



ASSESSING THE IMPACT OF WAR

on Development in Yemen

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DISCLAIMER

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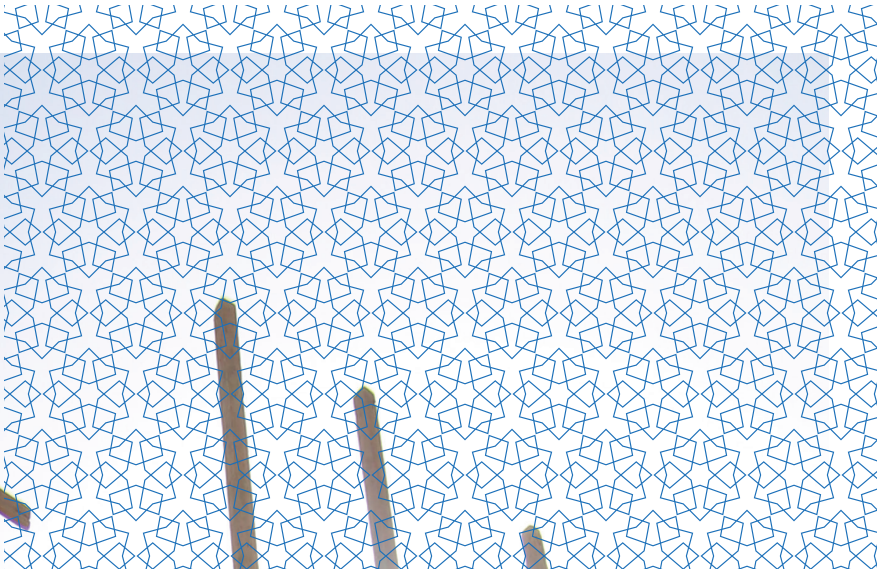
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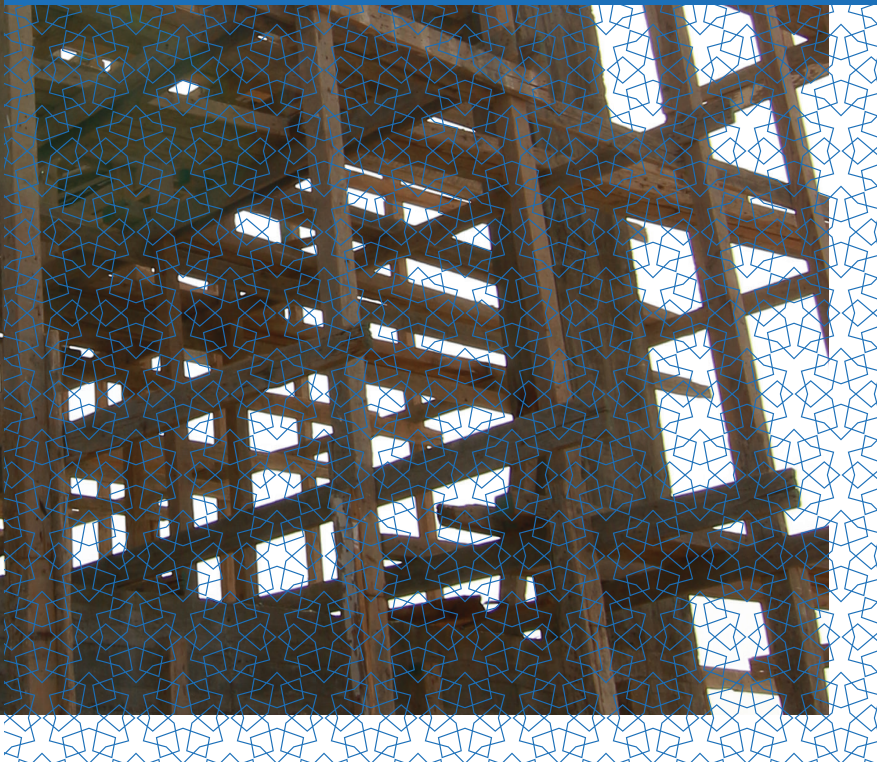
PREFACE

This study on the “Impact of War on Development in Yemen”, was commissioned end of 2018 in collaboration with Frederick S. Pardee Center for International Futures, Josef Korbel School of International Studies, University of Denver. The researchers undertook the analytical work with a desire to understand the impact of war in Yemen across human, social and economic dimensions of development. The analysis was undertaken by calibrating a quantitative modeling system called International Futures (IFs) to fit the available information on the impact of war in Yemen to date, and then create four hypothetical analytical scenarios to be explored. One where the conflict ends in 2019, 2022 and finally one where conflict extends all the way to 2030. To assess the impacts from the conflict across the three conflict scenarios the fourth scenario represents a counter-factual world in which conflict did not escalate beyond 2014. The result is an impact study that quantifies the damages of the war in Yemen across multiple dimension of development such as loss of lives, health, demographics, education, infrastructure and the economy, etc.

The study is intended to advocate to the parties to the conflict on the consequences of the conflict on medium- and long-term development, as recovery to the pre-conflict levels would require two to three generations. At the same time the study intends to inform the general public, including the international community, about the level of devastation caused by the conflict in Yemen, and ask those who have influence over either party to the conflict to urgently push towards a sustainable peace deal and a stop to further escalation. The situation is already extremely severe. If it deteriorates further it will add significantly to prolonged human suffering, retard human development in Yemen, and could further deteriorate regional stability.



EXECUTIVE SUMMARY





Prior to the escalation of conflict in 2015, development in Yemen was strained. A country of 30 million people, Yemen ranked: (a) 153rd on the Human Development Index (HDI); (b) 138th in extreme poverty; (c) 147th in life expectancy; (d) 172nd in educational attainment; and, (e) was in the World Bank low-middle income category. Projections suggest that Yemen would not have achieved any of the Sustainable Development Goals (SDGs) by 2030 even in the absence of conflict.

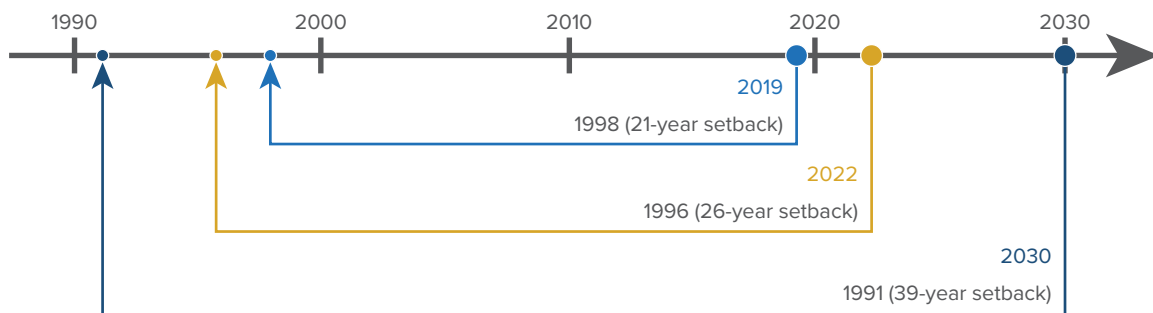
The ongoing conflict has further reduced the pace of development. The impacts of conflict in Yemen are devastating—with nearly a quarter of a million people killed directly by fighting and indirectly through lack of access to food, health services, and infrastructure. Of the dead, 60 per cent are children under the age of five. The long-term impacts of conflict are vast and place it among the most destructive conflicts since the end of the Cold War. The conflict has already set back human development by 21 years (Figure 1). If the conflict were to end in 2022, development would be set back 26 years—over one generation. If the conflict persists through 2030, the setback grows to nearly four decades, or more than one-and-a-half generations. In

this case, one-in-five surviving Yemenis will be physically stunted because of the conflict.

This report is motivated by a desire to better understand the impact of conflict in Yemen across multiple pathways of human development. We assess this by calibrating the International Futures (IFs) model and using it to create four alternative scenarios. These scenarios reflect three potential pathways of conflict development (ending in 2019, 2022 and 2030), as well as a counterfactual world in which conflict did not escalate after 2014. These scenarios are then used to estimate the impact of conflict on development across multiple issue areas (demographic, economic, education, infrastructure, health, etc.).

FIGURE 1 | *How long does conflict in Yemen set back human development?*

Human Development Index
years set back at the end of the conflict





2019 IMPACT

If the conflict were to end in 2019, it would account for:

233,000 DEATHS (0.8 per cent of the 2019 population) with 102,000 combat deaths and 131,000 indirect deaths due to lack of food, health services and infrastructure

1 CHILD DEATH every 11 minutes and 54 seconds in 2019

140,000 deaths of children under the age of five

44M YEARS

of people living in extreme poverty (40 per cent of the 2019 population)

1.6M YEARS

of children living with malnutrition (14 per cent of the 2019 child population)

13.4M YEARS

years of the population living with malnutrition (17 per cent of the total population in 2019)

10.3M YEARS of children without access to schools (36 per cent of school-aged children in 2019)

US \$89B
loss in economic output

&

US \$2,000 reduction in Gross Domestic Product (GDP) per capita (at Purchasing Power Parity (PPP))

2022 IMPACT

If conflict continues, the cost in mortality, especially the lives of children, will grow. In a scenario that assumes reduced conflict intensity relative to 2018, but continued large-scale violence through 2022, we estimate that fighting will account for:

482,000 DEATHS (1.5 per cent of the 2022 population) with 166,000 combat deaths and 316,000 indirect deaths due to lack of food, health services, and infrastructure

1 CHILD DEATH every 7 minutes in 2022

331,000
deaths of children under the age of five

4.4M YEARS
of children living with malnutrition (24 per cent of the 2022 child population)

37.3M YEARS
of the population living with malnutrition (31 per cent of the 2022 population)

86.6M YEARS
of people living in extreme poverty (49.4 per cent of the 2022 population)

21.2M YEARS
of children without access to schools (43 per cent of school-aged children in 2022)

US \$181B
in lost economic output

&

US \$2,600
reduction in GDP per capita (at PPP)

2030 IMPACT

If the conflict continues through 2030, it will increasingly and disproportionately impact the lives of the youngest:

1.8M DEATHS (4.6 per cent of the 2030 population) with 296,000 people dying directly in conflict and an additional 1.48 million people dying indirectly due to lack of food, health services and infrastructure

1 CHILD DEATH every 2 minutes and 24 seconds in 2030

1,500,000
deaths of children under the age of five

22.7M YEARS
of children living with malnutrition (55 per cent of the 2030 child population)

220.3M YEARS
of the population living with malnutrition (84 per cent of the 2030 population)

265M YEARS
of people living in extreme poverty (71 per cent of the 2030 population)

57.4M YEARS
of children without access to schools (48 per cent of school-aged children in 2030)

US \$657B
loss in economic output

&

US \$4,600
reduction in GDP per capita (at PPP)

The conflict in Yemen is devastating to development gains and disproportionately impacts children. By 2030 we estimate that indirect deaths (caused by lack of access to food, health care and infrastructure services) will be five times greater than direct deaths. Most of

those deaths are to infants and children, with an estimated 1.5 million killed by 2030 if conflict persists. Table 1 shows the impact of ending the conflict in 2019, 2022 and 2030 on indicators of development compared with a *No Conflict* scenario.

TABLE 1 | Summary of results, reporting human development indicators in the last year of the conflict according to each scenario.

	Scenario	Last year of conflict			
		2014	2019	2022	2030
Direct conflict deaths (cumulative difference)	<i>Conflict</i>		102,000	166,000	296,000
Indirect conflict deaths (cumulative difference)	<i>Conflict</i>		131,000	316,000	1,484,000
GDP per capita (PPP) <i>thousand US</i>	<i>No Conflict</i>	3.8	4.0	4.3	5.9
	<i>Conflict</i>	3.8	2.0	1.7	1.3
Extreme poverty* <i>percent of population</i>	<i>No Conflict</i>	18.8	18.7	15.4	6.6
	<i>Conflict</i>	18.8	58.3	64.8	77.6
Infant mortality <i>deaths per 1,000 births</i>	<i>No Conflict</i>	46.3	36.7	32.2	21.3
	<i>Conflict</i>	46.3	69.6	81.5	136.6
Malnourished children <i>percent of children</i>	<i>No Conflict</i>	42.1	36.5	33.5	24.6
	<i>Conflict</i>	42.1	50.5	57.3	79.5

Gross Domestic Product (GDP) per capita, extreme poverty, and malnourished children 2014 data from World Bank World Development Indicators (WDI); infant mortality 2014 data from UNPD World Population Prospects. *Poverty line of US \$1.90 a day.

It is difficult to conceptualize the scale of these impacts on development. To better contextualize this, we used quantitative clustering techniques to compare the conflict in Yemen with other conflicts since the end of the Cold War. We discovered that Yemen’s current conflict is similar to others that are large, last for a long time and have significant impacts on human development such as Iraq (2003–present), Democratic Republic of Congo (1992–present), Sierra Leone (1991–2002) and Liberia (2000–2003).



This study has limitations and focuses narrowly on the impact of conflict on development. We do not study the drivers of conflict, unfolding conflict processes or

the potential for post-conflict recovery. We project a de-escalation of conflict from 2018-levels (in terms of deaths and impact on the economy) and also make assumptions about how the conflict will unfold through 2030, both of which drive many results.

This report breaks important new ground in presenting a framework for understanding how ongoing conflict impacts human development across multiple dimensions. It builds upon academic work studying the impact of conflict on development, systems dynamics and traditional integrated assessment quantitative modeling.

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