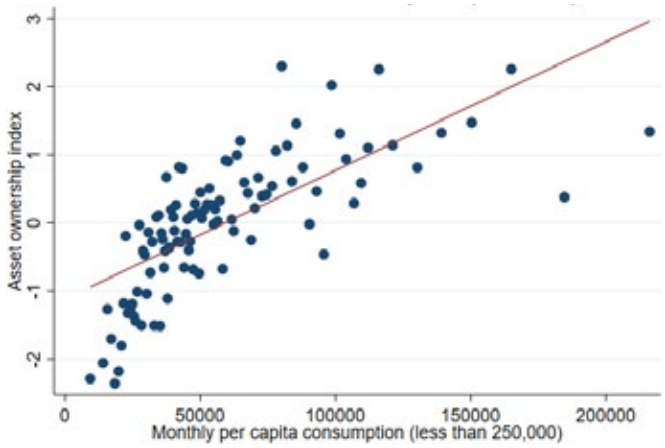
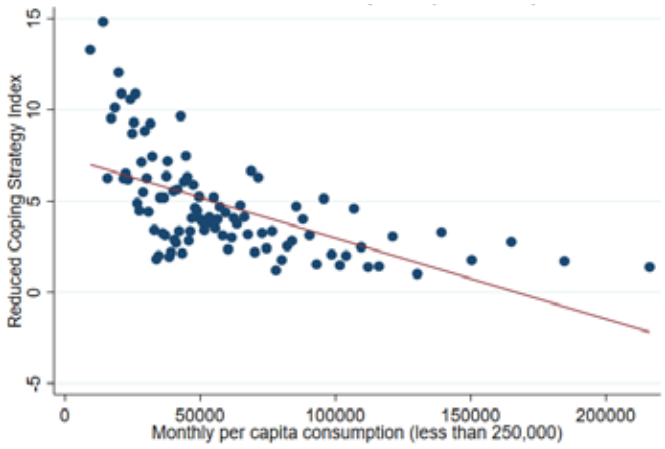


Figure 0.2: Reduced Coping Strategy Score (higher is worse) and monthly per capita consumption



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