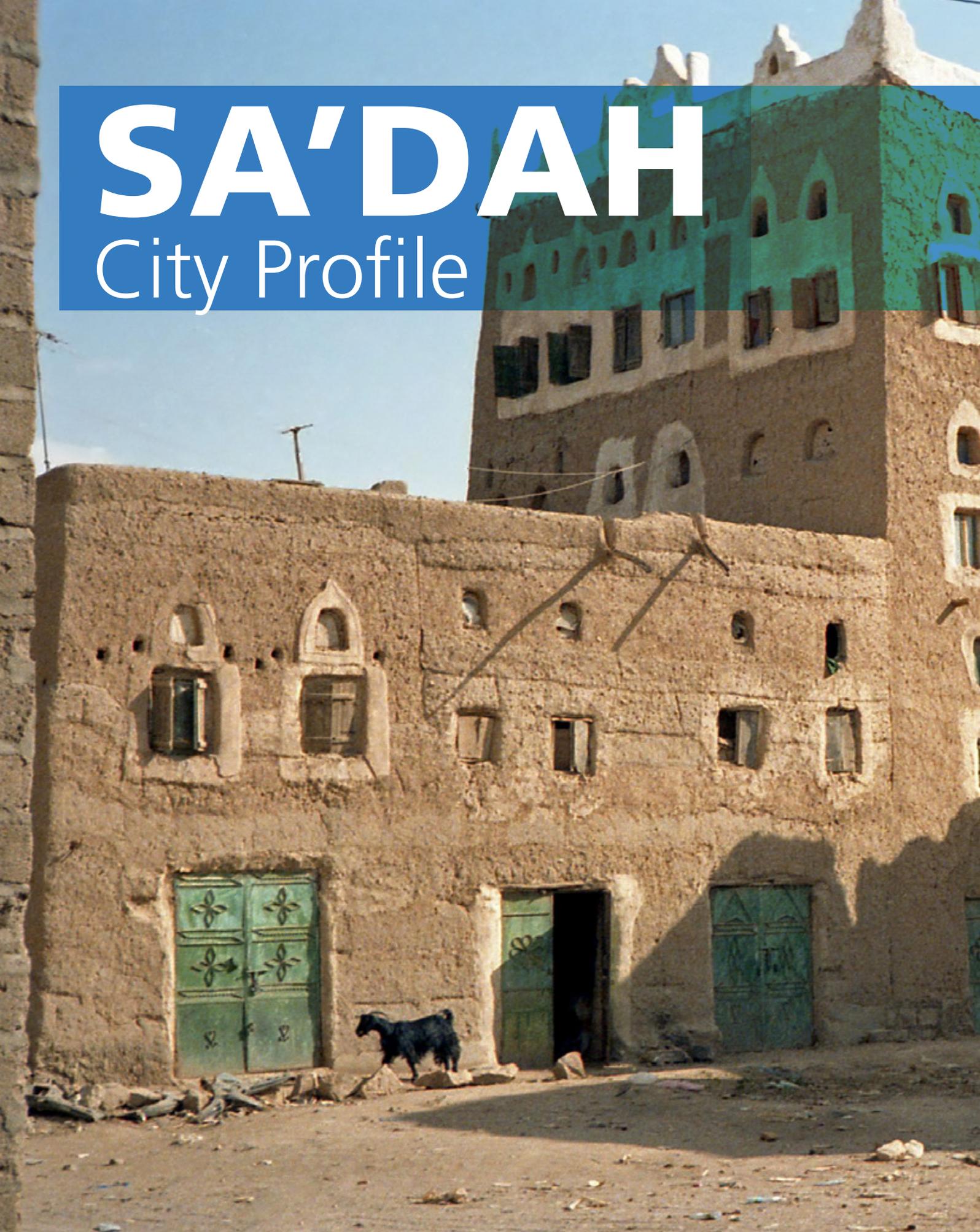


SA'DAH

City Profile



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SA'DDAH

City Profile

Urban Profiling Yemen

This project is part of a Profiling Project that aims to develop city profiles of 7 cities in Yemen. These cities include Aden, Sana'a, Sa'dah, Ta'iz, Al Hodeidah, Al Hawtah and Zinjibar. All profiles and data developed in this profile are accessible on the Yemen Mapping and Data Portal.

<https://yemenportal.unhabitat.org/>

Sa'dah
 Sana'a
 Al Hodeidah
 Ta'iz
 Zinjibar
 Al Hawtah
 Aden



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Acronyms

ACCORD	Austrian Centre for Country of Origin & Asylum Research and Documentation	MoPHP	Ministry of Public Health and Population
AQAP	Al Qaeda in the Arabian Peninsula	MoPIC	Ministry of Planning and International Cooperation
CCCM	Camp Coordination and Camp Management Services	MoT	Ministry of Transportation
CCIF	Cleanliness and City Improvement Fund	MoTEVT	Ministry of Technical Education and Vocational Training
CFS	Child-Friendly Space	MoWE	Ministry of Water and Environment
CIMP	Civilian Impact Monitoring Project	MPWH	Ministry of Public Works and Highways
CSO	Central Statistics Organization	MSF	Médecins Sans Frontières
DTM	Displacement Tracking Matrix	MW	Megawatt
EC	European Commission	NFI	Non-Food Items
EECR	Emergency Employment and Community Rehabilitation	NGO	Non-Governmental Organization
ERW	Explosive Remnants of War	NNGO	National Non-Governmental Organization
ETC	Emergency Telecommunications Cluster	NSSWM	National Strategy for Solid Waste Management
FAO	Food and Agriculture Organization	NWRA	National Water Resources Authority
GALSUP	General Authority for Land, Survey and Urban Planning	NWSSIP	National Water Sector Strategy and Investment Program
GBV	Gender based Violence	OHCHR	Office of the United Nations High Commissioner for Human Rights
GCC	Gulf Cooperation Council	PTC	Public Telecommunication Corporation
GIS	Geographic Information System	PV	Photovoltaic
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH	RMMS	Refugees and Migrants Multi-Sector
GOPHC	General Organization for the Preservation of Historic Cities	RPG	Rocket-Propelled Grenade
GoY	Government of Yemen	SFD	Social Fund for Development
HF	Health Facility	SLC	Saudi-Led Coalition
HLP	Housing, Land, and Property	SWM	Solid Waste Management
HNO	Humanitarian Needs Overview	TEVT	technical education and vocational training
HRP	Humanitarian Response Plan	TFPM	Task Force on Population Movement
ICRC	International Committee of the Red Cross	UN	United Nations
ICT	Information and Communications Technology	UNDP	United Nations Development Program
IDP	Internally Displaced Person	UNESCO	United Nations Educational, Scientific and Cultural Organization
ILO	International Labor Organization	UNFPA	United Nations Population Fund
INGO	International Non-Governmental Organization	UNHCR	United Nations High Commissioner for Refugees
IOM	International Organization for Migration	UNICEF	United Nations Children's Fund
IRG	Internationally Recognized Government	UNOCHA	United Nations Organization for Coordination of Humanitarian Affairs
JICA	Japan International Cooperation Agency	UNOPS	United Nations Office for Project Services
JRC	Joint Research Center	UNOSAT	UNITAR's Operational Satellite Applications Program
LAEO	Literacy and Adult Education Organization	USA	United States of America
LAL	Local Authority Law	USAID	United States Agency for International Development
LC	Local Council	USD	United States Dollar
LPG	Liquefied Petroleum Gas	UXO	Unexploded Ordnance
MC	Mercy Corps	WASH	Water, Sanitation, and Hygiene
MCLA	Multi Cluster Locations Assessment	WFP	World Food Program
MoAI	Ministry of Agriculture and Irrigation	WHO	World Health Organization
MoE	Ministry of Education	WSLC	Water and Sanitation Local Corporation
MoHESR	Ministry of Higher Education and Scientific Research	YER	Yemeni Rial (currency)
MoHM	Ministry of Housing and Municipalities	YJS	Yemeni Journalists Syndicate
MoHUD	Ministry of Housing and Urban Development		
Mol	Ministry of Interior		
MoLA	Ministry of Local Administration		

Executive Summary

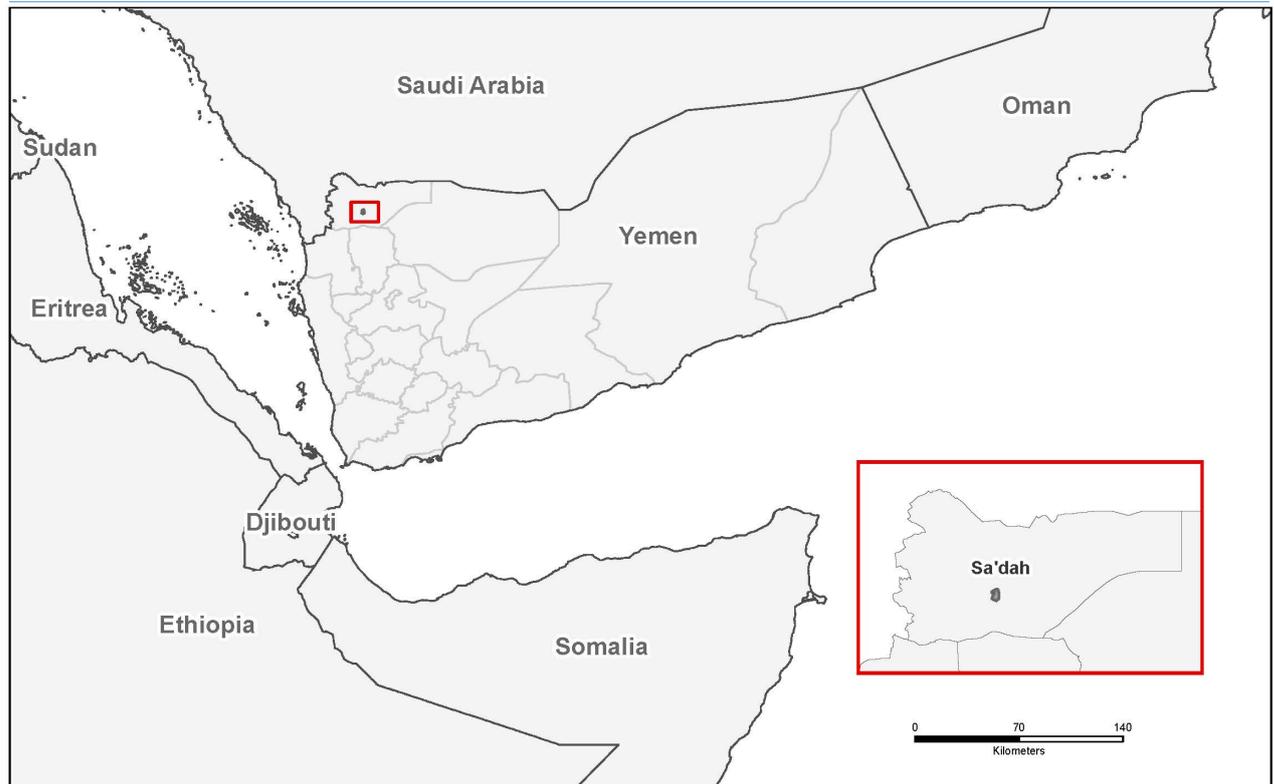
One of the oldest cities in Yemen, Sa'dah City was founded before the fourth century B.C. and thrived as a cultural and religious center. More recently, it gained popularity for being the cradle of the Houthi movement. Between 2004 and 2010, six separate rounds of conflict took place in the city, together these events devastated Sa'dah's infrastructure and exacerbated the heavy toll on civilians.

This city profile describes and examines living conditions and needs in the city of Sa'dah across a variety of sectors. It addresses key thematic findings made prominent by the impact of the ongoing conflict, its toll on the city's population, and the ability of institutions to provide basic services. Each individual section paints a picture of the prevailing situation and the needs of the city's residents through triangulation of different data types, including secondary data analysis which draws on available publications and media reports; and remote sensing. The aim of this profile is to provide partners with the widest possible canvas, assisting them in their operational programming and strategic policy development.

Key findings include:

- The population of Sa'dah City grew exponentially between 1986 and 2017, placing high pressure on land governance and resource sharing mechanisms. While there was an evident population drop in 2019, the number of Internally Displaced Persons (IDPs) almost tripled between 2018 and 2019. Also, around 67 percent of all migrants in Yemen are currently in Sa'dah Governorate, which serves as a crossing point to Saudi Arabia and other Gulf Cooperation Council (GCC) countries.
- Prolonged conflict in Sa'dah had taken a high toll on the population; displacing thousands and distressing even more livelihoods. In the first five months of 2018, as documented by the Office of the United Nations High Commissioner for Human Rights (OHCHR), Sa'dah Governorate had the highest number of conflict-related casualties representing a fifth of all casualties in Yemen. The most severe protection concerns were raised in Sa'dah. These included the presence of land mines, long-term insecurity, heightened risk of renewed fighting, the fear of reprisals and forced recruitment into armed groups.
- Prior to the conflict, Yemen was a highly centralized state despite the Local Authorities Law (LAL) and decentralization efforts, however Sa'dah was governed by local authorities and is mainly based on tribal allegiance. The Sa'dah District Local Council (LC) was lagging other LCs in several administrative dimensions. Since the early stages of the conflict, the Sa'dah LC and the executive offices have been redundant due to the complications of the war and the destruction of the office space. However, some reports suggest that the executive offices may be convening on a limited ad hoc basis to provide a minimum level of services.
- Sa'dah is one of the oldest medieval cities in Yemen, with a great historical, architectural, urban and spiritual value. The city hosts dozens of historical and Islamic monuments, such as citadels, mosques and cemeteries. As a result of the conflict, many of these historical sites and monuments have been compromised. More than one hundred structures are believed to be either damaged or destroyed.
- A housing deficit is evidenced in Sa'dah City, where a large portion of the housing stock is either partially damaged or destroyed. The Old City of Sa'dah has the highest concentration of damage, with many houses, shops, public facilities, gardens and other infrastructure units had been left in ruins. Damaged facilities have significantly contributed to the deterioration of service provisions and hindered the affected population's access to safe water, public services, markets, electricity, and health services.
- Sa'dah is Yemen's poorest governorate, with CSO estimates suggesting that 84.5 percent of the population already lived in poverty by 2014. The city has historically suffered from underdevelopment. The prolonged conflict has negatively impacted economic activity and undermined the livelihoods of the affected population, as farms and other sources of income have been destroyed. The economy has also been severely impacted by the shutdown of land borders, and as a result of excessive ground damage, roads leading to the governorate are nearly impassable.
- The road network in Sa'dah City sustained significant damage since the escalation of the conflict in 2015, hindering the mobility of civilians and goods alike. As of 2017, reportedly, the only fully functional road in the city is Sana'a Road. At the governorate level, many transportation assets, including roads and bridges, need rehabilitation. Fuel shortages, inflated prices, road blockades, and instability have further affected mobility within the city.
- The number of People in Need (PiN) of healthcare services increased by almost 50 percent between 2018 and 2019. Local officials suggest that, at any given time, no more than 50 percent of patients can expect to receive their required health services. Many hospitals in Sa'dah City and the Governorate are overcrowded as they receive an influx of patients from surrounding rural areas and neighboring governorates.
- Damage to the education sector is high. Over 230 schools in Sa'dah Governorate have been damaged due to the conflict, the highest number after Ta'izz. According to local officials, all educational facilities in Sa'dah District sustained some degree of damage. A shortage of teachers and lack of operational funds have added even more constraints to an already impaired educational sector.
- Water and sanitation infrastructure sustained damage on several occasions throughout the conflict, with reports indicating that 44 percent of the infrastructure sustained some degree of damage. Access to sanitation is poor and there is no public sewage system within the city, resulting in most households relying on the private cesspits.
- Following the destruction of Sa'dah's main power generation facility in April 2015, most residents completely lack access to electricity. In the absence of the public power grid, electricity is only available through private generators. Residential electricity access is further limited due to diesel shortages and the high cost of solar Photovoltaic (PV) systems. Diesel shortages are a key cross-sectoral constraint and further affect distributing water system, healthcare delivery and livelihoods. Additionally, the ongoing conflict and conditions on the ground have hindered reconstruction efforts.

Figure 1: Geographic Location of Sa'dah City within Yemen.



Sa'dah, Date Created: 06 April 2020, Datum/Projection: WGS_84, Data sources: OCHA
Disclaimer: The boundaries, names and designations used in this map do not imply official endorsement or acceptance by IMMAP.

Sa'dah City¹ is located within Sa'dah Governorate, which is situated in the northern part of the Republic of Yemen, and is 243 kilometers away from the capital, Sana'a. The governorate is connected to the governorates of Hajjah and Amran to the east, Al Jawf Governorate to the north, and Saudi Arabia to the north and west.²

Historically, Sa'dah City is one of the oldest cities in Yemen; it was founded before the fourth century B.C., as the hub of the Minaean Kingdom of Main.³ Sa'dah flourished and became famous as a city of science, religion, culture, trade, industry and agriculture. It owns its strategic importance as it is located on the Al Hajj (pilgrimage) road and played an important role as a link between Yemen, Najd and the Hejaz.⁴

During the Imamate era, Sa'dah City continued playing a major role. It was mentioned on numerous occasions in the geographers' and Arab travelers' notes, history books, biographies, as well as religious literature. Scholars and jurists from Sa'dah contributed significantly to the Islamic culture and the history of Yemen, which is visible in its historical and Islamic architecture till today.⁵

Sa'dah City was the original capital of the Zaydi dynasty of imams (religious-political leaders) of Yemen (AD 897–1962).⁶ The effective founder of Sa'dah, as a base of Zaydi power, was Imam Yahya Al Hadi Ila Al Haqq I (reigned 893–911). Under his successors the dynasty briefly extended its power to embrace most of eastern Arabia, from Hejaz to southern Yemen.⁷ In 1636, the Zaydi capital was moved to Sana'a⁸ (243 km away) and Sa'dah declined in national importance, though it has long been an administrative center of the northern part of the country.⁹

Since the beginning of the 21st century, Sa'dah has become a starting point for the military activity of the Houthis and has been witnessing several wars till the moment.¹⁰

1 This profile examines Sa'dah city, which is the same as the district of Sa'dah.

2 National Information Center, "نُبذة تعريفية عن محافظة صعدة", <http://www.yemen-nic.info/gover/saadaa/brife/> (accessed April 9, 2020).

3 Iona Craig, "The Agony of Saada", The Intercept, November 16, 2015, <https://theintercept.com/2015/11/16/u-s-and-saudi-bombs-target-yemens-ancient-heritage/>, (accessed January 15, 2020).

4 Aljazeera, "صعدة", April 22, 2015, <https://www.aljazeera.net/encyclopedia/citiesandregions/2015/4/22/%D8%B5%D8%B9%D8%AF%D8%A9> (accessed April 8, 2020)

5 Ibid.

6 Ellon Lust, The Middle East (Los Angeles, London, New Delhi, Singapore and Washington DC: CQ Press, 2014), 868.

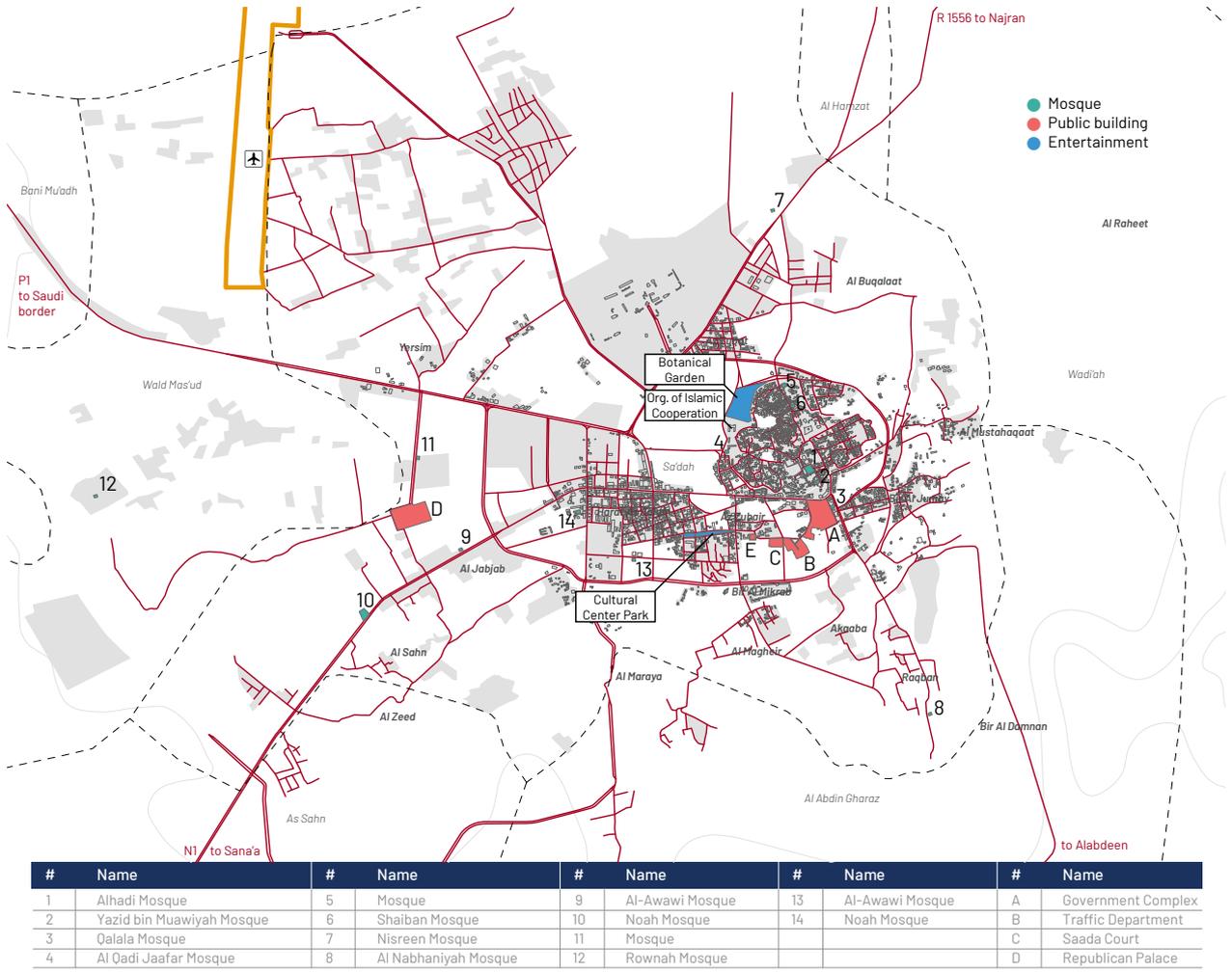
7 Encyclopaedia Britannica, "Sa'dah", October 31, 2012, <https://www.britannica.com/place/Sadah> (accessed April 8, 2020)

8 Ellon Lust, The Middle East (Los Angeles, London, New Delhi, Singapore and Washington DC: CQ Press, 2014), 868.

9 Encyclopaedia Britannica, "Sa'dah", Oct 31, 2012, <https://www.britannica.com/place/Sadah> (accessed April 8, 2020)

10 Aljazeera, "صعدة", April 22, 2015, <https://www.aljazeera.net/encyclopedia/citiesandregions/2015/4/22/%D8%B5%D8%B9%D8%AF%D8%A9> (accessed April 8, 2020).

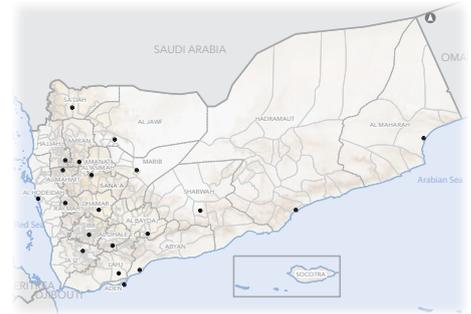
Figure 2: Public Buildings, Mosques and Entertainment Facilities in Sa'dah, UN-Habitat (2020).



Source: Wikimapia, OpenStreetMap.

Figure 3: Sa'dah Conflict Timeline

SA'DAH WITHIN YEMEN CONTEXTUAL TIMELINE OF CONFLICT



897-1636

The city of Sa'dah was the capital of Zaydi dynasty of imams (religious-political leaders) of Yemen.

1962

The revolution in North Yemen ended over 1,000 years of Zaydi Imams rule where Sa'dah was their main stronghold.

SIX ROUNDS OF WAR The conflict was sparked in June 2004 by the government's attempt to arrest Hussein Badreddin Al Houthi, a Zaydi religious leader of the Houthis and a former parliamentarian, with the "war" officially beginning on 18 June 2004. At the time, Al Houthi only had about 200 supporters.

FIRST ROUND OF WAR

from June to September 2004, the Government of Yemen (GoY) troops battled supporters of Al Houthi in the north, 500 to 1,000 deaths were estimated.

SECOND ROUND OF WAR

Between March and May 2005, some 1,500 people were killed in this round.

THIRD ROUND OF WAR

Fighting broke out in November 2005 and continued until early 2006, after an attempt to assassinate a Ministry of Justice official in Dhamar.

FOURTH ROUND OF WAR

From January and June 2007, the GoY launched a major offensive against the Houthis involving 30,000 troops. In total some 1,500 people were killed by the conflict in 2007, including 800 government troops, 600 fighter and 100 civilians.

JUNE 16, 2007

A ceasefire agreement was reached with Qatari mediation; the government agreed to release Houthi prisoners, help pay for reconstruction and assist with IDPs returning home.

FIFTH ROUND OF WAR

On May 12, 2008, clashes between Yemeni soldiers and Houthis near the Saudi killed 13 soldiers and 26 Houthis. President Saleh declared an end to fighting on 17 July 2008.

JUNE 12, 2009

Nine foreigners, three of whom were killed, were abducted while on a picnic in Sa'dah.

SIXTH ROUND OF WAR

On August 11, 2009 GoY launched "Operation Scorched Earth," an offensive to stamp out an uprising in Sa'dah by deploying 40,000 soldiers, which marked the beginning of this round.

SEPTEMBER 17, 2009

More than 80 people were killed in an air raid on a camp for displaced people in northern Yemen.

NOVEMBER 3, 2009

Unidentified gunmen infiltrated from Yemen and attacked Saudi security guards patrolling the border area, 3 senior security men were killed.

NOVEMBER 4, 2009

Saudi Arabia launched a large military incursion across the border into northern Yemen; to push back the Houthis, who claimed to capture nine Saudi soldiers.

JANUARY 25, 2010

The Houthi offered a truce and a withdrawal from Saudi territory. Which Saudi has rejected on January 27, and insisted that the Houthis were driven out of Saudi Arabia.

FEBRUARY 11, 2010

The GoY announced a ceasefire which marked the end of six rounds war in Sa'dah, and the Houthis acknowledged the same in another statement.

THE BATTLE OF SA'DAH

erupted between Houthis and tribal forces loyal to GoY in Sa'dah. Following days of heavy clashes, the Houthi captured Sa'dah on March 24, 2011.

AMID OF ARAB SPRING, FEBRUARY 2011

Thousands of protesters held weekly marches in Sa'dah.

MAY 7, 2011

Residents in several cities, including Sa'dah, observed a one-day shutdown of offices and businesses as part of a civil disobedience campaign called by the opposition to pressure President Ali Abdullah Saleh to step down.

THE SIEGE OF DAMMAJ

started in October 18, 2011 for over a month as the Houthis accused Salafists of smuggling weapons to Dar Al Hadeeth and asked them to leave their military posts. Several clashes between the two groups followed.

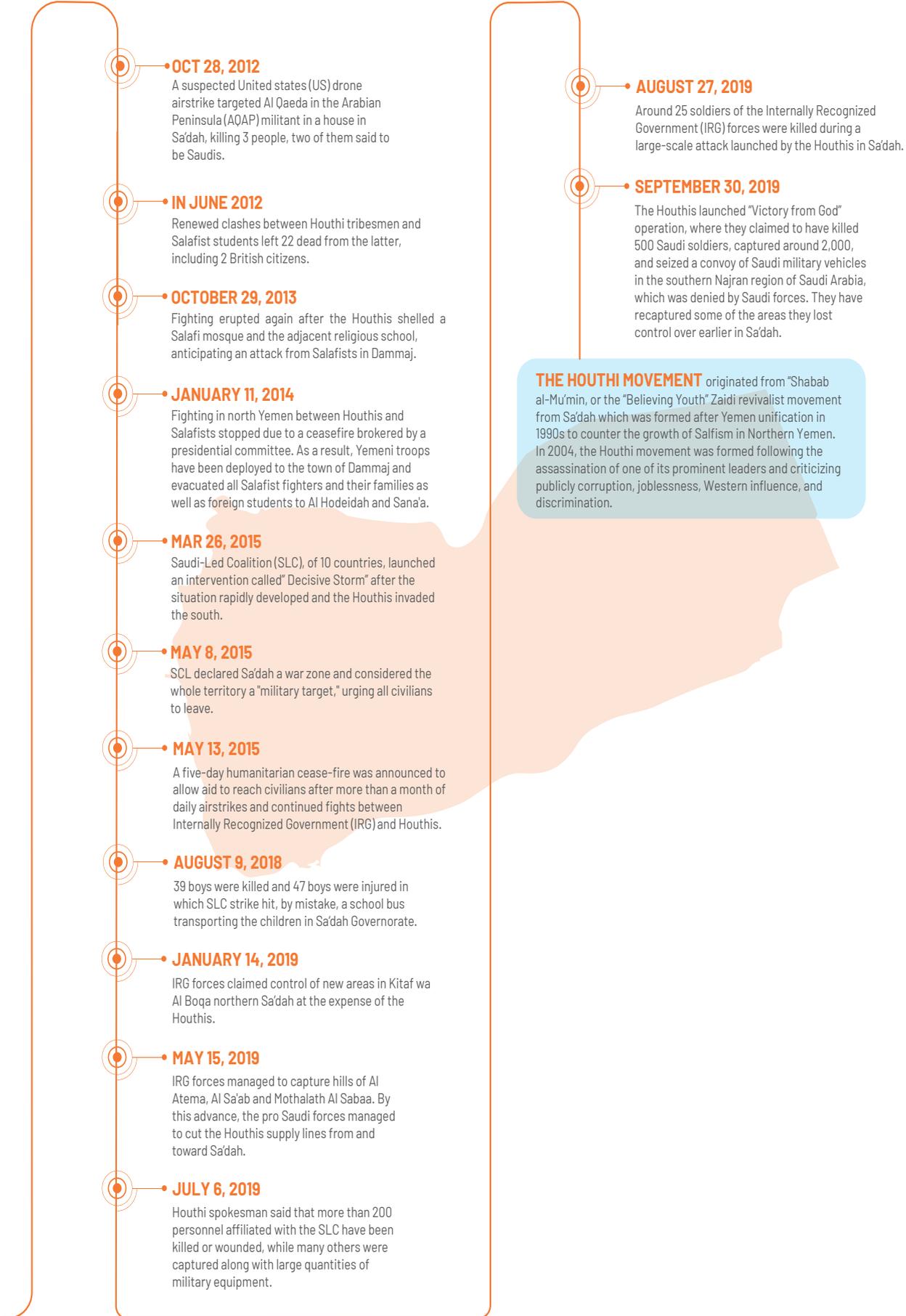
DAR AL HADEETH was established in the 1980s by the late Mogbel Al Wadie, an ultra-conservative Sunni cleric, and currently accommodates more than 10,000 students, 10 percent of them from other Arab countries, and Europe, the US and other countries.

DECEMBER 3, 2011

The Houthi agreed to ease the blockade by allowing food aid supplied by the Red Cross to enter the area. However, they did not allow anyone to go in and out.

DECEMBER 22, 2011

A ceasefire was signed in and both groups temporarily agreed to remove all their military checkpoints and barriers around Dammaj.


OCT 28, 2012

A suspected United States (US) drone airstrike targeted Al Qaeda in the Arabian Peninsula (AQAP) militant in a house in Sa'dah, killing 3 people, two of them said to be Saudis.

IN JUNE 2012

Renewed clashes between Houthi tribesmen and Salafist students left 22 dead from the latter, including 2 British citizens.

OCTOBER 29, 2013

Fighting erupted again after the Houthis shelled a Salafi mosque and the adjacent religious school, anticipating an attack from Salafists in Dammaj.

JANUARY 11, 2014

Fighting in north Yemen between Houthis and Salafists stopped due to a ceasefire brokered by a presidential committee. As a result, Yemeni troops have been deployed to the town of Dammaj and evacuated all Salafist fighters and their families as well as foreign students to Al Hodeidah and Sana'a.

MAR 26, 2015

Saudi-Led Coalition (SLC), of 10 countries, launched an intervention called "Decisive Storm" after the situation rapidly developed and the Houthis invaded the south.

MAY 8, 2015

SCL declared Sa'dah a war zone and considered the whole territory a "military target," urging all civilians to leave.

MAY 13, 2015

A five-day humanitarian cease-fire was announced to allow aid to reach civilians after more than a month of daily airstrikes and continued fights between Internally Recognized Government (IRG) and Houthis.

AUGUST 9, 2018

39 boys were killed and 47 boys were injured in which SLC strike hit, by mistake, a school bus transporting the children in Sa'dah Governorate.

JANUARY 14, 2019

IRG forces claimed control of new areas in Kitaf wa Al Boqa northern Sa'dah at the expense of the Houthis.

MAY 15, 2019

IRG forces managed to capture hills of Al Atema, Al Sa'ab and Motalath Al Sabaa. By this advance, the pro Saudi forces managed to cut the Houthi supply lines from and toward Sa'dah.

JULY 6, 2019

Houthi spokesman said that more than 200 personnel affiliated with the SLC have been killed or wounded, while many others were captured along with large quantities of military equipment.

AUGUST 27, 2019

Around 25 soldiers of the Internally Recognized Government (IRG) forces were killed during a large-scale attack launched by the Houthis in Sa'dah.

SEPTEMBER 30, 2019

The Houthis launched "Victory from God" operation, where they claimed to have killed 500 Saudi soldiers, captured around 2,000, and seized a convoy of Saudi military vehicles in the southern Najran region of Saudi Arabia, which was denied by Saudi forces. They have recaptured some of the areas they lost control over earlier in Sa'dah.

THE HOUTH MOVEMENT originated from "Shabab al-Mu'min, or the "Believing Youth" Zaidi revivalist movement from Sa'dah which was formed after Yemen unification in 1990s to counter the growth of Salfism in Northern Yemen. In 2004, the Houthi movement was formed following the assassination of one of its prominent leaders and criticizing publicly corruption, joblessness, Western influence, and discrimination.

1 Conflict Dynamics

Prior to the 1990 unification, the distinct societies of the north and south had developed different political systems. Traditionally, Sa'dah has escaped significant influence of the capital city Sana'a, exemplified by the continuity of non-state, customary law in the area. Sa'dah remained less integrated with the rest of Yemen after the economy worsened rapidly in the 1990s.

One of the deepest root causes of the conflict in Sa'dah is religious. Abdulkader Al-Hillal, former Head of the Sa'dah Mediation Committee, once said that "Sa'dah is so Shi'a that even the stone is Shi'a," quoting a Yemeni poet.¹¹ In the 1990s, Zaydis, who have historically made up most of the governorate population, felt increasingly threatened by the Sunni Salafism linked to Saudi Arabia, as several Salafi schools and mosques were established in the governorate. In opposition to this trend, residents founded a Zaydi revivalist group called the Believing Youth to teach youth about Zaydi religion and history.

A branch of the Believing Youth later became the foundation for the Houthi ideology and organization.¹² The Houthis evolved into a family-based movement whose main ideological characteristic is a belief that only sada (descendants of the prophet) are the rightful rulers. This movement, also known as Ansar Allah, evolved and expanded into the Houthi movement and began armed action in 2004. The movement claimed to be fighting to preserve their unique identity, religious beliefs and practices by seeking to establish their own schools and a university.

Numerous conflicts, which took place in and around Sa'dah since the beginning of this century, can be distinguished by six rounds of intensified conflict. A closer look at this development is provided next.

First round (June 2004 to September 2004):

The conflict began when the GoY attempted to kill Husayn Al Houthi in the Marran area. Tactics employed in response to this action were ambushes with small-arms fire, sniping, and mines.¹³

Second round (March 19 – April 11, 2005):

Fighting took place in Al Khafji market, where the Houthis reportedly attempted to assassinate the Secretary General for the area's LC.¹⁴ It ended before the Presidential elections that year, and, in March 2006, the Yemeni government freed more than 600 Houthi fighters. On May 21, 2005 the GoY released estimates of the impact of the conflict, announcing that it was responsible for 552 deaths, 2,708 injuries, and over 270 million USD in damages.¹⁵

Third round (November 30, 2005 – February 23, 2006):

The Houthis attacked a military checkpoint in the Al Khafji region, prompting the GoY forces to attack civilian homes on the suspicion that they were harboring Houthi fighters. In this and the preceding two years, the Houthis fought a hit-and-run war of raids, assassinations and ambushes.¹⁶

11 GlobalSecurity.org, "Hothi / Houthi / Huthi: Ansar Allah: al-Shabab al-Mum'en / Shabab al-Moumineen (Believing Youth)", <https://www.globalsecurity.org/military/world/para/shabab-al-moumineen.htm> (accessed April 8, 2020)

12 Ibid.

13 Michael Knights, "The Houthi War Machine: From Guerrilla War to State Capture", Combating Terrorism Center, September 2018, <https://ctc.usma.edu/houthi-war-machine-guerrilla-war-state-capture/> (accessed April 8, 2020).

14 Barak A. Salmoni, Bryce Loidolt and Madeleine Wells, "All Regime and Periphery in Northern Yemen: the Huthi phenomenon", 134.

15 Nasser Arrabyee, "Rebellion continues", Al Ahram, May 25, 2005, <https://web.archive.org/web/20070619181842/http://weekly.ahram.org.eg/2005/743/re10.htm> (accessed April 13, 2020).

16 Michael Knights, "The Houthi War Machine: From Guerrilla War to State Capture", Combating Terrorism Center, September 2018, <https://ctc.usma.edu/houthi-war-machine-guerrilla-war-state-capture/> (accessed April 8, 2020).

Fourth round (January 27 – June 17, 2007):

The Houthis developed the defensive capability to fortify and defend towns against the armored attacks using mines, Rocket-Propelled Grenades (RPGs), and Molotov cocktails. They also mounted complex attacks on government compounds, sometimes in company-sized (i.e., 60-90 strong) units.¹⁷ The GoY sustained attacks with heavy artillery, and mechanized units conducting bombing campaigns on suspected Houthi locations. Throughout this round, the GoY appeared unrestrained, attacking Houthi locations and staying on the offensive throughout the conflict's duration and destroying a significant amount of the city's infrastructure¹⁸ In total, some 1,500 people were killed by the conflict in 2007, including 800 government troops, 600 Houthi fighters and 100 civilians.¹⁹ Tribal dynamics continued to play a role throughout this round, and it may be the case that tribal volunteers played a larger role in this round of fighting, as hundreds of tribesmen were reportedly traveling to the city to support both sides.²⁰

Fifth round: (May 2 – July 17, 2008)

The Houthis were attacking government logistics by taking control over or destroying key bridges linking Sana'a to Sa'dah, probing the northern outskirts of Sana'a, and encircling and forcing the withdrawal of the Yemeni units of up-to-brigade strength.²¹ Although the fight was much less intense than the previous devastating round, the GoY forces appeared focused on breaking the Houthi blockade on their troops in Marran.²² During the fighting in May 2008, a total of 1,000 GoY forces were killed and 3,000 injured, while some 70,000 people were displaced.²³

Sixth round: (August 11, 2009 – February 11, 2010)

The Houthi movement forced the surrender of an entire Yemeni brigade and mount a major assault at battalion strength with armored vehicles on Sa'dah, seizing parts of the city from the government. The Houthis also initiated offensive raids into Saudi Arabia, undeterred by an unparalleled level of air surveillance and bombardment.²⁴

In 2011, amid Arab Spring and public demands to topple President Ali Abdullah Saleh, political dynamics have changed. The Houthis took advantage of the state weakness and expanded their coverage, so that in 2011 they took full control of Sa'dah, where they run checkpoints, secure roads, collect taxes, oversee local government administration and administer justice. As the GoY has scant authority, they have become a virtual state within a state in these areas.²⁵

By 2019, the Houthis transformed themselves from an isolated group in Sa'dah, with some 60 percent of the former Yemeni army loyal to Saleh having allied with the group, to a local state that rules the bulk of Yemen's north.²⁶ During the first half of 2019, the GoY forces have announced that they recaptured a few areas and made progress on multiple fronts, but not to the extent that it affected power balance in the mountainous areas of Sa'dah.²⁷

¹⁷ Ibid.

¹⁸ Barak A. Salmoni, Bryce Loidolt and Madeleine Wells, *All Regime and Periphery in Northern Yemen: the Huthi phenomenon*, 134.

¹⁹ Ploughshares, "Armed Conflicts Report - Yemen", October 30, 2009, <http://www.ploughshares.ca/libraries/ACRText/ACR-Yemen.htm> (accessed April 10, 2020)

²⁰ Ibid.

²¹ Michael Knights, "The Houthi War Machine: From Guerrilla War to State Capture", *Combating Terrorism Center*, September 2018, <https://ctc.usma.edu/houthi-war-machine-guerrilla-war-state-capture/> (accessed April 8, 2020).

²² Barak A. Salmoni, Bryce Loidolt and Madeleine Wells, *All Regime and Periphery in Northern Yemen: the Huthi phenomenon*, 150.

²³ Human Rights Watch, "Hundreds Unlawfully Arrested in Rebel Conflict", October 24, 2008, <http://www.hrw.org/english/docs/2008/10/21/yemen20035.htm> (accessed April 10, 2020).

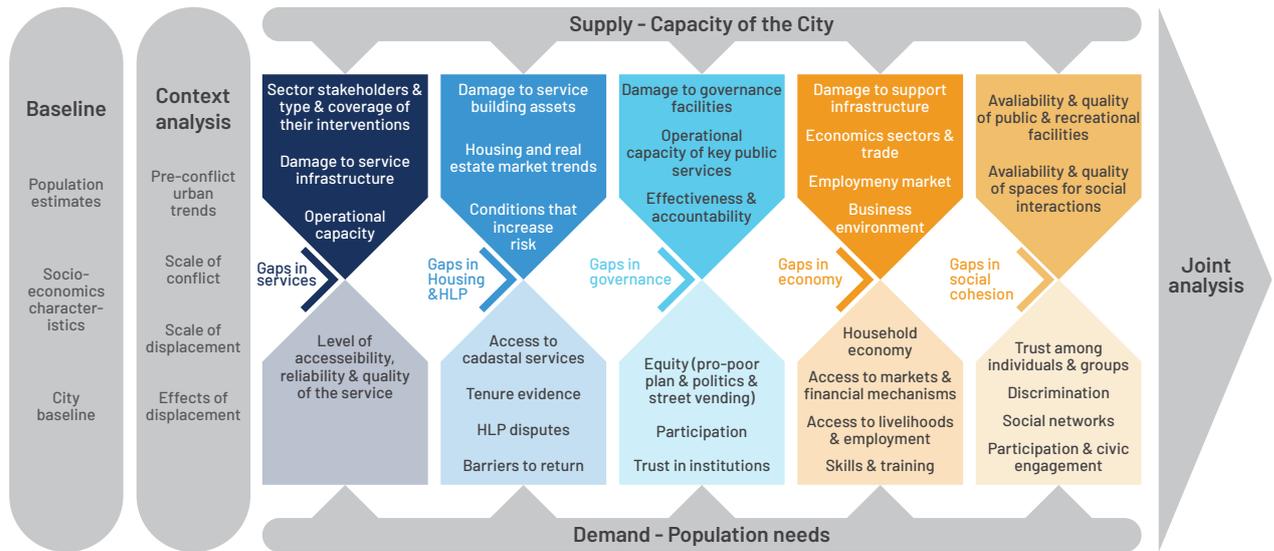
²⁴ Michael Knights, "The Houthi War Machine: From Guerrilla War to State Capture", *Combating Terrorism Center*, September 2018, <https://ctc.usma.edu/houthi-war-machine-guerrilla-war-state-capture/> (accessed April 8, 2020).

²⁵ International Crisis Group, *The Huthis: From Saada to Sanaa*, June 10, 2014, <https://www.crisisgroup.org/middle-east-north-africa/gulf-and-arabian-peninsula/yemen/huthis-saada-sanaa> (accessed January 15, 2020).

²⁶ Tom Allinson, "Yemen's Houthi rebels: Who are they and what do they want?", *DW*, October 1, 2019, <https://www.dw.com/en/yemens-houthi-rebels-who-are-they-and-what-do-they-want/a-50667558> (accessed April 8, 2020).

²⁷ Abd Al Hakeem Hilal, "تعرف على خريطة سيطرة أطراف اليمن 2020.. الصراع", *Al Jazeera*, January 1, 2020, shorturl.at/biSU8, (accessed April 13, 2020).

Figure 4: Analytical Framework



Data Compilation

This city profile describes and analyzes the situation in the city across a variety of sectors. Using an **area-based** approach, each individual section paints a separate picture through the latest available data. These are then synthesized to provide the most up-to-date holistic information backed by contextual information and analysis. The aim of the profile is twofold. First, it provides partners with the widest possible canvas to support future rehabilitation plans and prioritization of investments. Second, it assists them in their operational programming and strategic policy development. Urban profiling rests on different sets of elements and pillars, which jointly provide an integrated analysis that assess the city's capacities as well as its population's needs. The main elements of urban profiling – in **bold** – are discussed below.

Figure 5: Data Collection tools



1. **Secondary Data Review** Secondary data draws on available publications and media to create a **context-specific** background of information on pre- and post-conflict trends and baselines, against which the full array of primary data is weighed. This provides a better understanding of focal events in the city's own history, thus allowing the triangulation of analysis with primary data results.
2. **Remote Sensing** Satellite imagery provides accurate assessment of the degree of physical damage inflicted on infrastructure and services, comparing pre-crisis to current imagery. Definitions of damage categories are defined by the UNOSAT. Geographic Information System (GIS) tools provided a comparative pre- and post- conflict analysis on land use classification and damage assessments per district.

3. **Asset Verification** Observational Data was collected on a variety of municipal public assets, like facilities, roads, schools, hospitals and the like. The primary objective is to gather information and quantify the degree of damage that asset has suffered and assess its operational capacity. Sectors include governance; WASH; solid waste management, energy, health, education, communications, cultural heritage and transportation.

During this exercise, some of the damaged buildings were photographed in order to assess the damage, this included: private, public or government buildings of a services provision nature. The rapid field asset verification did not aim to assess all or most of the damaged buildings owing to the difficulty of implementing such an assessment given the fluid situation in Yemen. Therefore, random sampling of the buildings within the predetermined areas was adopted. This approach was based on the relative distribution of the number of buildings, the level of damage shown in satellite imagery, and their approachability relative to distance from battle lines. Over 150 varying buildings were included in the assessment. These structures were evaluated based on the level of damage, ownership and nature of use while excluding all security or military buildings, as well as those that serve any other specific national security purpose.

Field images of damaged or demolished buildings were compared with satellite images by utilizing geographic coordinates taken in the field using the Global Positioning System (GPS) Explorer application installed on mobile devices. These were later office-based corrected using Google Earth. After that, buildings were assessed more accurately through field images according to below classification:

- No Visible Damage (class 1): assigned to the structures that appear to have complete structural integrity, i.e. when the walls remain standing and the roof is virtually undamaged;
- Moderate damage (class 2): visible damage level, i.e. buildings with a largely intact roof characterized by presence of partial damage (collapse of chimneys or roof tiles detach) or surrounded by large debris/rubble or sand deposit;
- Severe Damage (class 3): assigned to structures with part of the roof collapsed and serious failure of walls;
- Destroyed (class 4): assigned to structures that are total or largely collapsed (>50%). This category is also assigned when only a portion of the building has collapsed to the ground floor. In these cases, the original building structure is no longer distinguishable.

The satellite-based methodology described, has been developed based on the experience of European Commission (EC) -JRC with assessing damages in numerous crisis areas (e.g. Georgia, Gaza strip, Lebanon).

In some cases, the interpretation is straightforward, and the risk of error is low (industrial and touristic areas), there are also borderline cases in which the assessment is difficult to discern (informal settlements and congested areas). To avoid individual bias linked to the personal judgment of a single image interpreter, collaborative work is particularly encouraged while interpreting borderline cases.

However, for this methodology to be appropriate and efficient, the quality and timing of the image acquisition are of high importance. Specifically, it should be acknowledged that the time of the year for which assessments are made is a source of important challenges with respect to monitoring damages during prolonged conflict situations - the acquisition angle and the acquisition season, both of which impede the satellite damage assessment.

The build-up pattern of Yemeni cities is also a source of important challenges. Urban density undermines the possibility of detecting damage concealing the presence of debris among other important criteria to detect affected areas.

Ground truth photographs, of the satellite images, and field visits remain very important in high density areas where satellite images have limitations. For instance, building facades affected by artillery shells may never be visible in satellite imagery.

Additionally, enumerators faced difficulties on the ground due to inaccurate positioning and GPS error margins, both of which cause navigational discrepancies.

3 Demographics and Population Movement

There are multiple sources citing conflicting numbers of the population size in Sa'dah. One of the estimations of the population to date are Central Statistics Office (CSO) projections for Sa'dah district adjusted with IDP figures, as shown in the figure below.

Figure 6: Estimated Population Numbers in Sa'dah District and Sa'dah Governorate, 1986-2019

Year	Sa'dah District	Growth*	Source	Sa'dah Governorate	Growth*
1986	21,498		CSO	322,710	
1994	33,419	+5.7%	CSO	481,617	+5.1%
2004	51,870	+4.5%	CSO Projection 2017	695,033	+3.7%
2017	89,029	+4.2%	CSO Projection 2017	1,078,000	+3.4%
2019	94,918	+3.3%	CSO Projection 2019	1,500,000	+18.3%
2019	75,0918	-8.20%	CSO Projection adjusted with IDP movements**	961,547	-5.60%

* Year-on-year growth compared to previous year in which the size of the population was known.

** A Population Technical Workgroup was formed in Sana'a and another one in Aden. IDP data flow figures (from district to district) were collected, cross checked between different sources in case multiple datasets for the same location were available. Data accessed on Humanitarian Data Exchange 20 April 2020."

Between 1986 and 2017, the population grew at an extraordinarily high rate, which have put high pressure on land governance and resource sharing. The population numbers dropped in 2019 (adjusted with IDPs movements); notably, a higher decrease is observed in Sa'dah district as compared to the Governorate as a whole, which is most likely attributable to the conflict playing out in the city.

Sa'dah is Yemen's poorest governorate, with CSO 2014 data estimating that 84.5 percent of the population lived in poverty. Applying this ratio to the current population size suggests that about 807,000 people live in poverty in Sa'dah Governorate, although the actual number is likely to be higher due to the ongoing conflict.

In terms of human terrain, 99 percent of Yemen's population is Muslim, of which 35–45 percent are Zaydi Shi'as, while the remainder are Sunni Muslims. Whereas most lowland Yemenis in the southern parts of the country are Sunni, Yemenis in the northern areas are Shi'a – specifically followers of the Zaydi doctrine. Zaydis are based in the north-western highlands, with their main strongholds in Sa'dah, Hajjah and Dhamar, as well as Sana'a.

The social structure in the north is based on tribal allegiance, and is dominated by four main tribes – Bakhil, Hashid (the two largest tribes which are both Zaydi)²⁸, Bonu Harith, and Hamdan. Dozens of other tribes, clans, and sub-clans exist, but are geographically limited social organizations with interests primarily focused on their respective local territories and the relative balance of power in their locality.

It should furthermore be noted that Sa'dah's population has historically been strongly connected to Saudi Arabia;²⁹ for generations, Sa'dah has been part of Saudi Arabia's economy, in terms of import and export of products. Reportedly, many Sa'dah residents have visited Saudi Arabia, but never Sana'a. Inter marriages and family links across the border are common.

28 Belkis Wille and Ole Solvang, Targeting Saada: Unlawful Coalition Airstrikes on Saada City in Yemen, (New York, NY: Human Rights Watch, 2015), <https://www.hrw.org/report/2015/06/30/targeting-saada/unlawful-coalition-airstrikes-saada-city-yemen> (accessed March 18, 2020).

29 Sana'a Center for Strategic Studies, Sa'ada search results, https://sanaacenter.org/?s=sa%27ada&post_type=post.

Internally Displaced Persons (IDPs)

Over 3.6 million people have been displaced from their homes in Yemen. In addition to conflict dynamics, natural hazards, including torrential rains and flash floods, continue to have an impact on movements of people. Displaced people already living in makeshift shelters are among those worst affected, finding themselves displaced for the second, third, or fourth time. Following Humanitarian Needs Overview (HNO) data, there were 105,400 IDPs in Sa'dah Governorate in 2018 while 306,100 IDPs were reported in the governorate in 2019, representing an annual increase of 200,700 IDPs. Out of the total Yemeni population in Sa'dah Governorate, 31 percent is now IDPs.

The situation in Sa'dah Governorate remains tense. On 24 March 2020, it was reported that more than 10,000 families had been displaced in the north of the country.³⁰ The Executive Unit of an IDP camp stated that the number of IDPs coming from Al Jawf and Nihm reached 10,230 families between 19 January – 12 March 2020 as a result of recent military escalations in the area.³¹ It has been stressed that the presence of these large numbers of IDPs result in enormous pressure on the host community. The Multi Cluster Locations Assessment (MCLA) data furthermore reports that food is one of the top priority needs for IDPs in Sa'dah.³²

In Sa'dah district specifically, there were around 18,900 IDPs as of March 2019 according to the Displacement Tracking Matrix (DTM) assessment.³³ In addition, almost 5,000 IDPs are present to the south of the city, in Sahar District. Most of these IDPs reside in rented accommodation, which can put a substantial financial burden on the households. In fact, according to the same assessment, shelter and housing, as well as financial support and food were identified as main needs for the IDPs in Sa'dah district.

30 Debiefer, "Over 10,000 families displaced by battles in Marib and Al-Jawf", 23 March, 2020, <https://debiefer.net/en/news-15864.html> (accessed April 9, 2020).

31 Ibid.

32 UNOCHA, IOM, UNHCR and MCLA Technical Working Group, 2018 Yemen Multi-Cluster Location Assessment, April 2019, <https://reliefweb.int/report/yemen/2018-yemen-multi-cluster-location-assessment-enar> (accessed March 18, 2020).

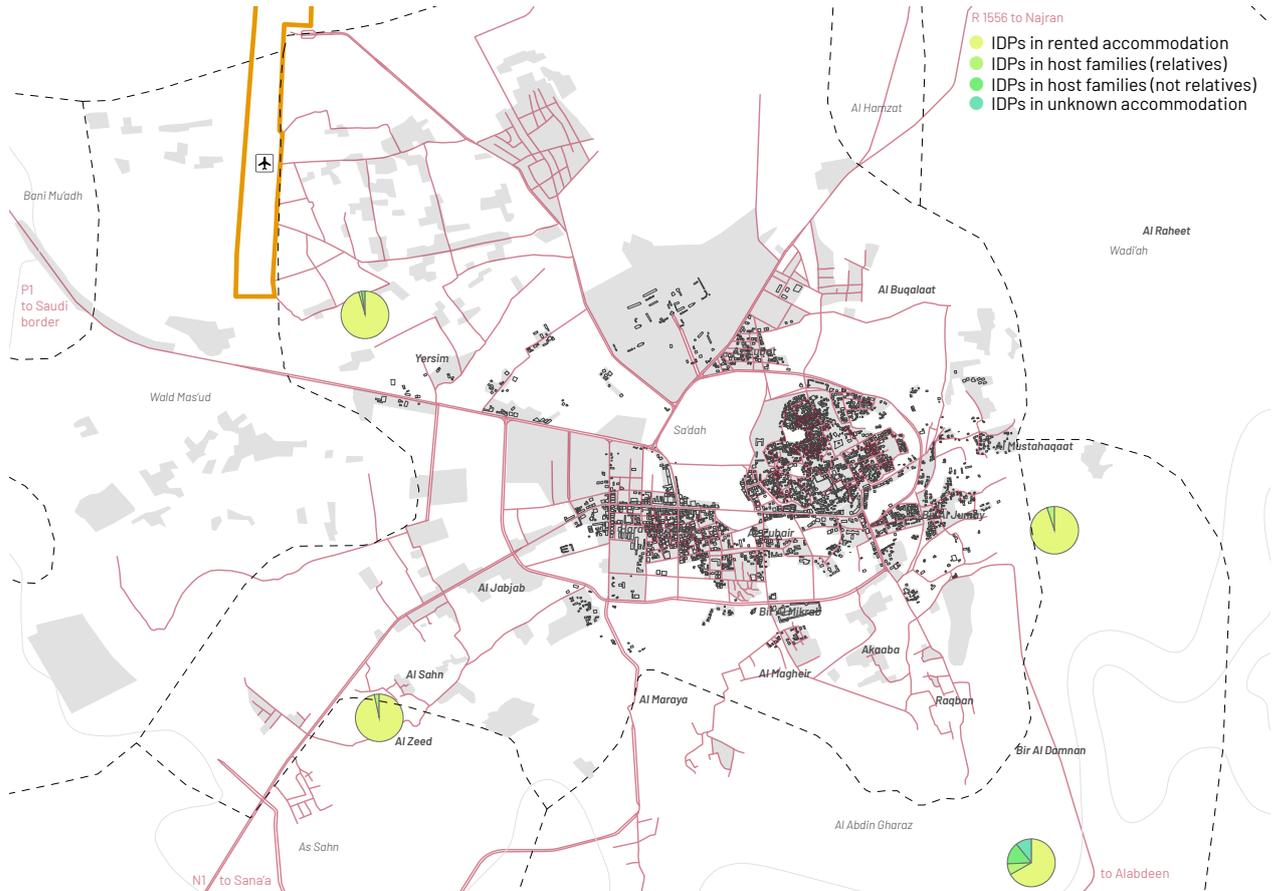
33 IOM, Displacement Tracking Matrix, DTM Yemen Area Assessment Round 37 Data, <https://data.humdata.org/dataset/yemen-displacement-data-area-assessment-iom-dtm>.

Figure 7: IDPs Locations and Number, UN-Habitat (2020).



Source: IOM DTM Round 37.

Figure 8: IDPs Accommodation Typology, UN-Habitat (2020).



Source: IOM DTM Round 37.

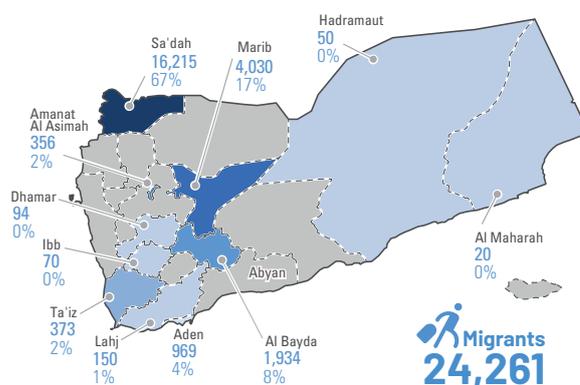
The largest number of IDPs from Sa'dah are residing in Hajjah, mostly in camps, generally in poor conditions. Amran also hosts a high number of newly arrived IDPs from the district of Arhab (and Sa'dah), mostly residing in sub-districts of Raydah and Kharif. They have not been registered as IDPs and as such, cannot access aid and assistance, including shelter. Marginalized groups occupy lands very close to valleys (wadis), exposing them to high risk of disaster during raining season.³⁴

34 ACAPS, Joint Rapid Assessment of the Northern Governorates of Yemen, October 2011, <https://www.alnap.org/system/files/content/resource/files/main/joint-rapid-assessment-yemen-full-report-2011-joint-rapid-assessment-yemen-final-report.pdf> (accessed March 29, 2020).

Migrants

The latest available HNO data estimates the number of migrants in Sa'dah Governorate at 23,000, which is an increase of 6,785 compared to the 2018 MCLA estimated number of 16,215.³⁵ MCLA data further estimates that 0–10 percent of the migrant population was able to access a regular and sustainable income. Food is reported as one of the top priority needs for migrants in Sa'dah Governorate.³⁶ Moreover, very high levels of need are reported in terms of shelter and Non-Food Items (NFI) assistance. More specifically, responses recorded in the MCLA Assessment stipulate that the entire migrant population needed shelter.

Figure 9: Estimated Number and Proportion of Migrants per Governorate in Yemen, 2018



Source: UNOCHA, IOM, UNHCR, MCLA Technical Working Group, 2018 Yemen Multi-Cluster Location Assessment, 2019.

Open source reporting indicates that many migrants travel north from southern Yemen, towards the Saudi border. Sa'dah is one of the key hubs from where smugglers take migrants to areas near Baqim and Al Boqa', close to the Saudi border. Once arrived in Sa'dah, migrants can find themselves waiting for weeks, even months, until an opportunity arrives for a smuggler to facilitate passage across the heavily guarded Saudi border. According to open source reporting, smuggling packages from Sa'dah into Saudi Arabia cost between 800 and 1,000 USD, and require travel on foot through the al Nahouqa mountains.³⁷ The Saudi government has significantly invested in securing the border, including constructing a fence, installing floodlights, thermal cameras, and electric wires.³⁸ However, these attempts have not been successful as not only migrants, but also arms, and a range of other (il)licit goods move between one of the world's poorest countries and one of its richest, and vice versa.³⁹

³⁵ UNOCHA, IOM, UNHCR and MCLA Technical Working Group, 2018 Yemen Multi-Cluster Location Assessment, April 17, 2019).

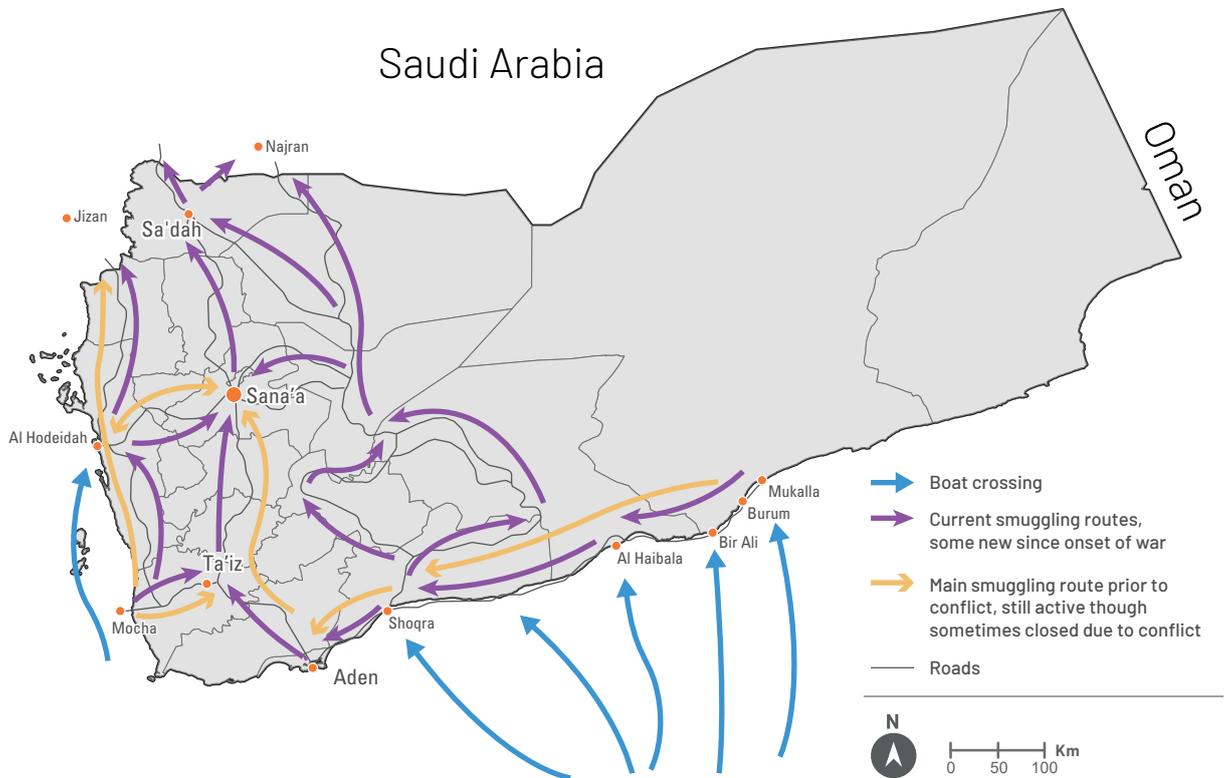
³⁶ Ibid.

³⁷ Peter Tinti, Migrant smuggling Paths from the Horn of Africa to Yemen and Saudi Arabia, (Institute for Security Studies, 2017), <https://issafrica.s3.amazonaws.com/site/uploads/ait-wr-7.pdf> (accessed May 19, 2020).

³⁸ Peter Tinti, Yemen Country Statement: Addressing Migrant Smuggling and Human Trafficking in East Africa, (Expertise France, 2017), <https://www.expertisefrance.fr/documents/20182/234347/AMMi++Country+Report++Yemen.pdf/754f6a54-ac81-4adb-964c-f566e0ff8f4c> (accessed March 18, 2020).

³⁹ Ibid.

Figure 10: Migrant Smuggling Routes in Yemen (Through Sa'dah)



Source: Institute for Security Studies, *Migrant smuggling Paths from the Horn of Africa to Yemen and Saudi Arabia*, 2017.

Migrant routes converge on Sa'dah, where active fighting is frequent and where hundreds are reported as routinely killed in indiscriminating airstrikes.⁴⁰ Monabbih district, located in Sa'dah Governorate, is dotted with camps inhabited by thousands of migrants from Ethiopia and Somalia, hoping to cross the border into wealthy Saudi Arabia. In Sa'dah, long lines of migrants can often be seen walking as airstrikes are taking place nearby; without shelter, they have no place to seek reprieve. In November 2019, international media reported that at least 10 African (Ethiopian and Somali) migrants waiting to cross the border were killed in a shelling on the popular Al-Raqu market, located in the north of Sa'dah Governorate⁴¹; the attack was the third on a market in Sa'dah Governorate in four weeks.

⁴⁰ Ahmed Abdulkareem, "The Valley of Death: the Saudi Coalition is Creating a Living Nightmare for African Migrants in Yemen", Mint Press News, December 25, 2019, <https://www.mintpressnews.com/sau-di-arabia-creating-living-nightmare-african-migrants-ye-men/263691/> (accessed March 18, 2020).

⁴¹ Action on Armed Violence, 10 migrants killed in shelling on Yemeni border market, November 25, 2019, <https://reliefweb.int/report/yemen/10-migrants-killed-shelling-yemeni-border-market> (accessed March 18, 2020).

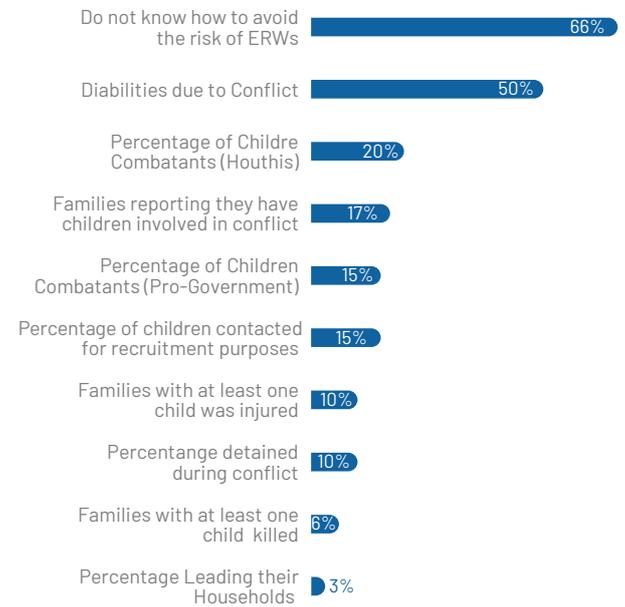
Prolonged conflict in Sa'dah has displaced thousands and affected even more livelihoods. In 2004, the Houthis in Sa'dah clashed with the GoY Army. Several waves of fighting continued since then, killing thousands of people.⁴² By 2018, as documented by OHCHR, the governorate most affected by casualties in the first five months of 2018 was Sa'dah with 19 percent of all casualties.⁴³

Protection against various forms of violence is a cross cutting issue in Sa'dah. Due to limited access to the governorate in general, most of the available information on protection issues can only be collected through secondary information or limited data collection efforts in the form of group discussions, snapshots, and qualitative assessment. The protection concerns of host communities are like those of IDPs. Also, host communities frequently complain about inequality/discrimination – as they are often denied access to humanitarian assistance. The most severe protection concerns raised in Sa'dah include the presence of land mines, insecurity, risk of renewed fighting, the fear of reprisals and forced recruitment by local authorities. The fear of arrest, detention, reprisals and forced recruitment are reported as the most common obstacles to IDP return in Sa'dah Governorate. Deterioration of security and weakened governance has led to significant increases in the targeting of children for the purpose of human trafficking. Gender based Violence (GBV) remains a pronounced problem especially among displaced and vulnerable communities throughout the governorate. Many of these issues are linked to livelihood concerns. Others are triggered by rigid and traditional norms, and tribal and political conflicts prevailing in this part of the country for generations.

There are several reports on the use of cluster munitions in attacks on Sa'dah Governorate.⁴⁴ Continuous airstrikes have also been unable to distinguish between military and civilian targets, furthermore they are also aimed at many political targets, such as homes of politicians and Government buildings, which are without exception in residential areas⁴⁵. In 2010, the high rate of houses directly impacted by armed violence resulted in the direct displacement of people from 4,846 households, the majority (59 percent) of which were displaced as a result of 648 incidents of conflict in Sa'dah.⁴⁶

Children

Figure 11: Child Protection (Sa'dah, Hajjah, Al Jawf, Amran and Sana'a Governorates), 2010



Source: UNOCHA, Yemen HRP, 2011.

vulnerable population in need of careful attention is the growing numbers of children without parental care within the area, following many years of war and the deaths of parents. In Sa'dah, it is understood that the numbers of such children exceeds the numbers of IDP children, under conditions of almost non-existent alternative care options and especially non-institutional responses that may facilitate more durable solutions.⁴⁷ More than 230 schools in Sa'dah have been destroyed or damaged and the majority are reported as not having been rebuilt.⁴⁸

Gross violations of children's rights continue and the number of accidents more than doubled in 2018 in Sa'dah, Al Hodeidah, and Shabwah.⁴⁹ Arbitrary assaults and rape incidents occurred mostly in Sa'dah, Al Jawf and Al Hodeidah, Hadramout and Shabwah. Increasingly, families marry off their underage daughters to relieve their households of the financial burden of caring for them.⁵⁰ Additionally, the recruitment and use of children by warring factions is continuing throughout Sa'dah Governorate. In fact, it is encouraged by recruitment drives, inadequate screening procedures and limited alternative economic options for children, sometimes facilitated by brokers using false identification papers or children misrepresenting their actual age in the widespread absence of birth registration records.⁵¹

42 WFP, YEMEN: Secondary Data Analysis on Food Security and Vulnerability A Secondary Data Analysis – Consolidating Existing Information on Food Security and Vulnerability, 2009, <https://documents.wfp.org/stellent/groups/public/documents/ena/wfp207839.pdf?iframe> (accessed March 29, 2020).

43 Protection Cluster Yemen, Update, June 2018, https://www.globalprotectioncluster.org/_assets/files/protection-cluster-yemen-update-june-2018.pdf (accessed March 30, 2020).

44 Human Rights Watch, Yemen: Cluster Munitions Wound Children, 17 March 2017, <https://www.hrw.org/news/2017/03/17/yemen-cluster-munitions-wound-children> (accessed March 29, 2020).

45 Protection Cluster Yemen, National Protection Cluster – Yemen Protection Strategy, September 2015, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/yemen_protection_cluster_strategy_september_2015_final.pdf (accessed March 29, 2020).

46 ACAPS, Joint Rapid Assessment of the Northern Governorates of Yemen, October 2011.

47 UNICEF, Situation Analysis of Children in Yemen, 2014, https://www.unicef.org/media/files/Yemen_Situation_Analysis_report_-_English_Final.pdf (accessed March 29, 2020).

48 Ibid.

49 UNOCHA, Yemen: 2019 HNO, 2019.

50 UNFPA, As Yemen conflict drags on, women's vulnerability grows, November 2015, <https://www.unfpa.org/fr/node/13382> (accessed March 26, 2020).

51 UNICEF, Situation Analysis of Children in Yemen 2014.

Already in 2011, there were significant rates of injury from war: six percent said that at least one child from their family was killed as a result of the conflict; 10 percent of families reported at least one child was injured as a result of the armed conflict.⁵² In Sa'dah, 890 children (50 percent) had physical disabilities attributed to the conflict. Despite the risks, 66 percent of children did not know how to avoid the risks of explosive remnants of war (ERWs), even though 50 percent of IDPs had undergone mine risk education. Displaced children benefited from psycho-social support and recreational activities in child-friendly spaces (CFSs) on 96,033 occasions, which exceeded the targeted 70,000.⁵³

An assessment conducted by United Nations Organization for Coordination of Humanitarian Affairs (UNOCHA) in 2011, estimated that 15 percent of pro-government armed group and 20 percent of Houthi fighters are children.⁵⁴ Seventeen percent of displaced families reported that they have children directly involved in armed conflict. Fifteen percent of interviewed boys had been invited to join an armed group, while an unknown number of girls were recruited to support fighters and use weapons. There are other significant concerns about the abuse of children: 10 percent were detained.⁵⁵ Girls from refugee and IDP populations have been especially vulnerable to GBV violence and human trafficking.⁵⁶ Some children have suddenly found themselves taking care of younger siblings and elderly family members, three percent of Sa'dah's households are led by young boys or girls.⁵⁷

Airstrikes have posed a significant threat to the wellbeing of children in Sa'dah as well. For instance, on December 23, 2016, a cluster munitions attack struck an area near a girls' school and a boys' school in Sa'dah City in northern Yemen, killing two civilians and wounding six, including a child. Students were told not to return to school the day after the attack, as the schools had to be checked for any ERW, including unexploded submunitions.⁵⁸ In 2018, a bomb fell a few meters away from a bus in a Dhahyan market, full of children on a trip organized by a local mosque to visit the graves of men killed in combat 20 km north of Sa'dah – leading to the death of all 31 individuals on board including 26 children under the age of 15 and 4 teachers, another 48 people were injured, including 30 children.⁵⁹

Women

Even before the current conflict erupted, violence against women and girls was widespread. Earlier crises had left many living in precarious conditions. Access to women empowerment services or support is sternly absent. Women tend to find more supportive communal structures outside Sa'dah.⁶⁰ Evidently, women have also been weaponized by warring factions in the area, and contributed to sectarian divisions, as is evident in the recent UN report that verified the recruitment of 16 girls between the ages of 15 and 17 in Sa'dah to encourage male family members to join the Houthis and to mobilize other women and girls to do likewise.⁶¹ Moreover, fighting and war have caused tremendous losses in the agricultural sector, especially in Sa'dah Governorate; women relied heavily on this sector for employment and income and much of their loss in livelihood can be traced back to this sector.⁶² Women are also the target of restrictions on free travel and transportation; throughout the Sa'dah Governorate, women are always obliged to have a "mahram" (male escort with immediate family ties) accompany them when moving outside of their homes.⁶³ Discrimination against women continues, as does early marriage, child labor, and child trafficking.

52 UNOCHA, Yemen HRP, 2011.

53 Ibid.

54 Ibid.

55 Ibid.

56 USAID, Yemen Country Profile Property Rights and Resource Governance, 2010, https://www.globalprotectioncluster.org/_assets/files/field_protection_clusters/Yemen/files/HLPpercent20AoR/USAID_Country_Profile_2010_EN.pdf (accessed March 30, 2020).

57 Global Protection Cluster, Profiling of IDPs Affected by the Conflict in Sa'ada Region, December 2010, https://www.globalprotectioncluster.org/_assets/files/field_protection_clusters/Yemen/files/Profiling_IDPs_Yemen_2010_EN.pdf (accessed March 30, 2020).

58 Human Rights Watch, Submission to the Committee on the Elimination of Discrimination against Women Review of Yemen's periodic report for the 77th Pre-Session, February 2020, https://www.hrw.org/sites/default/files/supporting_resources/hrw_yemen_presession.pdf (accessed March 30, 2020).

59 Human Rights Watch, "اليمن: قصف حافلة الأطفال يبدو أنه جريمة حرب", September 2018, <https://www.hrw.org/ar/news/2018/09/02/322072> (accessed March 29 2020).

60 UNFPA, As Yemen conflict drags on, women's vulnerability grows, November 2015.

61 USAID, Yemen Gender Analysis, 2020, <https://banyanglobal.com/wp-content/uploads/2020/03/GITA-II-USAID-Yemen-Gender-Analysis-30-January-2020-DEC-version-No-Track-Changes-1.pdf> (accessed March 26, 2020).

62 Yemeni Observatory for Human Rights, **آثار الحرب وتضرعات علي المرأة اليمنية ودورها في إحلال السلام**, <http://www.yohr.org/up/1514973818.pdf> (accessed March 27, 2020).

63 Women's International League for Peace and Freedom (WILPF), Feminism at the frontline: addressing women's multidimensional insecurity in Yemen and Libya, 2017, <http://wilpf.org/wp-content/uploads/2017/08/LIBYA-YEMEN-WEB.pdf> (accessed March 27, 2020).

Internally Displaced Persons (IDPs)

In several incidents in Sa'dah City as well as in camps elsewhere, IDPs found themselves in cross fires between parties to the conflict. Since IDPs attempting to flee the conflict in Sa'dah to neighboring Saudi Arabia were subjected to refoulement by Saudi authorities, the United Nations (UN) and the humanitarian community established four camps and gave support to 8 informal settlements to accommodate them - seven of those settlements were in Sa'dah.⁶⁴ In mid-2009, IDPs in Sa'dah City also cited inadequate attention to displacement needs, and lack of adequate monitoring.⁶⁵ In August 2009, fighting around 'Anad camp to the northwest of Sa'dah City forced the camp to close and its hundreds of residents to flee due to conflict again. In October of the same year, attacks took place against al-Sam camp south of Sa'dah. By mid-November, only Al-Isah and Al-Sam camps were open and in December Al-Talh camp was closed for security reasons.⁶⁶ According to the Task Force on Population Movement (TFPM), in late March 2018, airstrikes intensified in Sa'dah Governorate with increased cross-border attacks which resulted in indiscriminate damage to the properties of civilians, loss of life and increased fear among the population quickly displacing 121,698 individuals.⁶⁷

Minorities

Sa'dah used to be famous for its Jewish silversmiths, some of whom decorated jambiya handles and sheaths.⁶⁸ Unspared by the conflict, religious minorities have also been the target of arbitrary displacement in Sa'dah. This is particularly the case of the Yemeni Jewish minority.

Estimates on the amount of Jewish people in Sa'dah vary, with some 2005 estimates indicating there were between 200 – 500 Jewish people residing in Yemen.⁶⁹ Research suggests that this number may be actually higher and that between 1,500 – 2,000 Yemeni Jews may have resided in the country in 2005 but concealed their religious convictions due to fear of persecution.⁷⁰ In 2005, most Jews in Yemen were centered in Sa'dah and Rayda. Due to the deterioration of living conditions since the outbreak of the conflict, Jewish people from Sa'dah were among thousands of IDPs who left the region from 2006 onwards. In January 2007, the GoY relocated 65 Yemeni Jews from Sa'dah following threats against the community. The small Jewish community was relocated to Sana'a for their protection and provided with shelter and assistance.⁷¹

Sa'dah also had a concentration of Muhamasheen who were displaced to other governorates, such as Amran, when the governorate and Sa'dah City were heavily bombed in April 2015. While in some localities that were less affected by the war, host communities and local authorities attempted to support internally displaced population from areas such as Sa'dah to the extent possible - Muhamasheen were largely left to their own devices. In parts of Amran, for instance, they were reportedly asked to evacuate agricultural land by landowners⁷² However, it is reported that numbers of Muhamasheen have returned to Sa'dah City as they felt that the treatment and living conditions in host areas and camps were so demeaning that they "preferred the bombs."⁷³

64 ACAPS, Secondary Data Review on Yemen, (Geneva: ACAPS, 2011), https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/secondary-data-review-yemen_June2011.pdf (accessed April 1, 2020).

65 Christoph Wilcke, Disappearances and Arbitrary Arrests in the Armed Conflict with Huthi Rebels in Yemen, (New York: Human Rights Watch, 2008), <https://www.hrw.org/report/2008/10/24/disappearances-and-arbitrary-arrests-armed-conflict-huthi-rebels-yemen> (accessed March 29, 2020).

66 Human Rights Watch, All Quiet on the Northern Front? Uninvestigated Laws of War Violations in Yemen's War with Huthi Rebels, (New York, 2010), <https://www.justice.gov/eoir/page/file/1260586/download> (accessed April 1, 2020).

67 Shelter Cluster, Yemen Situation Report, March 2018, https://reliefweb.int/sites/reliefweb.int/files/resources/shelter_nfi_cccm_cluster_sitrep_march_2018_-_en_-_v3.pdf (accessed April 2, 2020).

68 Vigne, L et al., "Closing down the illegal trade in rhino horn in Yemen", *Pachyderm* No 30 (January–June 2001), http://www.rhinoresourcecenter.com/pdf_files/117/1175858020.pdf (accessed April 1, 2020).

69 Rania El Rajji, Even war discriminates: Yemen's minorities, exiled at home (London: Minority Rights Group International, January 2016), https://minorityrights.org/wp-content/uploads/2016/01/MRG_Brief_Yemen_Jan16.pdf (accessed April 1, 2020).

70 Ibid.

71 Norwegian Refugee Council, YEMEN: IDPs facing international neglect, A profile of the internal displacement situation, August 2010, https://reliefweb.int/sites/reliefweb.int/files/resources/77C593DF61475EA5C12577740046C5D1-Full_Report.pdf (accessed April 2, 2020).

72 Rania El Rajji, Even war discriminates: Yemen's minorities, exiled at home, 2016.

73 Ibid.

Security Conditions

In 2018, mass civilian casualty incidents accounted for 2,141 civilian casualties in Yemen, 44 percent of the year's total. Most of these incidents, 61 percent, were caused by airstrikes, with another 19 percent the result of shelling; almost a quarter of these incidents, 22 percent, took place in Sa'dah Governorate. The incidents were particularly deadly in Sa'dah, where 379 civilian casualties were recorded in homes, of which 223 (59 percent) were children and women, demonstrating the greater vulnerability of women and children when domestic civilian spaces are impacted by armed violence.⁷⁴

Security conditions have not been conducive to significant returns of IDPs; in 2009, it was estimated that only 30 percent of them will have returned by the end of 2010, while by 2011 only 20 percent had returned, leaving the humanitarian needs for IDPs, returned IDPs and the war-affected population very high.⁷⁵ The slow return rate was due to a wide range of impediments including the abundance of mines and unexploded devices, large scale destruction of housing and infrastructure, chronic lack of basic necessities, the presence of the Houthis and other non-state actors in many areas, fear of retaliation against IDPs who are perceived by the Houthis as supporting the government or vice versa, and an overall lack of Government capacity.⁷⁶ During 2017, there were 1263 conflict incidents in Sa'dah, and 640 fatalities as a result.⁷⁷

Availability of Small Arms and other Weapons

Tensions between tribes who took sides in the conflict exacerbated the conflict, while several prominent Sa'dah tribal sheikhs and the country's most important weapons dealers, enjoyed regional as well as international connections.

In Sa'dah, dozens of arms sellers offer a wide range of weapons for sale such as small arms, light weapons, including military style assault weapons, rifles and shells, rockets and ammunition, as well as accessories.⁷⁸ Well-known larger markets, such as the Al-Talh market, are known to host dozens of weapons vendors selling a wide range of small arms and light weapons.⁷⁹

Freedom of Movement

Throughout the successive rounds of conflict there have been extensive limitations on movement in, or to and from Sa'dah. In the fifth round of the conflict, the GoY cordoned off Sa'dah and imposed a near complete blockade on the travel of persons and goods in and out of the area. This was done by closing the main road connecting Sa'dah to Sana'a via Amran. An unofficial curfew was enforced in Sa'dah limiting civilian transportation and travel after dark – this severely impacted the movement of those fleeing conflict as well. Movement continues to be restricted due to the wide presence of Unexploded Ordnances (UXOs) and mines, tribal, government and Houthi checkpoints.⁸⁰

Reporting Gaps

Numerous factors have made it extremely difficult to obtain accurate information about conditions in Sa'dah. This has severely complicated outside analyses of the conflict. Local sensitivities further compound reporting gaps wherein the GoY has severely restricted reporting from Sa'dah and has prosecuted several reporters and media organizations on allegations of supporting the insurrection.⁸¹ Consequently, fighting and government restrictions have meant foreign media have little or no access to Sa'dah. Most of the reporting is based on one of two sources: either the official state media accounts or the Houthi version.⁸²

The humanitarian and financial costs have been enormous, yet conditions on the ground make these costs impossible to accurately discern. Owing to the continued lack of access to Sa'dah, there have been extremely low reporting rates of grave violations of human rights in conflict – most of the affected areas lack safe access. With this decreased access comes a lack of funding for crucial protection programs. For instance, thousands of women are yet to receive dignity kits due to a lack of funding to procure and distribute dignity kits to the most vulnerable women and girls. Also, thousands of adults are yet to receive any psychosocial support, including other counseling services.⁸³ Operational limitations, restrictions and insecurity have also meant a lack of access IDPs residing in host communities.

74 Civilian Impact Monitoring Project, Civilian Impact Monitoring Report June 2018, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/civilian_impact_monitoring_report_annual_2018.pdf (accessed April 2, 2020).

75 UNOCHA, Yemen HRP, 2011.

76 Rania El Rajji, *Even war discriminates: Yemen's minorities, exiled at home* (London: Minority Rights Group International, January 2016).

77 ACCORD, Update on incidents according to the Armed Conflict Location & Event Data Project (ACLED) - Updated 2nd edition, 2018, www.ecoi.net/en/file/local/2002489/2017Yemen_en.pdf (accessed April 1, 2020).

78 Small Arms Survey, *Under pressure Social violence over land and water in Yemen. Yemen armed violence assessment*, October 2010, <http://www.smallarmssurvey.org/fileadmin/docs/G-Issue-briefs/SAS-Yemen-AVA-IB2-ENG.pdf> (accessed April 1, 2020).

79 Small Arms Survey, *Under pressure Social violence over land and water in Yemen. Yemen armed violence assessment*, 2010.

80 Norwegian Refugee Council, *YEMEN: IDPs facing international neglect A profile of the internal displacement situation*, August 2010.

81 Christopher Boucek., *War in Saada From Local Insurrection to National Challenge. Yemen: On the Brink A Carnegie Paper Series* (Washington DC: Carnegie Endowment for International Peace, 2010), http://pdsp-yemen.org/wp-content/uploads/2013/04/war_in_saada.pdf (accessed March 30, 2020).

82 Ibid.

83 UNOCHA, Yemen HRP, 2011.

Government Structure

Although the local government structure is based on the general organizational structure of governorates, it also departs from it in several significant ways. Broadly, organizational units (offices and bureaus) are either tied directly to the Office of the Governor or managed by the Office of the Deputy Governor, also called vice governor or Secretary General. The Office of the Governor, which ranks as a government minister, exercises executive control over the governorate, either directly or through his deputies.

The District LC have a similar structure to the governorate one except that the head of the District LC of all civil servants and public employees there is called Director General, who is appointed centrally, and the organization units are tied directly with the ones at the governorate level.⁸⁴ But while this structure appears to preserve the relative powers of local government, thus confirming a positive political decentralization, central control over local decision-making remains strong as the president and the central government reserved the right to veto any of the local activities.

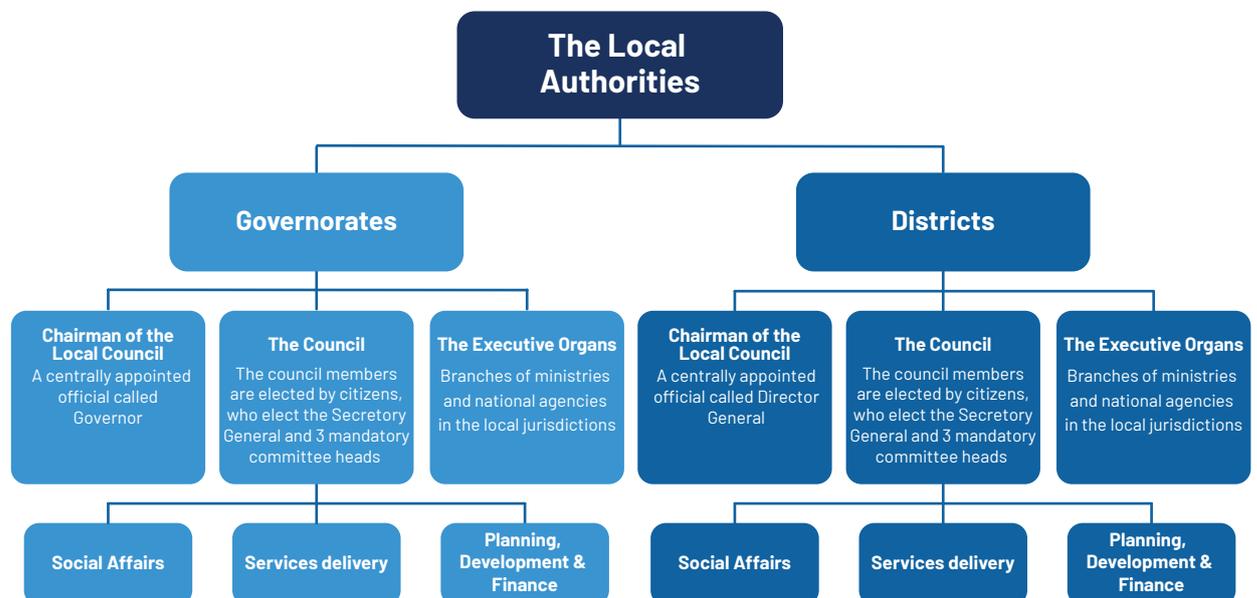
The election process divides the districts' population into sub-districts depending on each one's density. Residents cast ballots for their representative at the LC as well as the president of the LC who, in turn, represents them at the governorate council. To serve as councilor, the elected councilor must be a natural-born Yemeni citizen, a Muslim, at least 25-years-old, and be a resident of the district which they seek to represent. Upon election, their mandate is limited to four years in office, it was extended to six years in 2006, though they may run for reelection at the end of that term.

Until 2008, governors were appointed by presidential decree. Following significant political pressure, an amendment was added that year which granted LCs, at both the governorate- and district- level, the right to elect governors, after that the winner will be confirmed to the post by a presidential decree. The elections took place the same year; however, Saleh was discontent with the results, especially in Sa'dah, and he continued to appoint the governors, deputy governors and district Director Generals.⁸⁵

The contradictions stem from the inherent ambiguities within LAL itself. For instance, Article 105 specifies that if the Ministry of Local Administration fails to elect a governor, the President may appoint a person of his choice among the members of the governorate's local council. The same law upholds the right of the president to appoint officials at lower district posts as well.

Since the 2011 revolution and the intensified fights that followed in 2015, new elections for local councils never took place in 2012 as planned. Thus, the elected council members since 2006 are still legally in office until today, although a lot of them have passed away, fled the country or were displayed because of war.⁸⁶

Figure 12: The System of Local Government in Yemen



Source: The World Bank Group, 2018.

84 Joshua Rogers, *Local Governance in Yemen: Theory, Practice, and Future Options* (Berghof Foundation Operations GmbH, 2019), <https://reliefweb.int/report/yemen/local-governance-yemen-theory-practice-and-future-options> (accessed March 30, 2020).

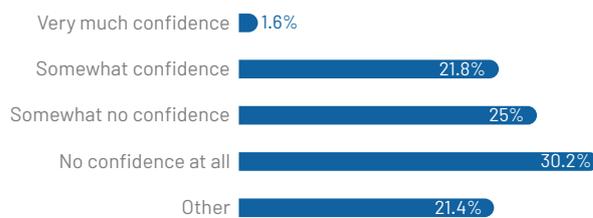
85 Ibid.

86 Ibid.

Pre-conflict

The Sa'dah District LC was one of the weakest LCs in Yemen and lagged in several administrative dimensions including human resources, record keeping, and equipment.⁸⁷ There was no database or an integrated archive to maintain records and it relied solely on manually storing original documents with the civil service offices of the governorate. Overstaffing was observed due to the inadequate approval of positions, which led to significant gaps in technical capacity.⁸⁸ Even though the LC staff was involved in both preparing and implementing the annual plan and budget, the governorate level seemed to adjust them after approval at the district level. While the Sa'dah District LC saw the governorate's attempts to control the district as a reason for such revisions, staff complained that they were not always informed of the changes in a timely manner. However, the LC also implemented projects outside the annual plan, indicating some form of independence from the governorate level.⁸⁹

Figure 13: How much confidence do you have in local councils, Sa'dah?



Source: UNDP, "Impact of the War on Local Governance", April 2016

Current Operations

Since the early stages of conflict the LC and the executive offices have been out of operation due to war and the destruction of the office space; however the executive offices have resumed operations on a basic level by renting alternative office space and have been working to provide a minimum level of basic services.⁹⁰ Nevertheless, the LCs have played a major role in alleviating the impact of war and its effects on the population, as they played mediating roles between the armed groups, which resulted in local ceasefires; facilitated safe pathways for humanitarian aid on the frontlines; and facilitated prisoner exchanges between different groups.

Social media reports indicate that the Sa'dah District LC was operating in Sa'dah district as of May 2016, current satellite imagery indicates that the office has been destroyed.⁹¹ Given the low number of staff even before the conflict, it is likely that there is currently no staff operational to Sa'da District LC. However, a recently published report by the Berghof Foundation found that 10 of the 15 Governance Council members remain active in Sa'dah, and while they have not convened at their traditional office space due to its destruction, they do nonetheless meet from time to time as needed at a rented office space.⁹² The Al-Houthi family and its close allies are in de-facto control of local governance⁹³.

Although the Houthis have not made any substantial changes to the local governance framework, they have not facilitated performing their duties,⁹⁴ which resulted in the hindered LC's ability to provide essential services to the communities. A survey conducted by United Nations Development Program (UNDP) suggests that the confidence level of people in LCs and their executive organs were less than 30 percent.

⁸⁷ The World Bank Group, Yemen Dynamic Needs Assessment (DNA): Second Phase Report, (Washington DC: World Bank, 2017).

⁸⁸ Ibid.

⁸⁹ Ibid.

⁹⁰ Berghof Foundation, Mapping of Local Governance in Yemen, January 2020, https://www.berghof-foundation.org/fileadmin/redaktion/Publications/Papers/2020_BerghofMappingLocalGovernanceYemeniGovernorates_EN.pdf (accessed April 16, 2020).

⁹¹ The World Bank Group, Yemen Dynamic Needs Assessment (DNA): Second Phase Report, (Washington DC: World Bank, 2017).

⁹² Berghof Foundation, Mapping of Local Governance in Yemen, 2020.

⁹³ Ibid.

⁹⁴ Wadhah al-Awlaqi and Maged al-Madhaji, "Local Governance in Yemen Amid Conflict and Instability", (Sana'a Center for Strategic Studies, in coordination with the project partners DeepRoot Consulting and the Center for Applied Research in Partnership with the Orient (CARPO), July 2018), https://carpo-bonn.org/wp-content/uploads/2018/09/Rethinking_Yemens_Economy_white_paper_2.pdf (accessed April 10, 2020).

Budget and Financing

In theory, LAL empowers governorates- and districts- councils to generate their own revenues through a series of tariffs and taxes. It specifies four main sources of revenues for the councils; first, district's local revenues; second, joint revenues gathered by the district and the governorate; third, joint public resources; and fourth, financial support by the central government. The budget of LCs, however, is neither distinct nor separate from the national state budget. They are, in fact, a subset of the latter which vertically integrates and consolidates taxation and finance from district to governorate to the national budget. This setup considerably limits the authority of the municipalities to amend budgets or reallocate resources to address crises as they arise. In addition, the LCs have no discretion to set the amount of taxation and must share whatever is collected with the governorate authorities, which, in turn, must share it with the central government. Revenues from the last two sources are, in theory, redistributable downwards to the local councils based on a set of criteria ranging from priority of need, population density, poverty levels, availability of resources, etc. In practice, the degree to which these funds are enough to address and alleviate local issues is uncertain.

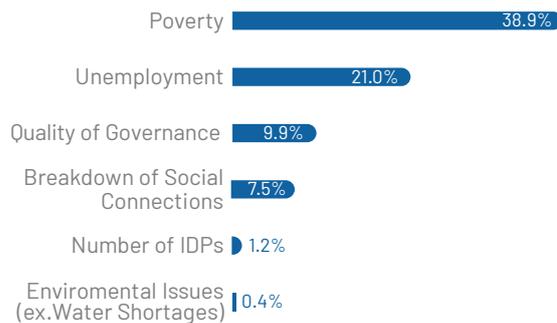
Although the LCs are in theory entitled to financial support from the central government for capital investments and recurring operating expenses, in practice, the conflict has considerably reduced that aid. According to the 2014 national budget, an estimated 90-95 percent of local council income consisted of transfers from the central government.⁹⁵

LC income is ordinarily generated from commercial taxes: fees on sports' events, tourism, building permits, registrations; state-operated utilities, such as water and electricity bills, property transfers, car registrations, entertainment venues, and the like. Yet, income from these resources is meager. The LCs have not enjoyed the authority to set a budget that would cover operations and adapt to deal with challenges as needed. They have been reliant on central government funding to cover operations and projects' costs, wages, infrastructure maintenance, investments, development programs, and capital transfers. Ordinary council members do not receive salary, apart from a small stipend to cover their expenses to attend meetings.

95 Ibid.

The conflict in Sa'dah continues to shift its position in local politics through its numerous manifestations. Over time, it has led to the absorption of local actors, becoming increasingly tribalized and impacting more and more governorates. Through a web mesh of coercion, financial incentives, or newly formed allegiances, new tribes began gravitating towards the conflict in the north, some of whom were paid for their participation, while others gained politically from shifting loyalties.⁹⁶

Figure 14: Most Important Community Problems in Sa'dah Governorate



Source: UNDP, *Yemen Resilience Monitor: Communities Coping with Conflict, Impact of the War on Social Cohesion*, 2016.

A survey conducted by the UNDP's Yemen Resilience Monitor in 2016 indicated that unemployment (21 percent) and poverty (38.9 percent) posed the highest threats to social resilience in Sa'dah.⁹⁷ IDPs are too afraid to return, including their fear of retaliation, and the destruction and mine contamination of their homes.⁹⁸

Arbitrary Arrests and Corruption

Human rights activists and journalists reported receiving repeated threatening telephone calls day and night; calls were made to intimidate them from speaking out about the Sa'dah conflict and southern political discontent. Warring factions routinely detained relatives of fugitives as hostages until the suspect was located.⁹⁹ Even as early as 2008, detention of family members was evidenced while relatives negotiated compensation for the alleged offences. Families, local Sheikhs, and other non-governmental actors were

regularly used in arbitration and mediation to settle such cases.¹⁰⁰ The overwhelming majority of citizens in Sa'dah believe that the judiciary system is the sector most subject to bribes; most average citizens are deterred from filing a case because of extensive petty or transactional corruption at all points within the formal justice process—bribes are even demanded by officials for implementing regular procedures, rules, and regulations.¹⁰¹

Freedom of Press

Harassment of journalists who reported on the southern protest movement and the Sa'dah conflict have continued throughout the war. Authorities frequently attempt to stop details from becoming public knowledge. Measures included forbidding journalists and humanitarian workers from visiting the frontlines, disconnecting all but a select number of cell phone numbers a governorate has been a tactic of war, deploying network control devices on YemenNet,¹⁰² warning journalists not to report on the conflict,¹⁰³ and arresting persons who transmitted information about what they had seen is common in Sa'dah and beyond. Journalist's rights violations are so widespread in Yemen that The Yemeni Journalists Syndicate (YJS) had announced at least 28 documented rights violations against its members during the first three months of 2019 alone.¹⁰⁴

Civil Society Organizations

The number of civil societies increased to provide services to IDPs in Sa'dah. International humanitarian agencies and International Non-Governmental Organizations (INGOs) have both relied on National Non-Governmental Organization (NNGO) to provide services to IDPs.¹⁰⁵ Aid workers have been targeted in the past as well, two Red Cross workers were shot and killed while traveling in a convoy between Sa'dah and Sana'a in 2015.¹⁰⁶

⁹⁶ UNDP, United Nations common country assessment Republic of Yemen, 2011, http://www.undp.org/content/dam/yemen/Leadership/Docs/CCA_2011_Yemen.pdf (accessed March 29, 2020).

⁹⁷ UNDP, *Yemen Resilience Monitor: Communities coping with Conflict*, 2016, http://earlyrecovery.global/sites/default/files/social_cohesion.pdf (accessed March 29, 2020).

⁹⁸ ACAPS, *Joint Rapid Assessment of the Northern Governorates of Yemen*, 2011, <https://www.alnap.org/system/files/content/resource/files/main/joint-rapid-assessment-yemen-full-report-2011-joint-rapid-assessment-yemen-final-report.pdf> (accessed March 29, 2020).

⁹⁹ Christoph Wilcke, *Disappearances and Arbitrary Arrests in the Armed Conflict with Huthi Rebels in Yemen*, (New York: Human Rights Watch, 2008).

¹⁰⁰ Ibid.

¹⁰¹ Erica Gaston with Nadwa al-Dawsari, *Justice in Transition in Yemen. A Mapping of Local Justice Functioning in Ten Governorates*, (Washington DC: USIP, 2014), https://www.usip.org/sites/default/files/PW99_Justice-in-Transition-in-Yemen.pdf (accessed March 29, 2020).

¹⁰² INSIKT GROUP, *Yemeni War Emphasizes Importance of Internet Control in Statecraft and Conflict*, (Recorded Future, 2019), <https://www.recordedfuture.com/yemen-internet-control/> (accessed March 29, 2020).

¹⁰³ Middle East Eye, "The most dangerous job in Yemen's war zone? Being a homegrown reporter," July 2018, <https://www.middleeasteye.net/news/most-dangerous-job-yemens-war-zone-being-homegrown-reporter> (accessed March 29, 2020).

¹⁰⁴ Middle East Monitor, "Rights violations against journalists continue in Yemen," April 2019, <https://www.middleeastmonitor.com/20190409-rights-violations-against-journalists-continue-in-yemen/> (accessed March 29, 2020).

¹⁰⁵ World Bank, United Nations, European Union and Islamic Development Bank. *Joint Social and Economic Assessment for the Republic of Yemen*, 2012.

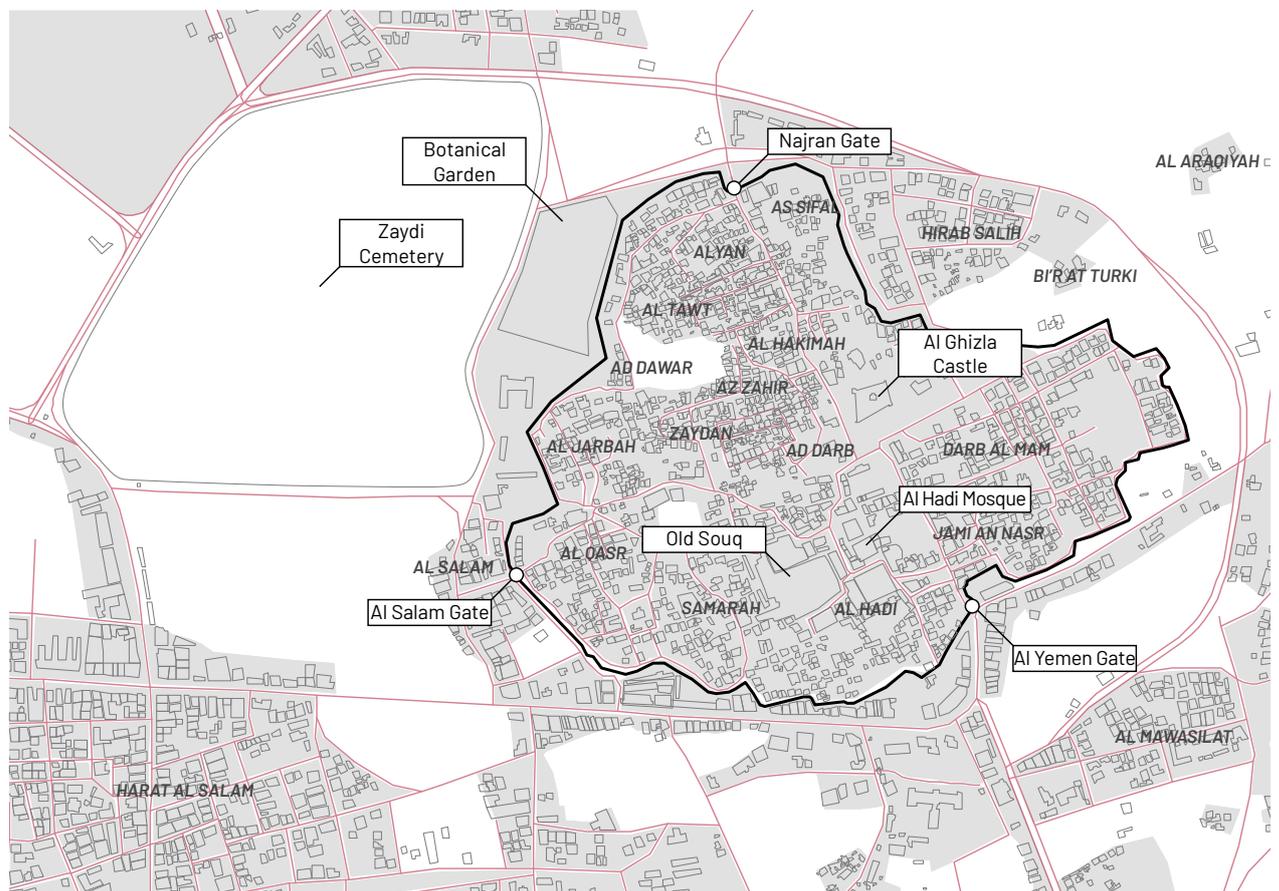
¹⁰⁶ Kanya D'Almeida, "Killing of Aid Workers Threatens Humanitarian Response in Yemen", *Inter press Service (IPS)*, March 2015, <http://www.ipsnews.net/2015/09/killing-of-aid-workers-threatens-humanitarian-response-in-yemen/> (accessed March 29, 2020).

Sa'dah is one of the oldest medieval cities in Yemen, with a great historical, architectural, urban and spiritual value. Founded by Imam Al-Hadi Yaya in the 9th century, modern Sa'dah City became the cradle of "Zaydism", school of Muslim thought in Yemen. The city prospered and was continually inhabited since the medieval times. It is characterized by earthen architecture, very characteristic and representative of the whole region; which makes it a unique example of one of the first Islamic Arab cities. The city is surrounded by an exceptional Zabur Wall, made of mud bricks, which is 3,000 m long and 4 m wide, with 52 watchtowers and 16 doors, the most famous of which are Bab al-Yemen and Bab Najzan. Traditionally, the houses and palaces inside Sa'dah were built using mud and bricks, often consisting of multiple floors and featuring an inner courtyard. Four citadels protected the city: Tulumus, Alsama, Al Sinnara, restored by the Ottomans, and Al Ablaa. In the city center, the Zaydite cemetery is the largest and the oldest cemetery in Yemen, dotted with countless steles all skillfully carved.¹⁰⁷

Fourteen mosques are located within the city walls, dating from the 10th to the 16th century. Two of the most prominent of these mosques are the Great Mosque, where the eleven successors of the first Zaidite Imam are buried, and the An-Nisari Mosque. The two mosques represent an undeniable architectural value and are considered among the most prominent educational and spiritual places in Yemen.¹⁰⁸

As a result of the conflict, more than 80 historical sites and monuments, counting old cities of Sana'a and Sa'dah as one, have been destroyed due to the airstrikes and other attacks, according to Nabil Monassar, the vice director of the General Organization for the Preservation of the Historic Cities of Yemen (GOPHCY), a government agency. Considering individual historic buildings in Sa'dah; are still being bombed, the number of destroyed historic sites are expected to be in hundreds.¹⁰⁹ For example, from 6 April 2015 to 11 May 2015, repeated airstrikes on Sa'dah Old City had destroyed a large part of its ancient civilian infrastructure, and at least five markets.¹¹⁰

Figure 15: Sa'dah Old City, UN-Habitat (2020)



Source: OpenStreetMap and Wikimapia.

¹⁰⁸ Ibid.

¹⁰⁹ Frederick Deknatel, "Tearing the Historic Fabric: The Destruction of Yemen's Cultural Heritage", The Antiquities Collection, February 21, 2017, <https://theantiquitiescoalition.org/tearing-the-historic-fabric-the-destruction-of-yemens-cultural-heritage/> (accessed April 5, 2020)

¹¹⁰ Belkis Wille and Ole Solvang, Targeting Saada: Unlawful Coalition Airstrikes on Saada City in Yemen, (New York, NY: Human Rights Watch, 2015).

¹⁰⁷ UNESCO, "Historic city of Saada", July 8, 2002, <https://whc.unesco.org/en/tentativelists/1718/> (accessed April 5, 2020)

The city is rich with historical and Islamic monuments, such as citadels, mosques and cemeteries, the most of important of which are:

- **Al-Ghizla Castle**, a 600 years old structure located in the old city of Sa'dah, was one of the top popular destinations for local and international visitors. The historic site lies on a wide area and was surrounded by a high wall with four gates. Currently, it is closed to visitors.¹¹¹ Local sources highlighted that until 1982 the building was used as a prison, however, since the transfer of prisoners to the central prison in Qahza area took place, the building is managed by the Ministry of Culture. While the castle sustained war-related damage, several restoration works took place, with the latest one concluded in 2013, at a cost of 60 million YER.¹¹²

- **Al-Sinnara Citadel** or the Citadel of Imam Al Hadi Sharaf Eddin was built in 1880. It is located in the Rahban-Al Abbedin area, Sa'dah district, about 10 kilometers away from the south of Sa'dah City. It is considered one of the most important archeological and touristic citadels and monuments in Sa'dah Governorate. In the 1930s and 1940s, Imam Yahya Hamid ed-Din, and later his son Ahmed, used it as a prison for political opponents.¹¹³ Due to its historical importance and its location on the top of All-A'abla' mountain, overlooking the city of Sa'dah to the north, the residents of the region considered the ancient site of Al-'A'abla as one of the main touristic attractions, as well as family and leisure destinations.¹¹⁴

Figure 16: Al-Ghizla Castle



Source: Xinhua, Mohammed Mohammed, 2020.

111 Xinhua, "Feature: Yemen's historic castle in Saada stands at risk", March 29, 2020, http://www.china.org.cn/world/Off_the_Wire/2020-03/29/content_75874206.htm (accessed April 6, 2020)

112 Al Thawrah, "أعمال الترميم والصيانة بـ"القشلة" كشفت ممرات وأنفاقها", February 17, 2016, <http://althawrah.ye/archives/112372> (accessed April 6, 2020).

113 Mwatana for Human Rights, The Degradation of History-Violations Committed by The Warring Parties against Yemen's Cultural Propriety (Sana'a: 2018), <https://mwatana.org/wp-content/uploads/2018/12/The-Degradation-of-History-English.pdf> accessed April 6, 2020).

114 Ibid.

In the past, the citadel was used as a military site due to its strategic location overlooking the Dammaj area, located about 1.5 kilometers to the south. On October 5th, 2015, the Al-Airstrikes targeted A'abla' mountain, causing minor damages to the historic citadel.¹¹⁵

- **The Um Laila site**, located in Baqim district, is considered one of the most important historic and archeological sites in Sa'dah. The site features ancient water reservoirs, grain silos and various defense constructions such as towers. Traces of an old temple and 27 intricate tombs that were carved in the mountain can be found on the site. Additionally, there is a huge fortress named after the city that has engravings in ancient south Arabian script. The site was intact until 1993, after which the site became increasingly littered with cracked stones, resulting from treasure hunting and clandestine excavations.¹¹⁶

The site has a significant religious value and some historical sources suggest that Khulan Aamir tribes hid in Un Laila site during the famous attempt of the Abyssinian governor Abrahah and his army of elephants to demolish the holy house in Mecca.¹¹⁷

Figure 17: Al Hadi Mosque before and after May 9, 2015 bombing



- **Al Hadi Mosque** is the third-oldest mosque in Yemen and the final resting place of Imam Al Hadi ila'l-Haqq Yahya, the first Shiite Zaydi imam of Yemen who died in 911 A.D. According to a local legend, the Prophet Mohammed's camel once rested at this site.¹¹⁸ The mosque has a great religious and historical status, especially among the followers of the Ziyadid sect, and is also used as the Ziyadid main headquarters and reference school of thought, where religion and language sciences are taught, as well as religious seminars, lectures and workshops. A library, which belongs to the mosque, contains many ancient religious and historical books and is accessed by many so-called "immigrants" and dropouts in search of education.¹¹⁹

On 9 May 2015, airstrikes severely damaged a third of the Mosque's property. Saudi Arabia later confirmed that the building had been targeted because it had become a shelter for the Houthis.¹²⁰ Today, the Mosque's prominent green dome is cracked like an eggshell and its doors are blown out. Repeated ground-shaking strikes, just a few meters from the walls surrounding the structure, have damaged its ceilings and the mosque is now closed.¹²¹



Source: *The Intercept*, Iona Craig, 2015.

¹¹⁵ Ibid.

¹¹⁶ Al Thawrah, "العبث والخراب طال مدينة أم ليلى أقدم المدن الأثرية في صعدة", February 18, 2016, <http://althawrah.ye/archives/68002> (accessed April 6, 2020).

¹¹⁷ Ibid.

¹¹⁸ Iona Craig, "The Agony of Saada", *The Intercept*, November 16, 2015, <https://theintercept.com/2015/11/16/u-s-and-saudi-bombs-target-yemens-ancient-heritage/> (accessed April 6, 2020).

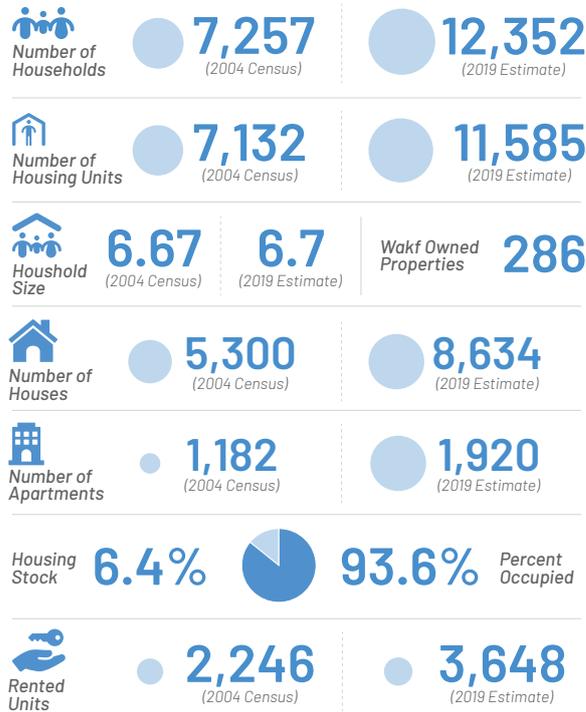
¹¹⁹ Mwatana for Human Rights, *The Degradation of History*, 2018, 77-78.

¹²⁰ The Observers, "Conflict taking toll on Yemen's 'priceless' heritage", May 13, 2015, <https://observers.france24.com/en/20150513-ancient-yemeni-architecture-destroyed-fort> (accessed April 5, 2020).

¹²¹ Iona Craig, "The Agony of Saada", *The Intercept*, November 16, 2015, <https://theintercept.com/2015/11/16/u-s-and-saudi-bombs-target-yemens-ancient-heritage/> (accessed April 6, 2020).

8 Housing, Land, and Property (HLP)

Figure 18: Sa'dah Housing Information



Source: University of Sana'a and retrieved from UN-Habitat, *The State of Yemeni cities Development Report*, 2019.

Highlights

- 96 percent of Sa'dah's housing sector has sustained some form of damage, mostly collateral.
- The LC building is destroyed; and meetings currently take place at alternative rented offices.
- Waqf properties have been severely damaged. Income from these units was used to assist conflict affected households through donation drives and livelihood support.
- Damage to civilian structures disrupts provision of, and access of the affected population to, safe water, public services, markets, electricity, and health services, contributing to a higher risk of famine and economic collapse.
- 294,072 IDPs (14 percent of the entire IDP population in Yemen) are displaced within the Sa'dah Governorate. Landowners generally object to IDPs building makeshift shelter on their land; Many IDPs only found shelter in mosques, schools, tents, caves, or on farmland under open skies.

Overview

Figure 19: Property Ownership in Sa'dah



Source: WFP, YEMEN: *Secondary Data Analysis on Food Security and Vulnerability*, 2009.

With limited access to the city it is difficult to verify data on the housing needs in Sa'ada. However, some clear trends can be identified based on available data, satellite imagery analysis and interviews with local stakeholders. The majority of the Sa'dah's inhabitants are homeowners (an estimated 59 percent), while 31.49 percent are renters and 9.51 percent of all properties are owned by the local Waqf office.¹²² Waqf properties are communal properties managed by the Local District Authority through the Awqaf and Guidance Office. Individual houses are the most common dwelling type (about 75 percent)¹²³.

As cited in the chapter on population above, it is estimated that there are currently 12,352 households in Sa'dah, while there are only 11,585 housing units,¹²⁴ suggesting a nominal deficit of 767 housing units. However, considering a large part of the housing stock may be at least partially damaged, the actual housing deficit is expected to be significantly higher. Furthermore, after hostilities in 2015, most construction projects in the city have reportedly halted due to import restrictions.

As a result of natural growth as well as the influx of IDPs from Yemen-Saudi borders, Sa'dah City expanded rapidly in neighboring agricultural lands. In the period leading up to the war in 2015, this trend has inflated land prices around Sa'ada, with some sources suggesting that the increase reached as much as 300 percent - 350 percent.¹²⁵ The purchase of land within the city was also seen as a way to secure savings in the face of volatility of the YER.

¹²² WFP, YEMEN: *Secondary Data Analysis on Food Security and Vulnerability A Secondary Data Analysis – Consolidating Existing Information on Food Security and Vulnerability*, 2009, <https://documents.wfp.org/stellent/groups/public/documents/ena/wfp207839.pdf?iframe> (accessed March 12, 2020).

¹²³ UN-Habitat, University of Sana'a (Academic Team), *The State of Yemeni cities Development Report*, Draft 1, 2019.

¹²⁴ Ibid.

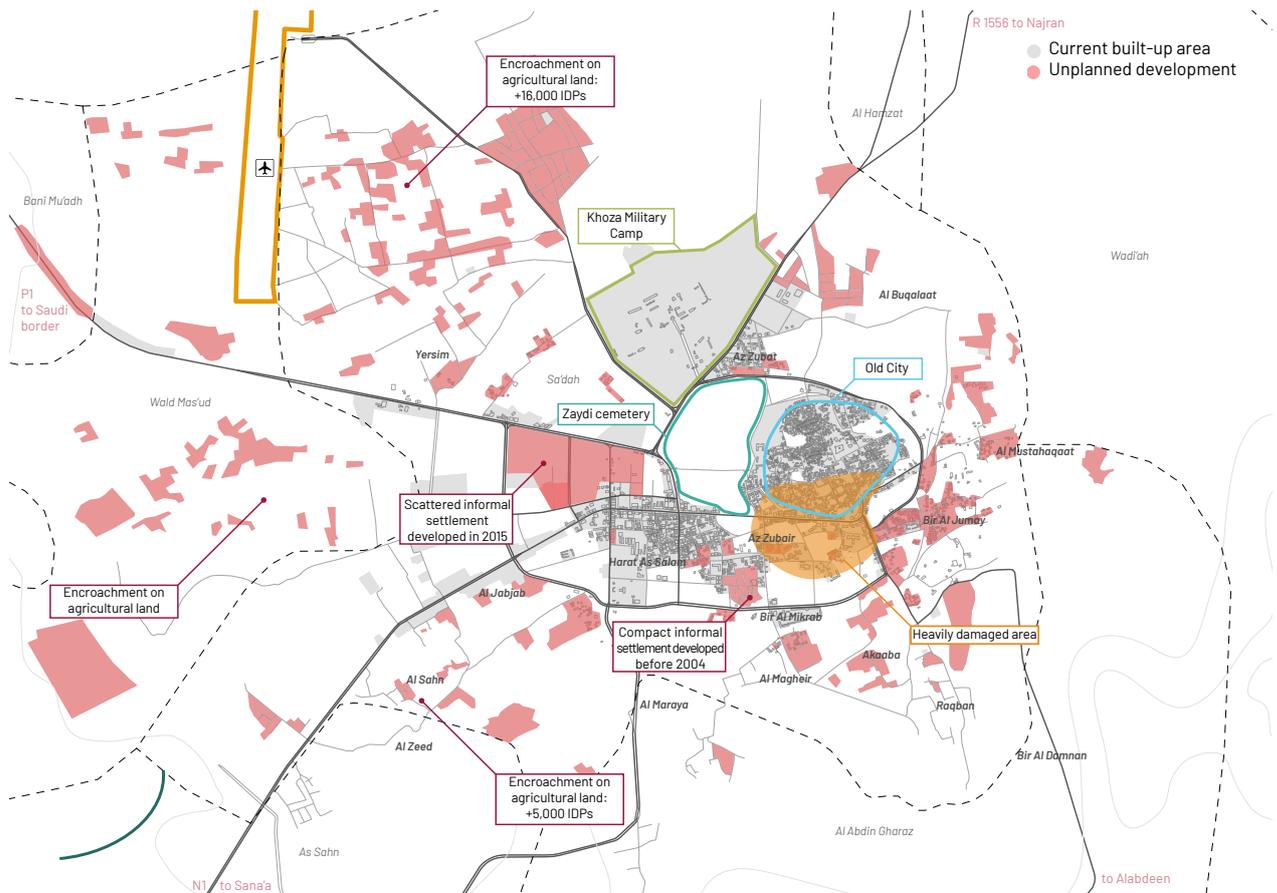
¹²⁵ Wael Abdulmoghni Alaghbari, *Housing, Land and Property Related Challenges in Sana'a and Sa'ada*, 2020.

Most constructions related to these expansions in Sa'dah's peri-urban areas can be classified as informal, as the vast majority is built without a building permit and built on land designated as 'agricultural land'. The main areas exposed to such transgressions are areas surrounding the city of Sa'dah to the north towards Al Hamzat, the campus of the airport, Khoza; the east towards Al Bakalat, Al Moclhakat, Al-Zour, Wadi'a, Dammaj; the south towards the areas of Al-Maqash and the international line linking Yemen, Saudi Arabia, and the passage through Al Anad, At Talh, Al Khafji, Dahyan; and west along the Sa'dah road, Al Baraka, As

Sahn, Gharaz, Al Aqab, Al Muhathr and Al Talmus.

One of the main reasons why so many constructions are built without a permit is the lack of capacity of implementing planning laws, as well as popular rule that 'if there is no plan, no permit is needed'. There are currently no plans for the area surrounding the city of Sa'dah (as a result of a lack of the appropriate operating budgets), meaning that technically a construction cannot contradict a plan. However, in October 2019 a project to develop a Master Plan for Sa'dah for 2040 was launched.

Figure 20: Urban Fabric with an Unplanned Development Pattern around Sa'dah, UN-Habitat (2020)



Source: Google Earth.

Land Transactions

Land deals are complex and costly, and the state's ability to protect private and public properties is weak. In practice, the state establishes ownership in the case of the initial registration of a plot, however often without knowing the exact limits of adjacent public properties, opening the door for manipulation of plot boundaries. In the majority of cases, land is exchanged informally using ownership documents (bassera) that are approved by the district secretary, or an alternative designated official in the area appointed by the government. These documents are, however, easy to manipulate and difficult to verify because transaction records are not stored in a central location and there are no maps showing the exact boundaries of a land parcel and its subdivisions.

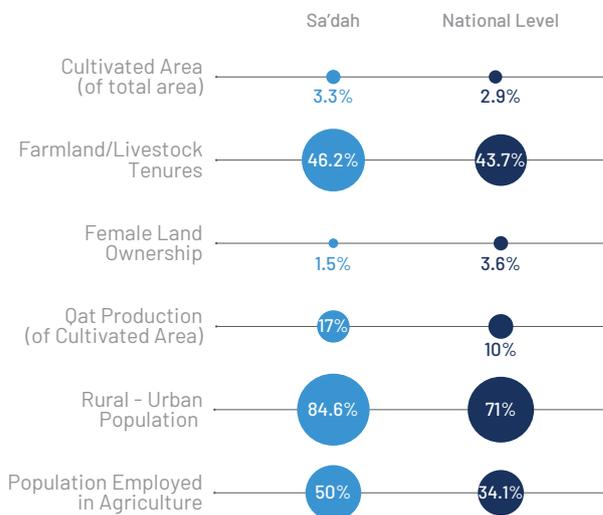
A project to set-up a national cadaster was initiated by the General Authority for Lands, Surveying and Urban Planning (GALSUP) with support of the World Bank, however, only a small percentage of land has been officially registered. This lack of official and transparent registrations has increased the occurrence of conflicts over land; land grabbing and transgression of land rights is ubiquitous, in suburban areas. It is generally known that uninhabited houses or plot of land or home are likely to be occupied by someone.

Landowners

The main landowners are the state, represented in the local authority by GALSUP, followed by the Waqf and the individual farmers. Most state lands in Sa'dah are located around the city, the majority of which is agricultural land. However, in recent years many properties that previously fell under state ownership have now an undetermined status and the amount of land that is state-owned is now unclear, with the local officials estimating that more than half of the land directly surrounding Sa'dah City are state owned.¹²⁶

Intensive development pressures in urban areas have led to increased claims and appeals, from tribal groups, to land ownership in the peri-urban areas when land ownership is transferred from the public properties.

Figure 21: Sa'dah Farmland Ownership



Source: WFP, 2009

Source: WFP, YEMEN: Secondary Data Analysis on Food Security and Vulnerability, 2009.

War Damages to the Housing Stock

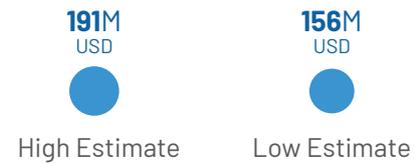
By 2017, the World Bank estimated that 96 percent of the housing stock in the city was damaged as a result of repeated conflicts since 2004. Airstrikes have targeted Sa'dah on 5,622 occasions accounting for one-third of the total number of airstrikes carried out in Yemen.¹²⁷ However, the damage affecting housing stock in these cities is mostly partial (more than 10,000 houses), with a relatively small percentage of housing assets destroyed.¹²⁸ Damage to apartment buildings was double that of houses, while the ancient mud brick buildings were extra vulnerable to damages.¹²⁹

Figure 22: Sa'dah City Damage, 2017

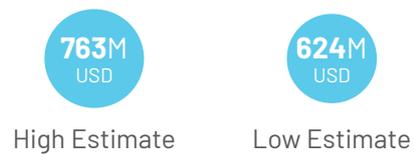
Physical Damage



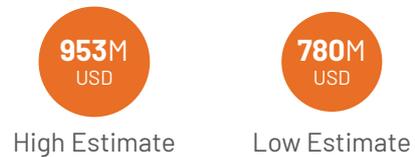
Short Term Recovery (1 Year)



Medium Term Recovery (5-2 Years)



Total Term Recovery (Over 5 Years)



Source: The World Bank Group, Yemen Dynamic Needs Assessment (DNA): Second Phase Report, 2017.

126 Interview with the Representative of GALSUP Sa'ada Office.

127 The World Bank Group, Yemen Dynamic Needs Assessment (DNA):Phase 3, (Washington DC: 2018).

128 Ibid.

129 Ibid.

The city's neighborhoods were impacted differently; an assessment of imagery and qualitative data sources suggests that damage has been heavily concentrated in the city's central Old City, which mostly occurred in the early months of the conflict and has forced residents to flee or move underground. Reportedly, bombing inside the old city mainly targeted the neighborhoods of Bab Al-Yaman, Al-Hadi, Samara, Darb Al-Mam, Souk Al-Madina and caused great damage to historical houses. Local officials suggest that 76 houses were destroyed, and more than 60 houses, 55 shops and nine public facilities were severely damaged, the most important of which are the Imam Al-Hadi Mosque, two gardens, a bakery, and a water tank.¹³⁰

The main gate road serving as an entry point to Sa'dah has also been targeted by airstrikes; the street is lined with buildings comprised of stores and offices on the ground level and apartment units on the first floor, which have been damaged as well.¹³¹ As a result of these damages, by 2018, about 80 percent of individuals in Sa'dah were in need of support to enhance their housing and shelter. Furthermore, reportedly rent price has increased in some cases up to 300 percent-500 percent, which poses significant challenges for local population, especially vulnerable groups; about 70 percent of the IDP population and the entire returnee population needed essential rental subsidies in 2018.¹³²

Figure 23: War Damage on Historical Buildings in Old Sa'dah.



Source: GOPHCY, Sa'da, Arch. Aziza Al Sagheer.

Figure 24: Damages in Old Sa'dah due to Bombing During the Six Rounds of Wars.



Source: Reuters, Naif Rahma, 2011.

¹³⁰ According to Eng. Abdul Rahman Hamid, Director of Planning at the Commission's at the General Organization for the Preservation of the Historic Cities of Yemen (Sa'dah Branch), which is responsible for the committee for the inventory and documentation of the damage to the old city.

¹³¹ Adam Bailes and Eric Hilaire, "Yemen's war-shattered medieval city of Sa'ada - in pictures," The Guardian, October 2015, <https://www.theguardian.com/global-development/gallery/2015/oct/13/yemen-war-shattered-medieval-city-of-saada-in-pictures> (accessed April 6, 2020).

¹³² UNOCHA, IOM, UNHCR and MCLA Technical Working Group, 2018 Yemen Multi-Cluster Location Assessment, April 2019.

Figure 25: Damages of the six Sa'dah wars (June 2004 – February 2012) on the Old City of Sa'dah



Source: GOPHCY, Sa'da, Arch. Aziza Al Sagheer.

Figure 26: Damage to Offices and Apartments Close to the Gates of Sa'ada City

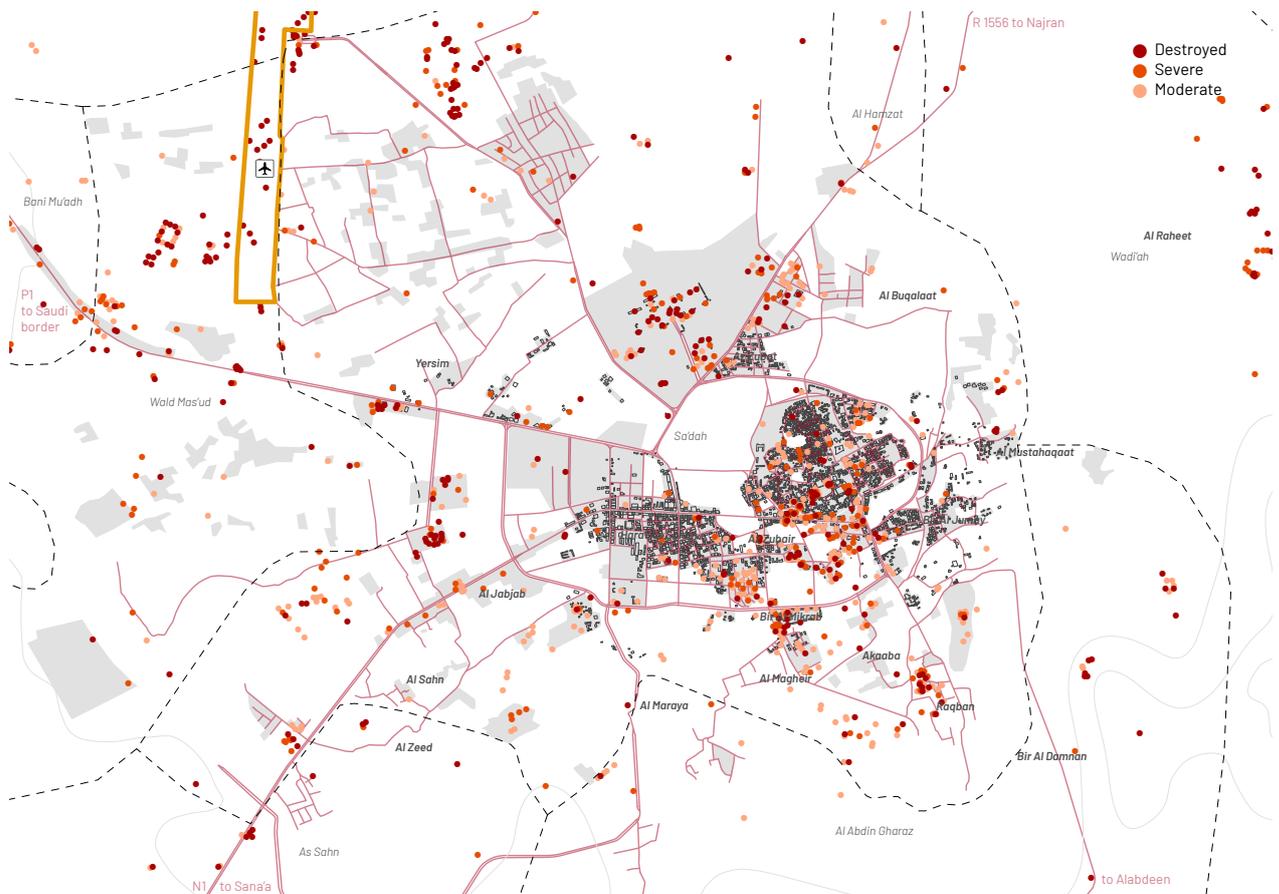


Source: The Guardian, Adam Bailes and Eric Hilaire, 2015.

Responses to damages before 2011

During the fourth round of war, the government issued a presidential decree establishing the Sa'dah Reconstruction Fund. The objectives of the Fund were to assess war damages and to measure reconstruction costs, to raise the necessary funds and manage the reconstruction process. Under the authority of the then Prime Minister, the government budget set 55 million dollar aside to finance emergency reconstruction, adding further funding from national and international sources approved by the government as necessary.¹³³

Figure 27: Damage Analysis Through Satellite Imagery, UN-Habitat (2020)



Source: UNOSAT damage assessment 2019.

The reconstruction process faced major challenges: the assessment of the fund towards the end of 2011 showed that in Sa'dah Governorate 16,620 homes and institutions were destroyed; of the 12,521 proper homes and the 853 temporary homes (such as huts and shacks mainly near the coastal region of Tihama) were damaged, only 2,742 were repaired and a little under 800 were being repaired.¹³⁴ However, the continuation of the hostilities obstructed actual construction work, and the fund was indefinitely paused. Lack of trust between locals, local authorities and the central government restricted both government and multinational agencies from accessing various areas and ultimately reconstruction efforts halted.¹³⁵

¹³³ Hamid, K, "إطار عمل مؤسسي لإعادة إعمار ما بعد النزاع في اليمن", Rethinking Yemen's Economy, Sana'a Strategic Center, May 2018, https://carpo-bonn.org/wp-content/uploads/2018/09/Rethinking_Yemens_Economy_white_paper_1_ar.pdf (accessed March 18, 2020).

¹³⁴ Al-Sakkaf, N, "Time to refocus on reconstruction in Sa'ada," Yemen Times, March 2012, <https://reliefweb.int/report/yemen/time-refocus-reconstruction-sa%E2%80%99ada> (accessed March 18, 2020).

¹³⁵ Hamid, K, "إطار عمل مؤسسي لإعادة إعمار ما بعد النزاع في اليمن", Rethinking Yemen's Economy, Sana'a Strategic Center, May 2018.

Shelter situation of IDPs

The continued internal movement is not only putting pressure on available services but also leading to the proliferation of slums and informal settlements. The IDP population is made up of mainly poor laborers and their extended stay with host families represents a significant burden on the hosts in continuing to provide food and shelter.

Most individuals displaced in the first half of 2008 were unable to reach the City of Sa'dah and tried to find shelter with relatives or friends.¹³⁶ Following the end of hostilities, many of the IDPs in Sa'dah City reportedly returned to their areas of origin while others, unable to find assistance, became refugees by crossing the border into Saudi Arabia. Many IDPs also found shelter in mosques, schools, tents, caves, or on farmland under open skies. Returning IDPs to Sa'dah see themselves frequently confronted with damaged/destroyed or occupied properties. Responses recorded in the MCLA Assessment indicate that 77 percent of the IDP population in Sa'dah needs rental subsidies.

Figure 28: Transitional Shelter: Mud House



Source: Shelter Cluster Yemen, 2012.

Of those IDPs that settle outside urban areas, some resort to creating traditional mud shelter (approx. 384,580 YER / 1,750 USD) or stone shelters (approx. 180,000 YER / 820 USD). These shelters, which are suitable for dry and cold areas, are built from stone and mud. Occupants of these makeshift homes remain exposed to weather changes and frequently require assistance in combating frigid cold temperatures in the winter. Between October 2019 – February 2020, Shelter Cluster reported that 9,375 families in Sa'dah City required winterization support.¹³⁷ However, the landowners generally object to IDPs building both type of shelters on their land due to their appearance as semi-permanent structure.¹³⁸

¹³⁶ Internal Displacement Monitoring Centre, YEMEN: Constrained Response to Protection Needs of IDPs and Returnees, (Geneva: Norwegian Refugee Council, 2009) <https://www.refworld.org/pdfid/4a6813c42.pdf> (accessed March 18, 2020).

¹³⁷ Shelter Cluster Yemen, Winterization Recommendations for Yemen October 2019 – February 2020, https://reliefweb.int/sites/reliefweb.int/files/resources/shelter_cluster_winterization_recommendations_2019-2020_-_v2_-_en.pdf (accessed March 18, 2020).

¹³⁸ Shelter Cluster Yemen, Yemen CCCM Cluster Guidelines for Shelter Intervention in Northern Yemen, 2012, <https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/Shelter%20Guidelines%20in%20Northern%20Yemen.pdf> (accessed March 18, 2020).

Overview

Sa'dah is among Yemen's poorest governorates and has historically suffered from underdevelopment; the governorate was among the last regions incorporated into the republic.¹³⁹ In recent years, the already limited livelihood situation of Sa'dah's population has further deteriorated. Following the conflict, there is no doubt that Sa'dah's poverty rate has increased and some estimate that it is likely "approaching 100 percent."¹⁴⁰ In 2014, the International Labor Organization (ILO) estimated that Sa'dah Governorate had a labor force participation of 52.1 percent (above the then national average of 36.5 percent), and also a relatively high unemployment rate of 29.7 percent (above the then national average of 13.5 percent).¹⁴¹ Many households lost their sources of income due to displacement, while the interruption of salaries and social security assistance greatly contributed to putting pressure on job opportunities, increasing unemployment rates.

Sa'dah Governorate possesses highly productive arable lands, terraces and valleys and is considered the main "food basket" of Yemen, producing 3.5 percent of the total crop production.¹⁴² Sa'dah's economy relies overwhelmingly on agriculture and livestock with about 50 percent of the workforce employed in this sector and to a lesser degree on remittances from migrating workers.

However, the prolonged conflict has significantly affected the economic activity and impacted on livelihoods of countless families; farms and other civilian infrastructures have been destroyed. Between March and October 2015, the Ministry of Agriculture and Irrigation counted that air strikes had targeted almost 1000 fields, almost 100 wells and water pumps, and 11 regional fruit and vegetable markets, including 9 in Sa'dah Governorate.¹⁴³

The air raids had razed or damaged over 3500 greenhouses and a half-dozen headquarters of agricultural associations, overwhelmingly in Sa'dah Governorate.¹⁴⁴ Between 2017 and February 2019, a reported 377 attacks took place against farms, business, infrastructure and public markets in Sa'dah— with Baqim and Razih districts suffering the most damage.¹⁴⁵ This destruction of once productive assets has been detrimental to numerous households. Furthermore, local officials indicated that some facilities, such as a power station and several factories to produce blocks, crushers and stone saws have been hit by airstrikes.

The economy also suffered from the closure of land borders (Al-Baq'a - Alab), and the cutting of roads leading to the governorate as a result of airstrikes, specifically on the Al-Malahit Road, Al-Yatima Road, and Amran Road; the closure of the Al Hodeidah port also negatively affected exports and reduced private investments.

¹³⁹ Carnegie Endowment for International Peace, Yemen: on The Brink, A Carnegie Paper Series, April 2010, https://carnegieendowment.org/files/war_in_saada.pdf (accessed April 9, 2020).

¹⁴⁰ Berghof Foundation, Mapping of Local Governance in Yemeni Governorates, January 2020, available at: https://www.berghof-foundation.org/fileadmin/redaktion/Publications/Papers/2020_BerghofMappingLocalGovernanceYemeniGovernorates_EN.pdf (accessed April 5, 2020).

¹⁴¹ ILO, Demographic and Labour Market Trends in Yemen, 2014, https://www.ilo.org/wcmsp5/groups/public/---arabstates/-ro-beirut/documents/publication/wcms_358144.pdf (accessed April 27, 2020).

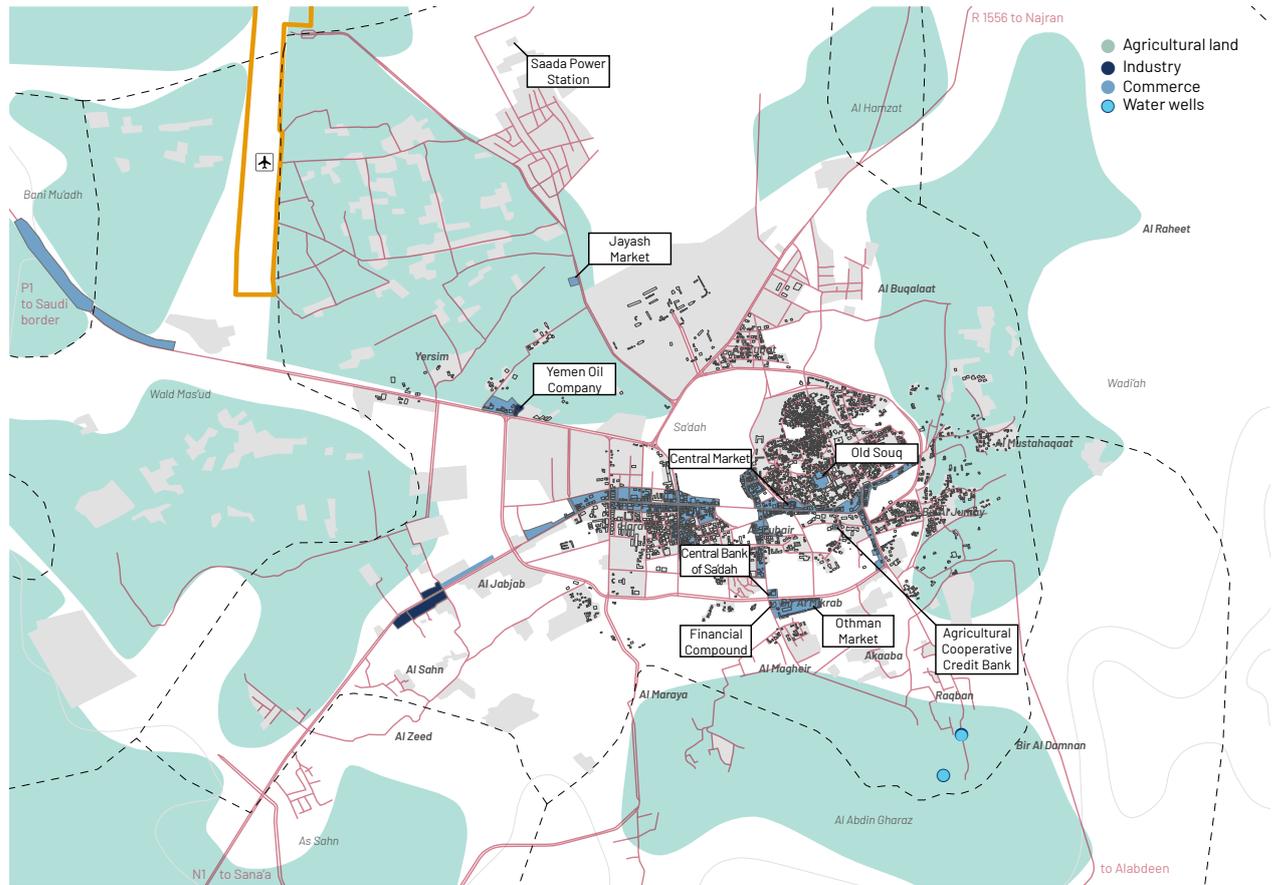
¹⁴² Berghof Foundation, Mapping of Local Governance in Yemeni Governorates, January 2020.

¹⁴³ M. Aji, Yemen's Agricultural World: Crisis and Prospects, January 2018, https://www.researchgate.net/publication/331812666_Yemen's_Agricultural_World_Crisis_and_Prospects (accessed April 27, 2020).

¹⁴⁴ Ibid.

¹⁴⁵ ACAPS, Yemen: Drivers of Food Insecurity 45 Districts with Pockets of Population Facing IPC 5. Yemen Analysis Hub, 2019, https://www.acaps.org/sites/acaps/files/products/files/20190411_acaps_yemen_analysis_hub_drivers_of_food_insecurity_in_ipc_5_districts_in_yemen.pdf (accessed April 27, 2020).

Figure 29: Agricultural Land, Industrial and Commercial Activities in Sa'dah, UN-Habitat (2020)



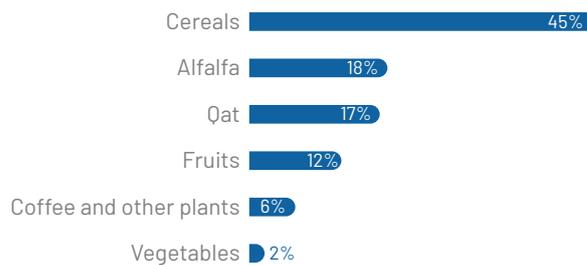
Source: Wikimapia, OpenStreetMap, JRC.

Note: The main markets are located along the southern part of the Old City walls and on Al Am Street, the major road that enters the city from south-east.

Agriculture

About half of the population of the governorate depended on agriculture as a principal source of income. Most of these farmers tend to take up residence on their farms. Already in 2008, close to 60 percent of the agricultural land around Sa'dah were subject to desertion, looting or destruction putting the livelihoods of farmers at risk.¹⁴⁶ To make matters worse, those farmers who opted to remain on their properties faced difficulties obtaining water for their crops due to high diesel prices: in some cases the water had to be drawn from over 120m below the surface.¹⁴⁷

Figure 30: Cultivation in Sa'dah Governorate, 2009



Source: WFP, 2009.

Sa'dah Governorate has 40,721 hectares of cultivable land, of which around 75 percent was estimated to be cultivated in 2009, mainly by cereals (45 percent), cash crops (18 percent), and qat (17 percent).¹⁴⁸ Most of the farmland area is in the two districts (Sahar and As Safra) surrounding Sa'dah City. As Safra district alone accounts for 65 percent of all farm area in the governorate.^{149 150 151} Female land ownership accounts for 1.5 percent of the total farmlands and livestock tenures.

Pomegranate exports were one of the sources of income before the war began in 2015, with farmers exporting 30,000 tons of the fruit annually. Although horticultural crops, such as mango, dates, and pomegranate are produced for domestic sale and some international export, there are few processing facilities to produce juice, concentrate, and other associated products.¹⁵² In October 2018, international media reported pomegranate exports had fallen by a third, farmers blaming this on a lack of fuel and water for irrigation.¹⁵³ The conflict has furthermore led to steep rises in prices of fuel as well as farming necessities, leading to an increase in the farmers' costs which has had a significant negative impact on the level of production.

Markets within the city and roads have been targeted by air strikes, making it much more dangerous to get pomegranates by truck to Yemen's main port in Al Hodeidah. Not only production and processing capacity has been hindered, but markets inside and around the city have been targeted by air strikes, leaving significant damages to buildings and facilities and hampering the economic activities of farmers and sellers. Examples of this can be found in the Old Market, located in the Old City, in the Central Market, situated outside the south-western part of the Old City walls, and in Othman Market, located in Bir Al Mikrab neighborhood, all hit between April and May 2015.¹⁵⁴ Analysis of satellite imagery shows that the Old Market and Central Market are currently only partially functional, while Othman Market is not operational, and retail activities are conducted in an empty area 500m west of the original location. The conflict did not spare markets located outside the city, such as Al-Khafji Market, located around 10 km north-west of the city, which was hit in April 2015.¹⁵⁵

146 The New Humanitarian, "Long haul for Saada farmers", April 2010, <http://www.thenewhumanitarian.org/news/2010/04/20/long-haul-saada-farmers> (accessed April 9, 2020).

147 UNDP, "الحاج أحمد؛ واحد من مئات المزارعين المستفيدين من توزيع الأسمدة والبذور بدعم من برنامج الأمم المتحدة الإنمائي"، June 2018, <https://www.ye.undp.org/content/yemen/ar/home/stories/supporting-farmers-recover-from-conflict.html> (accessed April 27, 2020).

148 WFP Yemen: Secondary Data Analysis on Food Security and Vulnerability, August 2009, <https://documents.wfp.org/stellent/groups/public/documents/ena/wfp207839.pdf?iframe> (accessed April 9, 2020).

149 FAO /WFP, Crop and Food Security Assessment Mission to Yemen, December 2009, <http://www.fao.org/3/ak342e/ak342e00.htm> (accessed April 9, 2020).

150 Abduljalil Al Hemyari, Comprehensive Desk-Study of Sa'ada Assessments, UNDP, Jan. 2011 – Jan. 2015, https://www.sheltercluster.org/sites/default/files/docs/comprehensive_desk_study_of_saada_governorate_2011-2015.pdf (accessed April 9, 2020).

151 Al Thawra News, "المديرية تنتج 65% من إجمالي المحاصيل الزراعية بالمحافظة"، June 2014, <https://althawra-news.net/news85647.html> (accessed April 1, 2020).

152 World Bank, The Republic of Yemen Unlocking the Potential for Economic Growth, October 2015, <https://openknowledge.worldbank.org/bitstream/handle/10986/23660/Yemen00Republi00for0economic0growth.pdf?sequence=1> (accessed April 9, 2020).

153 Reuters, "Humble pomegranate seed provides clue to how Yemen's war fuels hunger", 22 October 2018, <https://www.reuters.com/article/us-yemen-security-agriculture/humble-pomegranate-seed-provides-clue-to-how-yemens-war-fuels-hunger-idUSKCN1MW289> (accessed April 9, 2020).

154 Wille, Belkis, and Ole Solvang, Targeting Saada: Unlawful Coalition Airstrikes on Saada City in Yemen, (New York, NY: Human Rights Watch, 2015).

155 Mwatana for Human Rights, Blind Air Strikes, (Sana'a: 2015), https://mwatana.org/wp-content/uploads/2017/10/Blind-Airstrikes-Report_En.pdf (accessed June 10, 2020).

Overview

Years of conflict have wrecked an already weak health system; an estimated 19.7 million people are in need of and lack access to basic healthcare in Yemen¹⁵⁶; 14 million people (71 percent) are in acute need.¹⁵⁷ According to Health Resources and Services Availability Monitoring System (HeRAMS) 2018 data (updated in October 2019), country-wide, 51 percent of Health Facilities (HFs) are fully functional while 36 percent are partially functional and 13 percent remain non-functional.¹⁵⁸ Operational HFs face multiple challenges hindering the delivery of quality, effective and efficient health services, including inadequate health workers (numbers and capacity), lack of medicines, and lack of health equipment, as well as a lack of safe water, fuel, and power. Additionally, people have limited access to health services due to increased transport costs, poor infrastructure of the road network, or insecurity (including roadblocks in some conflict areas).

Institutional and Legal Framework

Article 55 of the Constitution of the Republic of Yemen guarantees the right of health care for all Yemeni citizens. The Ministry of Public Health and Population (MoPHP) is the main body responsible for managing the health sector at the national level.¹⁵⁹ Following Parliament approving the LAL in February 2000, governorate health offices became responsible for providing healthcare at the governorate level, while district health offices manage the local level. Pre-conflict, the health sector already heavily relied on private financing, with 76 percent of the health expenditure coming from out-of-pocket sources.¹⁶⁰

Infrastructure

Healthcare in Sa'dah City consists of primary and secondary facilities, as well as several health units and centers which are still functioning. Recent HeRAMS data indicates that Sa'dah City has six healthcare facilities: Al Aslahiah Health Unit, Rahban Health Unit, Ahfad Bilal Health Unit, Kihzah Health Center, Al Madloh Health Center, and Al Jumhoori Hospital. Of these six healthcare facilities, one is fully functioning (Al Jumhoori Hospital), while five are partially functioning; four facilities are fully accessible. One Health Unit (Al Mosalhgat) is not functioning.

¹⁵⁶ ACAPS, Access to Basic Needs in Yemen: Scenarios, October 2019, https://www.acaps.org/sites/acaps/files/products/files/20191106_acaps_yemen_analysis_hub_scenarios.pdf (accessed April 9, 2020).

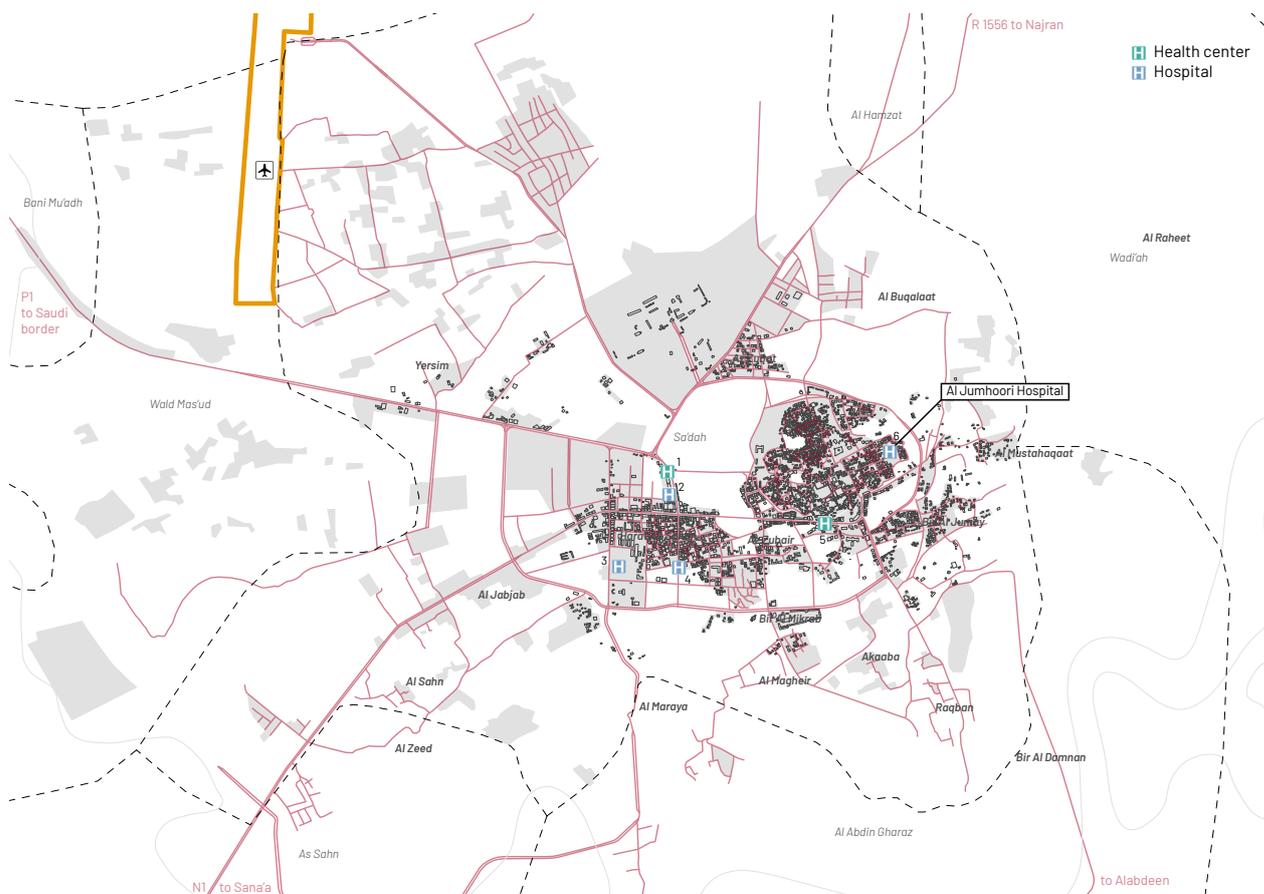
¹⁵⁷ HNO data 2019.

¹⁵⁸ WHO, HeRAMS data, 2018.

¹⁵⁹ Republic of Yemen, Law. No. (4) of 2000 Concerning the Local Authority, August 2000, <http://constitutionnet.org/sites/default/files/2019-10/Law%202000%20local%20authorities.pdf>.

¹⁶⁰ Qirbi, N., and Ismail, S.A., "Health system functionality in a low-income country in the midst of conflict: the case of Yemen," in *Health Policy and Planning* 32, 6 (2017), 911 - 922.

Figure 31: Main Healthcare Facilities in Sa'dah, UN-Habitat (2020)



Source: Wikimapia, OpenStreetMap.

Table 1: Status of Health Facilities in Sa'dah City, 2018

Number	Name HF	Type HF	Owner HF	Operational Status	Accessibility
	Al Aslahiah HU	Health Unit	Government	Partially functioning	Partially accessible
	Al Jumhoori Hospital	Governorate/ Generalhospital	Government	Fully functioning	Fully accessible
	Rahban HU	Health Unit	Government	Partially functioning	Fully accessible
	Ahfad Bilal HU	Health Unit	Government	Partially functioning	Fully accessible
	Kihzah HC	Health Center with Beds	Government	Partially functioning	Fully accessible
	Al Madloh HC	Health Center with Beds	Government	Partially functioning	Partially accessible

Source: WHO, HeRAMS Data, 2018.

Al Jumhoori Hospital

Al Jumhoori Hospital covers 500,000 patients per year¹⁶¹ and has an Emergency Room, Operating Theatre, In-Patient Department, and Maternity Department. The Emergency Room receives around 50 cases every day and sometimes the number rises to 70 – 80 cases, especially following sudden bombings. In February 2016, medical teams saw over 2,000 emergency cases a month and conducted more than 100 surgeries a week. The maternity ward, supported by Médecins Sans Frontières (MSF), delivered over 100 babies a week in the hospital. The hospital is operating under a serious shortage of medicines, medical supplies, and specialized doctors; there are no female doctors working in Al Jumhoori Hospital.¹⁶² Medicines and medical supplies are running out rapidly, challenges which are compounded by the current humanitarian situation in the city, a lack of electricity, and a serious shortage of fuel for the generators necessary to run surgical equipment and operating rooms. In May 2018, it was reported the water supply was enough as the hospital has a connection to the supply system and as there is a well inside the hospital vicinity.¹⁶³

Population Needs

Comparison at country level between 2018 and 2019 HNO data indicates that the caseload of people in acute need has significantly increased in the health cluster area (up by 49 percent).¹⁶⁴ A crippled health system, combined with increasingly challenging living conditions, has led to a decline in people's health, with particularly acute consequences for vulnerable groups such as pregnant women, new-born babies and young children. In Sa'dah City specifically, HNO data estimates that 56,951 people are in acute need in terms of health whereas it is estimated that 18,983 people are in moderate need, meaning that 80 percent of the population needs assistance in terms of health. In Sa'dah City, women are the population group most in need (21,109), followed by girls (19,486), boys (18,063), and men (17,276).

Local officials suggest that only about half of the population of the city can obtain the required health services. This is primarily due to the governorate hospitals overcrowded as they receive patients from the neighboring governorates, such as Amran, Al Jawf, and Hajjah, while hospitals in Sa'dah City serve many patients from rural areas. Commonly reported diseases in hospitals, cited by local Health Officials, include malnutrition, cholera, diarrhea and malaria, as well as chronic diseases, such as diabetes. Cases of communicable diseases, including cholera, diphtheria, measles, dengue, or chicken pox have reemerged in Yemen since 2015.

According to the latest Health Cluster Yemen data, six Health Cluster partners (UN agencies, INGOs, and NNGOs) are working in Sa'dah Governorate.¹⁶⁵ Support provided includes assistance in the areas of Medical Consultations, Reproductive Health, Non-Communicable Diseases, Child Health Services, Medical Support, Capacity Building, and Operational Support.¹⁶⁶ Support is not provided in terms of Mental Health Services and Pharmaceuticals.

¹⁶¹ Dorsch International Consultants GmbH, Yemen Water Sector - Damage Assessment Report of Twelve Water Supply and Sanitation Local Corporations (LCs) and their Affiliated Branch Offices and Utilities - Stage III, Annex 16: Technical Assessment Report for LC Sa'ada, (Bonn and Eschborn: GLZ, May 2018).

¹⁶² Ibid.

¹⁶³ Ibid.

¹⁶⁴ UNOCHA, Humanitarian Update Covering 24 January – 19 February 2019, Issue 3, https://reliefweb.int/sites/reliefweb.int/files/resources/Issue_03FINAL.pdf (accessed April 9, 2020).

¹⁶⁵ Health Cluster Yemen, Yemen 4W: Health Cluster Partners per Governorate, DRAFT, January 2020, <http://yemenhc.org/> (accessed April 9, 2020).

¹⁶⁶ Ibid.

Overview

Country-wide, at the start of the 2019 – 2020 academic year, an estimated 4.7 million children were in need of education assistance and access to safe learning spaces, and roughly 2 million children and teenagers were reported out of school.¹⁶⁷ Girls are more likely to be affected, with 36 percent out of school compared to 24 percent of boys.¹⁶⁸ United Nations Children’s Fund (UNICEF), on December 3, 2019, reports that secondary-level girls are more likely to drop out due to security issues, lack of female teachers and the lack of appropriate WASH facilities.¹⁶⁹

In 2018, the Emergency Employment and Community Rehabilitation (EECR) Cluster Yemen reported that damage to education infrastructure was commonly cited in Sa’dah (53 percent);¹⁷⁰ more specifically, it has been reported that 238 schools have been damaged due to the conflict, the highest number of damaged schools after Ta’iz.¹⁷¹ In fact, local officials suggest that all educational facilities in Sa’dah district were partially damaged or completely destroyed. Additionally, in June 2019, the UN reported verification of 28 attacks against schools; attacks mainly occurred in Ta’iz, followed by Sa’dah.¹⁷² Moreover, the UN verified 32 military uses of schools, a fourfold increase compared with 2017.¹⁷³

Most educational institutions are hardly functioning due to the shortage of teachers as well as operational funds for the schools. Teachers in 10,000 schools (64 percent) are not being paid regularly, with a multitude of reports stating that teachers have not been paid since October 2016,¹⁷⁴ thus losing their main source of income and becoming unable to provide for their family. In addition, it was confirmed by local officials that teachers are not receiving their salaries in Sa’dah, and many students do not receive education on a regular basis, especially in the border districts of the governorate.¹⁷⁵ As a result, many students now attend lessons in UNICEF tents nearby their former schools.¹⁷⁶

Organizational Structure

Key legislation includes the Education Act (1964), which establishes different levels of education, and the Education Act (1965), which sets up scholarships and fellowships.¹⁷⁷ Prior to the conflict, the education system was highly centralized. Currently, there are several ministries that manage the education system at different levels. General education falls under the purview of the Ministry of Education (MoE). Vocational schools and community colleges are managed by the Ministry of Technical Education and Vocational Training (MoTEVT), first introduced in the 1970s under the MoE, but then established as a separate system in 2001.¹⁷⁸ Finally, the tertiary level is managed by the Ministry of Higher Education and Scientific Research (MoHESR), first established in 1990 and, after a brief hiatus, reestablished in 2001.¹⁷⁹ The government of Yemen subsidizes public education at all levels.¹⁸⁰ The Literacy and Adult Education Organization (LAEO), is an autonomous technical agency within the MoE that measures and reports on national literacy rates.

167 UNICEF, As school year starts in Yemen, 2 million children are out of school and another 3.7 million are at risk of dropping out, September 25, 2019, <https://www.unicef.org/press-releases/school-year-starts-yemen-2-million-children-are-out-school-and-another-37-million> (accessed April 8, 2020).

168 UNOCHA, Yemen: 2019 HNO, 2019.

169 UNICEF, Humanitarian Action for Children 2020 – Yemen, December 3, 2019, <https://reliefweb.int/report/yemen/humanitarian-action-children-2020-yemen> (accessed April 8, 2020).

170 EECR Cluster Yemen, Yemen Multi-Sector Early Recovery Assessment, 18 August 2018, <http://earlyrecovery.global/sites/default/files/yemen-multisector-earlyrecoveryassessment.pdf> (accessed March 15, 2020).

171 Berghof Foundation, Mapping of Local Governance in Yemeni Governorates, January 2020, https://www.berghof-foundation.org/fileadmin/redaktion/Publications/Papers/2020_BerghofMappingLocalGovernanceYemeniGovernorates_EN.pdf (accessed April 8, 2020).

172 United Nations General Assembly and the Security Council, Children and armed conflict Report of the Secretary-General, A/73/907-S/2019/509, 20 June 2019, https://www.un.org/ga/search/view_doc.asp?symbol=S/2019/509&Lang=E&Area=UNDOC (accessed April 8, 2020).

173 Ibid.

174 UNICEF, As school year starts in Yemen, 2 million children are out of school and another 3.7 million are at risk of dropping out, September 25, 2019, <https://www.unicef.org/press-releases/school-year-starts-yemen-2-million-children-are-out-school-and-another-37-million> (accessed April 8, 2020).

175 Berghof Foundation, Mapping of Local Governance in Yemeni Governorates, January 2020.

176 See, e.g., UNICEF, Conflict shuts a third of schools in Yemen’s port city of Hudaydah, 30 November 2018, <https://www.unicef.org/press-releases/conflict-shuts-third-schools-yemens-port-city-hudaydah> (accessed March 30, 2020).

177 World Bank, Yemen – Education status report: challenges and opportunities (English), (Washington DC: World Bank, 2010), <http://documents.worldbank.org/curated/en/182051468154759836/pdf/571800WPOYemen-10Box353746B01PUBLIC1.pdf> (accessed February 21, 2020).

178 Ibid.

179 Ibid.

180 Ibid.

Structure of the Education System

The education cycle in Yemen begins at early childhood, or preschool, which, however, is non-obligatory. Next, basic education is compulsory for all children, generally starting at the age of six or seven. Following nine years of basic education, students proceed either through a general secondary path or a vocational path (which consists of either vocational secondary or vocational training education).¹⁸¹ Secondary school lasts for three years. The first year is general education and consists of literary and scientific subjects.¹⁸² During the second year, students may choose to pursue either humanities or exact sciences. After the general secondary education, students may choose to pursue higher education at a university, a teachers' institute, a community college, or receive a technical education. To be admitted to postgraduate studies, one must complete a bachelor's degree amongst other prerequisites. Entering into the labor market is possible following any level after the completion of basic education. Following vocational secondary education, the student may opt for a technical education.¹⁸³

Admissions and Progression

The regulations governing admissions and progression are complex and can prevent students from obtaining further education. Already prior to the conflict, the number of students repeating a school year in Yemen was high. According to a 2010 World Bank report, it took 15.9 years on average to complete the compulsory nine years of education.¹⁸⁴ Students who choose to proceed to vocational education upon the completion of basic education legally lose the opportunity to attend university in the future.¹⁸⁵ Moreover, both the TEVT post-basic and TEVT post-secondary institutions have set age limits for admission purposes. Since most students require more time to progress out of basic education, some might not even qualify for a TEVT path solely due to age restrictions. Furthermore, there are no regulations allowing for reentry into the basic education system following a dropout.¹⁸⁶ In such instances, the only possible path is Alphabetical Programs, whose mandate is only to teach reading and writing. To be admitted to a public university, a secondary education diploma is required. However, upon finishing secondary education, graduates cannot directly apply or enroll for a tertiary education. A one-year-long hiatus is legally mandated. Although unclear, the reason is generally attributed to the obligatory performance of the national military service upon reaching the age of 18 years old. After the year has elapsed, secondary education graduates have only up to three years to apply for admittance to the university. If unable, they lose the privilege to attend a tertiary education institution for life.¹⁸⁷ The complexity of the system thus prevents not only further education but also the attainment of qualifications necessary to transition into the labor market.

¹⁸¹ ILO, Demographic and Labor Market Trends in Yemen, 2014.

¹⁸² Ibid.

¹⁸³ Ibid.

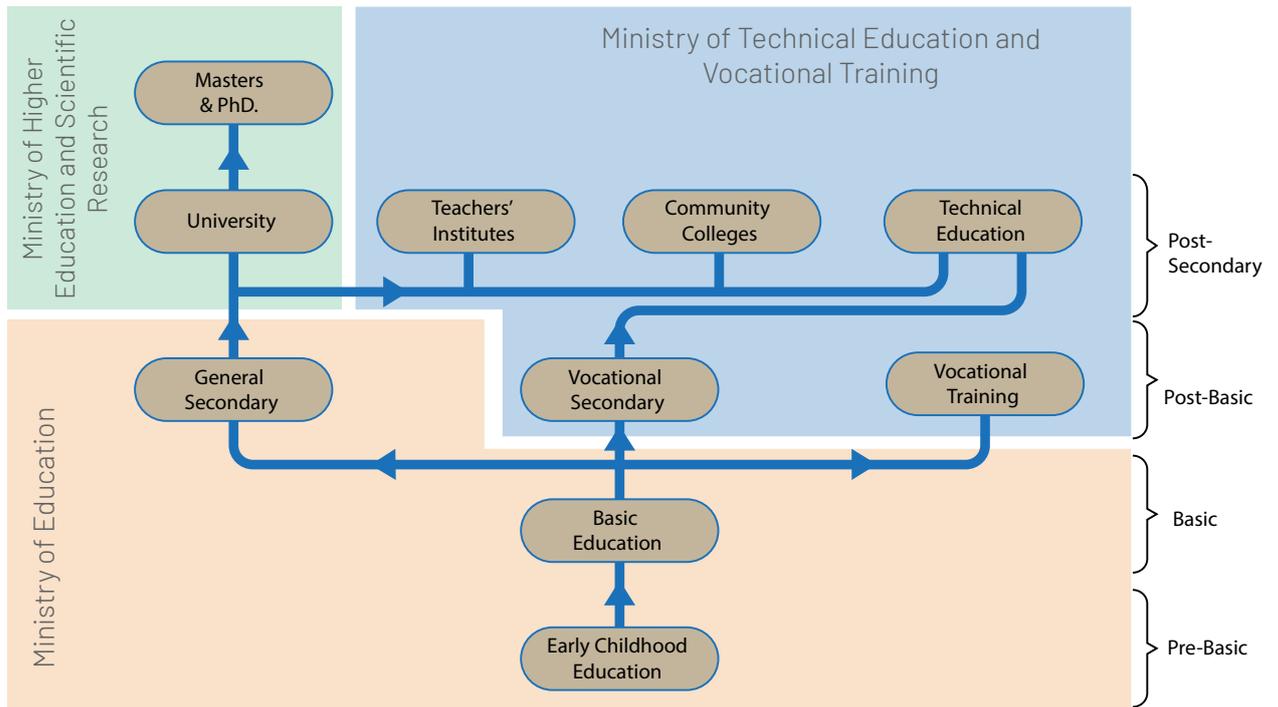
¹⁸⁴ World Bank, Yemen – Education status report: challenges and opportunities, 2010.

¹⁸⁵ Ibid.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid.

Figure 32: Educational System in Yemen



Source: UNESCO, World Data on Education VII Ed., 2010/2011 and The World Bank, Yemen - Education status report : challenges and opportunities (English), 2010.

Infrastructure

In the 2016 – 2017 academic year, CSO reports in Sa'dah City and its vicinity 22 public schools: 12 male, 8 female, and 2 mixed.

¹⁸⁸At the governorate level, there were 613 general basic and secondary schools (public and private) out of which 394 were mixed, 90 for female students, and 129 for male students during the 2016 – 2017 academic year.¹⁸⁹

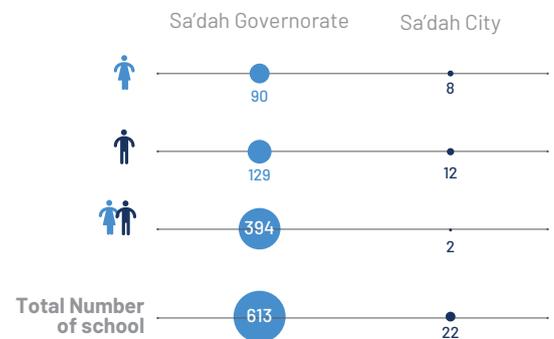
The main needs for educational facilities mentioned by local officials are the addition of classrooms, furniture and installation of solar power to power computers.

It should be noted that educational facilities in Sa'dah Governorate have consistently experienced some of the highest numbers of airstrikes since 2015.¹⁹⁰

Reports have indicated that between one-quarter to half of airstrikes have struck schools in Sa'dah Governorate each year. In December 2016, a cluster munition attack struck an area near a girls' and boys' school in Sa'dah City, killing two civilians and wounding six, including a child. Students were told not to return to school the day after the attack, as the schools had to be checked for any unexploded ordnance.¹⁹¹

Figure 33: Number of public schools in Sa'dah Governorate and City, 2016 – 2017

Number of public schools in Sa'dah Governorate and City, 2016 – 2017



Source: CSO, Statistical Yearbook, 2017.

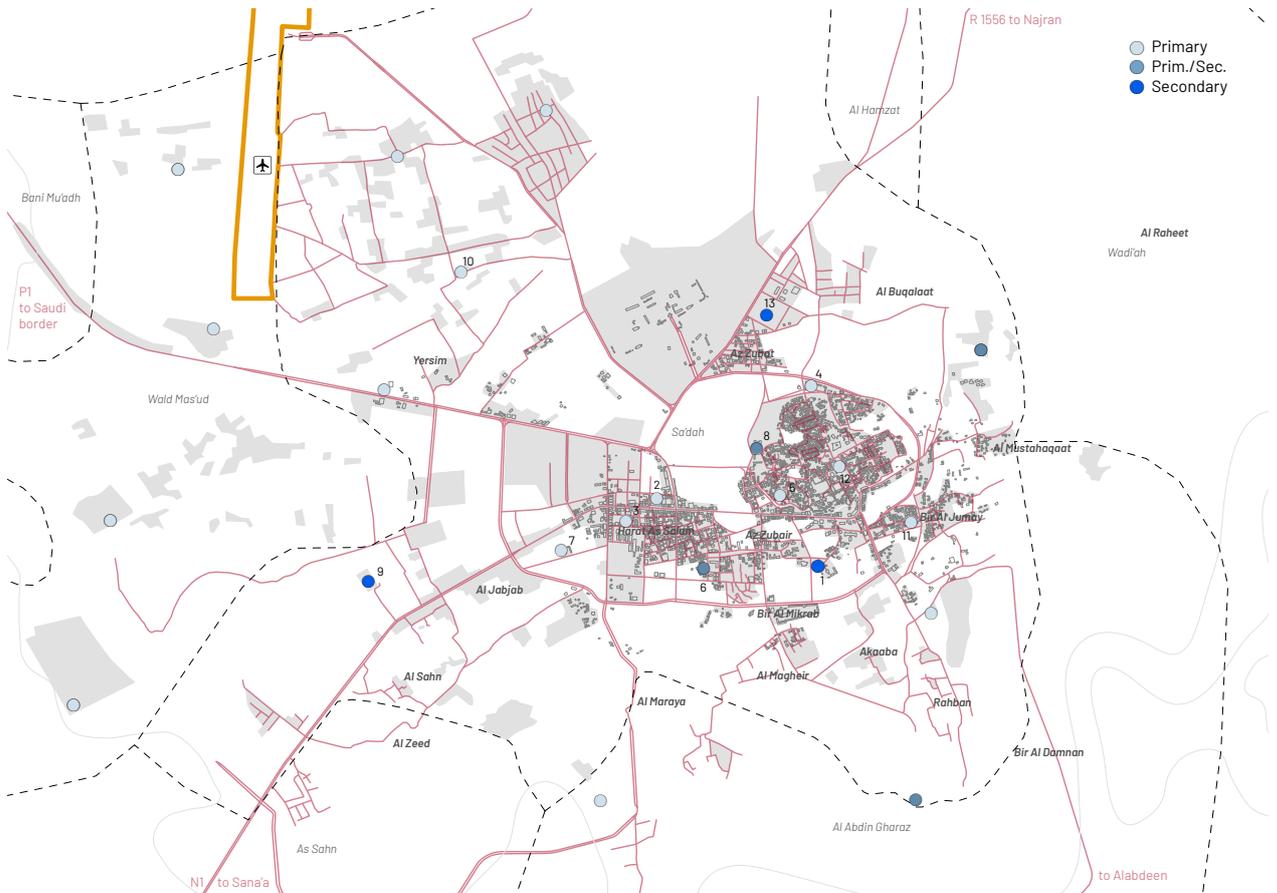
¹⁸⁸ GIZ, Yemen Water Sector - Damage Assessment Report of Twelve Water Supply and Sanitation Local Corporations (LCs) and their Affiliated Branch Offices and Utilities – Stage III, May 2018.

¹⁸⁹ CSO, Statistical Yearbook 2017, July 22, 2019, <http://www.cso-yemen.com/content.php?lng=english&id=690> (accessed April 8, 2020).

¹⁹⁰ Protecting Education, Safeguard Yemen's Future: Protect Education from Attack Briefing Paper, February 2019, http://www.protectingeducation.org/sites/default/files/documents/safeguard_yemens_future_2019.pdf (accessed April 8, 2020).

¹⁹¹ Human Rights Watch, Human Rights Watch Submission to the Committee on the Elimination of Discrimination against Women Review of Yemen's periodic report, February 2020.

Figure 34: Main Education Facilities in Sa'dah, UN-Habitat (2020)

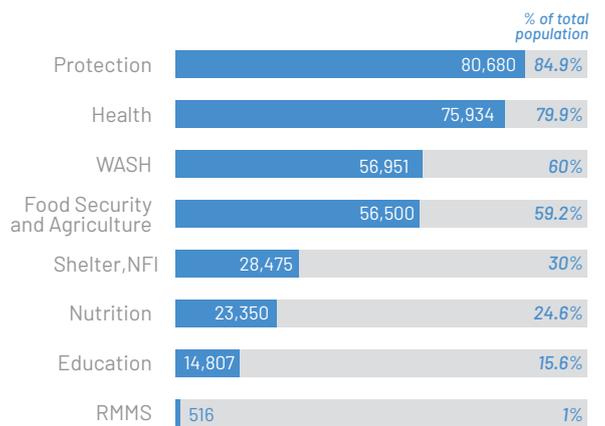


Source: Wikimapia, OpenStreepMap

Population Needs

Latest available HNO data estimated the current population in Sa'dah City at 94,918 out of which 14,807 are in acute need (15.6 percent) and 0 (0 percent) are in moderate need in terms of education assistance.¹⁹² Comparison between 2018 and 2019 HNO data indicates that the caseload of people in acute need has significantly increased in the education cluster area (up by 32 percent).¹⁹³ However, in Sa'dah City specifically, education is the cluster in which least people are in need, after the Refugees and Migrants Multisector (RMMS), in comparison with other clusters such as protection or health.

Figure 35: People in Need per Cluster in Sa'dah City, 2019



Source: UNOCHA, HNO Data 2019. Available at <https://data.humdata.org/dataset/yemen-humanitarian-needs-overview>.

¹⁹² HNO data 2019.

¹⁹³ UNOCHA, Humanitarian Update Covering 24 January – 19 February 2019, Issue 3.

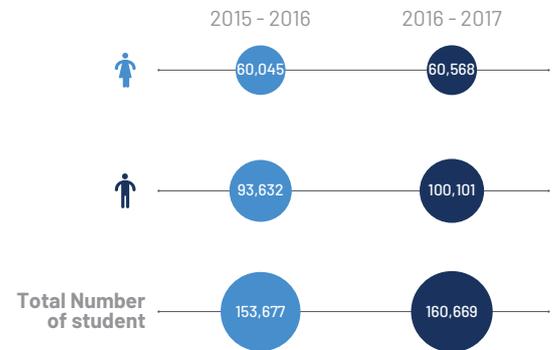
Enrollment and Attendance

For the 2015 – 2016 academic year, the total number of enrolled students for general basic and secondary schooling (public and private) for Sa'dah Governorate was 153,677 (60,045 female and 93,632 male students); for the 2016 – 2017 academic year, CSO data reports an increase with a total number of 160,669 (60,568 female and 100,101 male) students enrolled.¹⁹⁴ No enrollment in kindergartens was reported for any of these years.

Officials indicated that areas with a low level of enrollment included: Al-Makhzan warehouse in Nasreen Al-Rawda neighborhood, Harat Al-Barakah, Al-Jawazat, Al-Shaab, and Hameed Al-Qahza neighborhoods.

In the 2016 – 2017 academic year for general basic and secondary schooling (public and private), there were 4,805 teachers in Sa'dah Governorate, out of which 3,880 teachers were male and 925 were female. The relatively low number of female teachers is cited in some reports as one of the reasons for girls to drop out of school.¹⁹⁵

Figure 36: Total Number of Students Enrolled in Basic and Secondary Schooling (Public and Private), Sa'dah Governorate, 2015 – 2017



Source: CSO, Statistical Yearbook, 2017.

¹⁹⁴ CSO, Statistical Yearbook 2017, July 22, 2019.

¹⁹⁵ Al Fanar Media, "In Yemeni Camp, a Principal Struggles to Keep Girls in School", 26 May 2017, <https://www.al-fanar-media.org/2017/05/yemeni-camp-principal-struggles-keep-girls-school/> (accessed April 8, 2020).

12 Water, Sanitation and Hygiene (WASH)

Highlights

- Water infrastructure sustained damage on several occasions throughout the conflict, with recent reports indicating that 44% of the infrastructure sustained some degree of damage.
- Access to sanitation is poor. There is no public sewage system within the city and most of the people rely on the private cesspits. Moreover, reports from previous years highlight lack of hygiene awareness.
- Due to the lack of public electricity, the water supply system is dependent on fuel to run generators. Consequently, fuel shortages and increase in prices have a direct effect on the continuity of the water supply.

Overview

Already prior to the escalation of the conflict in 2015, the water sector in Sa'dah Governorate has been affected by the previous conflicts, with damage to artesian wells, pumps, water storage tanks and water supply networks reported in most districts.¹⁹⁶ While there is a public water supply system in the city, it faces several challenges such as damage, lack of spare parts, and fuel shortages. Local officials indicate that the lack of water, sanitation and drainage networks have led to the prevalence of malaria, cholera and other infectious diseases. Furthermore, some water networks have been affected by rust, which has caused a mixing of sewage with drinking water.

WASH Management

Management of water resources and uses falls under the oversight of several government entities. First, the National Water Resources Authority (NWRA, established in 1995) is a decentralized government agency with wide ranging legal powers to implement water laws and regulations, allocate water rights, approve permits for drilling wells, and undertake various other water resource management functions. Second, the Ministry of Water and Environment (MoWE), established in 2003) is the cabinet-level supervisory body that brings the water sector, and water management in particular, under the purview of the central government, thus facilitating the allocation of necessary funds. Yet, the responsibility of water uses for irrigation purposes falls under, the third, the Ministry of Agriculture and Irrigation (MoAI), which shares jurisdiction over surface water infrastructure with the MoWE.¹⁹⁷

The Water Law, ratified in 2002, is one of the two main regulations that deal with the exploitation and protection of water resources and its distribution among the population.¹⁹⁸ The second relevant regulation, the National Water Sector Strategy and Investment Program (NWSSIP), was the outcome of a multi-stakeholder initiative led by the MoWE to prepare a consolidated strategy, an action plan, and an investment program for the sector as a whole. NWSSIP's mandate aimed to ensure coordination among the stakeholders, unify policies regarding water supply in both urban and rural areas, ensure equitable allocation of funds, integrate sustainable policies and poverty reduction, monitor the performance of water supply utilities, and ensure effective financing.¹⁹⁹

The provision of urban water and sanitation services is the responsibility of the Local Corporations, which have a board, formed with the representatives of central and local government and community.²⁰⁰ The Sa'dah Water and Sanitation Local Corporation (WSLC) was established in 2006 and is currently serving an area of approximately 79,000 people.²⁰¹

¹⁹⁶ Multi-sector needs assessment conducted by the monitoring and evaluation team of ACTED, cited in Abduljalil Al Hemyari, Comprehensive Desk-Study of Sa'ada Assessments, Jan. 2011 – Jan. 2015, (UNDP, 2015), https://www.sheltercluster.org/sites/default/files/docs/comprehensive_desk_study_of_saa-da_governorate_2011-2015.pdf (accessed March 2020).

¹⁹⁷ Republic of Yemen, MWE, National Water Sector Strategy and Investment Program, (2004), <http://extwprlegs1.fao.org/docs/pdf/yem147103.pdf> (accessed September 2019).

¹⁹⁸ Naif Mohammad et al., Water Supply in a War Zone, A Preliminary Analysis of Two Urban Water Tanker Supply Systems in the Republic of Yemen (Washington DC: The World Bank, 2018), 6; <http://documents.worldbank.org/curated/en/434091532620702995/pdf/128907-WP-P165727-Water-Supply-in-a-War-Zone-PUBLIC.pdf> (accessed May, 2019).

¹⁹⁹ Ibid.

²⁰⁰ Tiwari, Sailesh et al, Dire straits : the crisis surrounding poverty, conflict, and water in the Republic of Yemen, (Washington, D.C. : World Bank Group, 2017), <http://documents.worldbank.org/curated/en/429601499145081869/Dire-straits-the-crisis-surrounding-poverty-conflict-and-water-in-the-Republic-of-Yemen> (accessed November 2019).

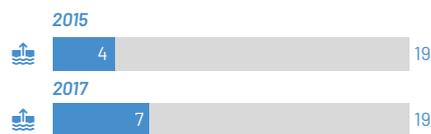
²⁰¹ Dorsch International Consultants GmbH, Yemen Water Sector - Damage Assessment Report of Twelve Water Supply and Sanitation Local Corporations (LCs) and their Affiliated Branch Offices and Utilities – Stage III, Annex 16: Technical Assessment Report for LC Sa'ada, (Bonn and Eschborn: GIZ, May 2018).

Infrastructure and Operational Capacity

The water infrastructure of Sa'dah WSLC consists of 19 wells (out of which seven are operational) four ground reservoirs (1,124 m³), two elevated tanks (155 m³) and a water supply network, of approximately 60 km. As of 2018, seven wells and two water reservoirs are operational, while four reservoirs have been destroyed.²⁰² There is no sewerage system in the city, with most of the people using septic tanks to discharge sewage.

Figure 37: Operational Wells and Water Production in Sa'dah City, 2015-2017

Operational Wells



Actual Water Production (m³/day)



Source: GIZ, Damage Assessment Report of Twelve Water Supply and Sanitation Local Corporations (LCs), 2018.

Current actual production of water stands at 2,772 m³ per day, while the demand is estimated to be 56,400 m³ per day.²⁰³ Meanwhile, prior to the escalation of the conflict, the water consumption stood at 17.5 liters per capita per day.²⁰⁴

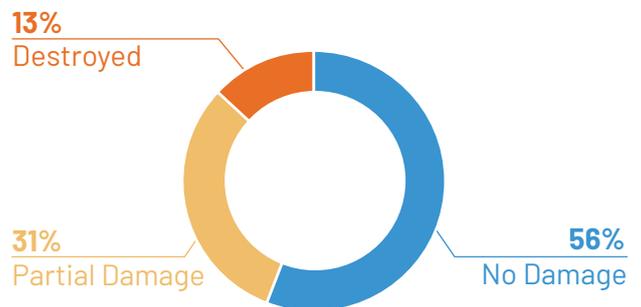
Water infrastructure in Sa'dah Governorate came under attack several times during the conflict. For instance, in 2018 UNICEF reported that a large water facility was attacked, impeding access to drinking water for over 10,000 people. According to the reporting, the same facility has been attacked three times during the conflict.²⁰⁵ Overall, almost half of the water infrastructure in the city sustained some degree of damage.²⁰⁶

In some areas, damage resulted in some neighborhoods, such as Algawazat, to be completely without water supply.²⁰⁷ Lack of equipment and spare parts have also been reported by local officials (e.g. plumbing tools, welding machines), further impeding access and availability of the WASH services.²⁰⁸

Due to the lack of public grid electricity supply, pumps and wells are operated by diesel generators and three solar power units, provided by UNICEF.²⁰⁹ Out of 11 generators, only five were operational as of 2018 due to the sustained damage. Fuel shortages on several occasions have limited the operational capacity of the water supply system. For instance, in 2017, International Committee of the Red Cross (ICRC) reported that water and sanitation systems in Sa'dah, Al Hodeidah and Ta'iz have stopped operation due to the lack of fuel following the closure of borders.²¹⁰ Meanwhile, in 2019 the urban water system in Sa'dah have reduced water output by 40 percent, as a result of the fuel shortage.²¹¹

Sa'dah WSLC faces several operational challenges. Over a quarter (27 percent) of the produced water is non-revenue.²¹² Due to the decreased revenue collection, low tariffs and high operation and maintenance cost, the Sa'dah WSLC is unable to cover all expenses.²¹³ Furthermore, the conflict also had a negative impact on the WSLC staff, as some employees have been displaced.²¹⁴

Figure 38: Damage Status of the WASH Infrastructure in Sa'dah City, 2017



Source: The World Bank Group, Yemen Dynamic Needs Assessment (DNA): Second Phase Report, 2017.

²⁰² GIZ, Damage Assessment Report of Twelve Water Supply and Sanitation Local Corporations (LCs), May 2018.

²⁰³ UN-Habitat, University of Sana'a (Academic Team), The State of Yemeni cities Development Report, Draft 1, 2019.

²⁰⁴ CSO, Statistical Yearbook 2017, July 22, 2019, <http://www.cso-yemen.com/content.php?lng=english&id=690>.

²⁰⁵ UNICEF USA, Access to water continues to be jeopardized for millions of children in war-torn Yemen, 24 July 2018, <https://www.unicefusa.org/press/releases/access-water-continues-be-jeopardized-millions-children-war-torn-yemen/34572>, (accessed March 2020).

²⁰⁶ The World Bank Group, Yemen Dynamic Needs Assessment (DNA): Second Phase Report, (Washington DC: World Bank, 2017).

²⁰⁷ GIZ, Damage Assessment Report of Twelve Water Supply and Sanitation Local Corporations (LCs), May 2018.

²⁰⁸ Ibid.

²⁰⁹ Ibid.

²¹⁰ ICRC, Border closure shuts down water, sewage systems, raising cholera risk, November 2017, <https://reliefweb.int/report/yemen/border-closure-shuts-down-water-sewage-systems-raising-cholera-risk> (accessed March 2020).

²¹¹ UNICEF, UNICEF Yemen Humanitarian Situation Report, September 2019, https://www.unicef.org/appeals/files/UNICEF_Yemen_Humanitarian_Situation_Report_Sept_2019.pdf (accessed March 2020).

²¹² GIZ, Damage Assessment Report of Twelve Water Supply and Sanitation Local Corporations (LCs), May 2018.

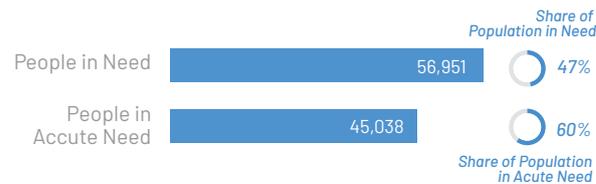
²¹³ Ibid.

²¹⁴ Ibid.

Population Needs

Data on the access to water and sanitation in Sa'dah Governorate varies. Estimations suggest that in 2013 between 41 percent and 62 percent of the population in Sa'dah Governorate had access to improved water sources, while between 21 percent and 42 percent had access to improved sanitation.²¹⁵ In 2015 it was reported that only eight

Figure 39: People in Need of Water and Sanitation Services in Sa'dah District, 2019



Source: HNO Data, 2019.

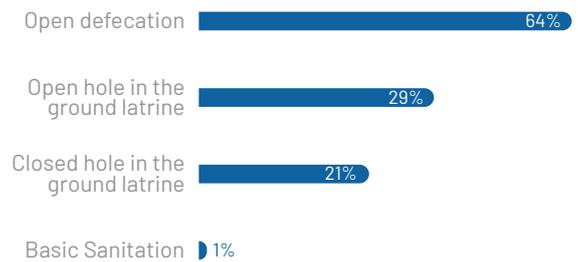
percent of the population were connected to the public water supply network, while 13 percent were relying on water tanking services.²¹⁶ Consequently, most of the population relies on fetching water. At the same time, access to improved sanitation was persistently low, with only one percent of the population having access to basic sanitation.²¹⁷

There is indication that the situation did not substantially improve in the city, as the water supply coverage has been persistently low and stood at 35 percent in 2014 and was only up to 36 percent in 2017.²¹⁸ Approximately 57,000 people, almost half of the population in Sa'dah district, need water and sanitation assistance, an increase of 68 percent, as compared to 2018.²¹⁹ Most of the city gets water supply 7-16 hours daily.²²⁰ Consequently, many households relied on the water trucking as a source of drinking water. However, reports indicate that water trucks stopped operation in January 2015.²²¹

According to the National Health and Demographics Survey conducted in 2013, approximately two-thirds of the population in Sa'dah Governorate had a place for washing hands, out of whom 58 percent used both soap and water.²²²

IDPs are particularly vulnerable when it comes to the water access due to the high prices and lack of access. In 2013, lack of hygiene awareness was also reported amongst the IDPs in Sa'dah, with practices such as open defecation and non-usage of soap reported.²²³

Figure 40: Access to Sanitation in Sa'dah Governorate, 2011-2015



Source: UNDP, Comprehensive Desk-Study of Sa'ada Assessments, 2015.

²¹⁵ Tiwari, Sailesh et al, Dire straits : the crisis surrounding poverty, conflict, and water in the Republic of Yemen, (Washington, D.C. : World Bank Group, 2017).

²¹⁶ Abduljalil Al Hemyari, Comprehensive Desk-Study of Sa'ada Assessments, Jan. 2011 – Jan. 2015, (UNDP, 2015).

²¹⁷ Ibid.

²¹⁸ GIZ, Damage Assessment Report of Twelve Water Supply and Sanitation Local Corporations (LCs), May 2018.

²¹⁹ HNO Data (2018 and 2019), <https://data.humdata.org/dataset/yemen-humanitarian-needs-overview>.

²²⁰ Ibid.

²²¹ The World Bank Group, Yemen Dynamic Needs Assessment (DNA): Second Phase Report, (Washington DC: World Bank, 2017).

²²² MoPHP and CSO, Yemen National Health and Demographic Survey, 2013, <https://dhsprogram.com/pubs/pdf/FR296/FR296.pdf> (accessed March 18, 2020).

²²³ UNICEF, UNHCR, WHO, UNOCHA and Save the Children, Joint Assessment Mission, November 2013. Cited in Abduljalil Al Hemyari, Comprehensive Desk-Study of Sa'ada Assessments, Jan. 2011 – Jan. 2015, (UNDP, 2015).

Overview

Sa'dah's main power generation facility was destroyed in April 2015 and the public power network has been offline since then. Residential electricity access is extremely limited in the city due to diesel shortages and the high cost of solar PV systems. As a result, most residents completely lack access to electricity. Diesel shortages are a key cross-sectoral constraint and further effect pumping and distributing water to the city, healthcare delivery and livelihoods. Even before the conflict, public electricity service in Sa'dah City was poor due to the lack of national and foreign investment, inadequate maintenance and the absence of qualified technicians to service the network; an estimated 10 percent of residents had access to public electricity in 2014²²⁴. Furthermore, ongoing conflict conditions have hindered reconstruction efforts.

In the complete absence of the public power grid, electricity is only available through private generators. Moreover, trucks transporting diesel fuel to Sa'dah have had difficulties accessing the city, making fuel nearly impossible to obtain.

When diesel fuel is available, it appears that the water network in the city is functioning to some degree. While some hospitals have obtained private diesel generators, fuel supply issues significantly limit their functionality. Due to the ongoing conflict, fuel must often be smuggled into Al Jumhoori Hospital – Sa'dah's most important medical facility.²²⁵ Owing to disruption in the economy and deteriorating livelihoods, the cost of solar energy is also often prohibitively expensive for residents. The situation is slightly better for commercial users where solar PV is reportedly being used by private companies (e.g., gas stations), public water pumping stations, and a hospital.

During the 2017 UN-Habitat Yemen Workshop, alongside Sana'a University and the Ministry of Planning and International Cooperation²²⁶, some of the more pressing energy issues in Sa'dah were discussed and the status of several power generation units were highlighted and proposed.

Table 2: Electricity Sector Needs In Sa'dah, 2019

District	Project	Status	Aspect	Need
Central District (Sa'dah)	Renovation of destroyed network	Destroyed	Reconstruction	Urgent
Central District (Sa'dah)	Renovating and operating a 10 MW Generator	Destroyed	Reconstruction and Operation	Urgent
Baqim	Renovating and operating 2 MW Gas Generator	Destroyed	Reconstruction and Operation	Urgent
Razih	Renovating and operating network and 3 MW Generator	Destroyed	Reconstruction and Operation	Urgent
Monabbih	Renovating and operation of 2 MW Generator	Destroyed	Reconstruction and Operation	Urgent
Governorate Level	Building a 500 MW Station to service all 15 districts	Proposed	Construction	Strategic
Governorate Level	Building a network to service all districts	Proposed	Construction	Strategic

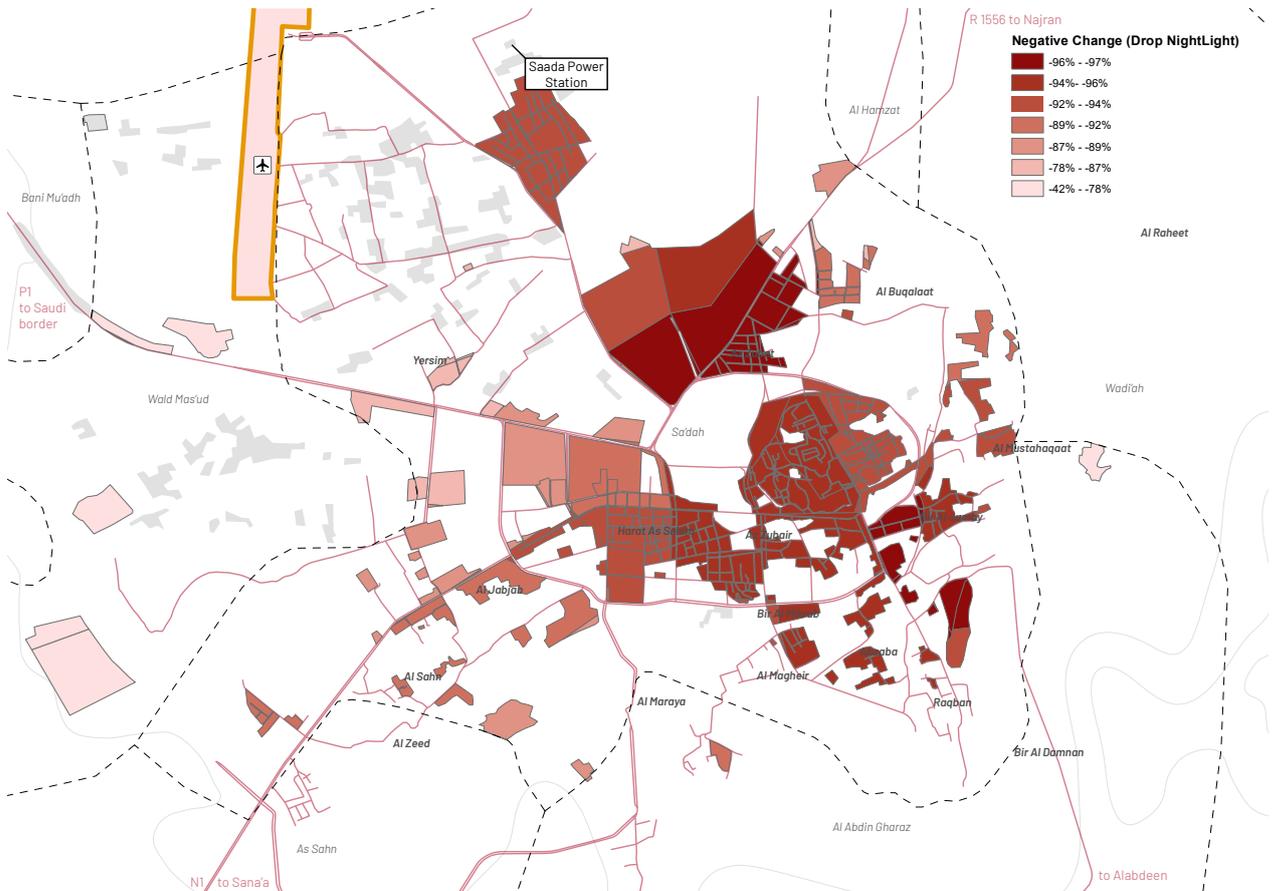
Source: MoPIC-Sa'dah Office, *Plan for Sa'dah Governorate Needs, 2019*.

²²⁴ World Bank Group, Yemen Dynamic Needs Assessment (DNA): Second Phase Report, (Washington DC: World Bank Group, 2017).

²²⁵ Ibid.

²²⁶ UN-Habitat, University of Sana'a (Academic Team), *The State of Yemeni cities Development Report, Draft 1, 2019*.

Figure 41: Nightlight Change in Sa'dah, UN-Habitat (2020)



Source: Earth Observation Group, NOAA National Centers for Environmental Information (2014-2019) Data processed by PNGK.

Local Electricity Network

The city is not connected to any central network but rather a local system through a small and limited distribution grid belonging to the Electricity Corporation. The power station in the city is 3 km away from Kattaf road and is powered by diesel. While it contains 5 (300-350 kw) generators, that is not enough to cover the power demands of Sa'dah.²²⁷ The network extends for up to 7 km within the city and benefits 25 percent of the population. There are about 2500 consumers in Sa'dah waiting to be connected. To achieve this, 18 transformers would be needed, with each transformer covering an area of 70-80 square meters, a total area of 1350 square meters. Additionally, leakage from the supply distribution system can be severe, resulting in system losses anywhere between 20-40 percent.²²⁸

Figure 42: Sa'dah Electricity Data



Source: UN-Habitat, University of Sana'a, The State of Yemeni cities Development Report, 2019; ACAPS, Yemen: Drivers of food insecurity 45 districts with pockets of population facing IPC 5 (Catastrophe), 2019; and UNDP, Comprehensive Desk-Study of Sa'ada Assessments, 2015.

227 UN-Habitat, University of Sana'a (Academic Team), The State of Yemeni cities Development Report, Draft 1, 2019.

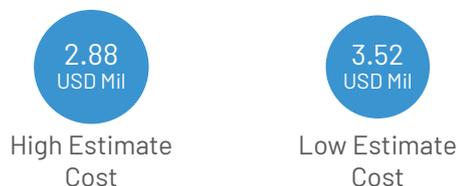
228 Ibid.

Damage to Electricity Sector in Sa'dah

As of 2015, the Sa'dah electrical substation, located in the outskirts of the town nearby the airport, appears heavily damaged as one of the structures within the compound is destroyed.²²⁹

In 2019, the first phase of repairing the electricity grid and providing generating capacity for Sa'dah station was implemented with more than 11 million YER, targeting about 2,500 subscribers out of a total of 8,000 subscribers. Maintenance and repair of four electric generators - three generators with a capacity of 3 megawatts per unit, and one generator with a capacity of 500 kilowatts. Local reports claimed the initial costs were in excess of 2.8 million USD, while the partially damaged generators required 3.75 million USD.²³⁰

Figure 43: Sa'dah Electricity City Level Damage



Source: The World Bank Group, Yemen Dynamic Needs Assessment (DNA): Second Phase Report, 2017.

Previously, in 2010, Sa'dah Governorate received five new generators from the General Electricity Corporation: Three Mitsubishi generators (3MW each) costing 1.3 million USD, and two MTU generators (2MWH each) for 400 thousand Euros. While receiving the generators, the Local Council (LC) spokesperson in the governorate, stressed the importance of these generators to cover the deficit in electrical energy and enhance the capabilities of the power station in the city of Sa'dah.²³¹ It is unclear what the status of those generators is today. However, over the course of the conflict, numerous electricity and energy installations were repeatedly targeted by airstrikes. These attacks severely impaired delivery networks and cross-sector infrastructure systems depriving the population in the city of Sa'dah from vital access. Some residents reported that electricity has been completely cut off since March 2015. Electrical towers, administrative government buildings and power generation facilities were all targeted. In Sa'dah alone, 17 fuel stations were destroyed. The power outages are detrimental to vital services in the city such as water and health care and have an impact on various walks of life within the civilian population.²³²

229 UNITAR, Situation update on the cities of Aden and Sa'dah, Yemen, April 2015, http://unosat-maps.web.cern.ch/unosat-maps/YE/CE20150402YEM/UNOSAT_report_Aden_Sa-dah_PL%2020150415_17.pdf (accessed April 3, 2020).

230 YPA, "إصلاح المرحلة الأولى من شبكة كهرباء صعدة بأكثر من 11 مليون ريال", March 2019, <http://www.yagency.net/138063> (accessed April 3 2020)

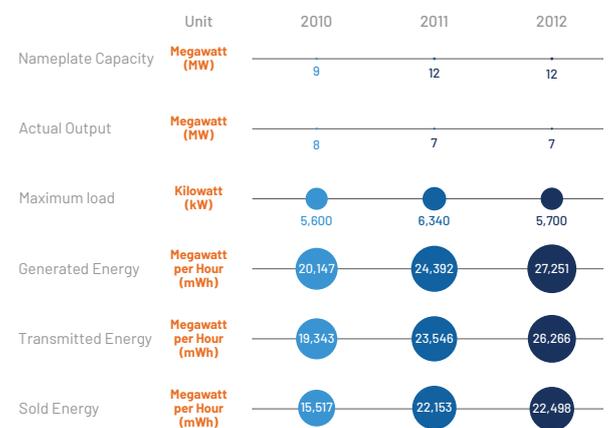
231 SABA Net, "رغد محطة كهرباء مدينة صعدة بـ 5 مولدات كهربائية", March 2010, <https://www.saba.ye/ar/news209749.htm> (accessed April 1 2020).

Capacity and Transmission

Both Sa'dah and Al Hodeidah reported the highest number of armed attacks damaging fuel and transport infrastructure since 2017 - 50 percent of power sector assets in Sa'dah were destroyed.²³³ The power sector also faces challenges due to fuel shortages, lack of proper maintenance, looting, and lack of financing. The major challenges facing the electricity sector persist even after conflicts came to an end. That is a result of the recurring attacks on Ma'rib's gas power station, power towers and transmission lines. On the other hand, in many parts of Sa'dah, electric power is typically supplied by private diesel generators and because the country has been facing severe diesel fuel shortages in the last couple of years with, averaging a power supply duration of around 7 hours a day.

In 2012, the total amount of generated power was 22,498,331 kW taking into consideration that 85 percent of the governorate is rural and depends on old traditional lighting such as firewood, kerosene and gas lamps. Nonetheless, demand for electricity had been steadily increasing, compared to years prior. However, by 2018, it was estimated that 70 percent of the energy sector employees in Sa'dah had migrated to other areas in an effort to escape renewed violence, leaving a substantial administrative strain behind them. Moreover, two of the main fuel stations in Sa'dah City, Jurman Station and the Public Station, were entirely non-functional after damage sustained in airstrikes²³⁴, further reducing fuel supplies needed for power generation.

Figure 44: Electric Power Generation and Transmission Capacity in Sa'dah Governorate, 2010-2012



Source: UNDP, Comprehensive Desk-Study of Sa'dah Assessments, 2015.

232 Amnesty International, 'Bombs Fall from the Sky Day and Night' Civilians Under Fire in Northern Yemen, October 2015, <https://www.amnesty.org/download/Documents/MDE3125482015ARABIC.PDF> (accessed April 3, 2020).

233 ACAPS, YEMEN: Drivers of food insecurity 45 districts with pockets of population facing IPC 5 (Catastrophe), April 2019.

234 Abduljalil Al Hemyari, Comprehensive Desk-Study of Sa'dah Assessments, Jan. 2011 - Jan. 2015, (UNDP, 2015).

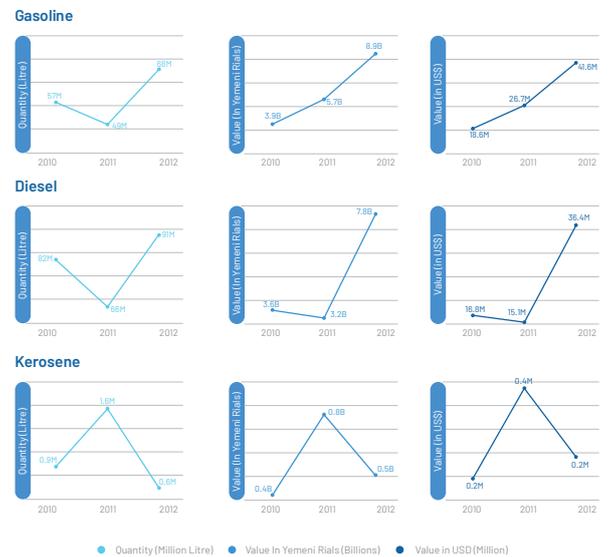
Fuels Disruption in Sa'dah

Sa'dah frequently experienced interruptions in fuel supplies. For example, between early May and mid-July 2008, Sa'dah had no diesel and no gasoline. Consequently, diesel prices had doubled. The sudden lack of availability along with the sudden inflation in prices meant that diesel power generators could not operate properly. Such disruptions often result in a complete blackout that could last for more than two months at a time.²³⁵ The disruptions in fuel supplies also mean that Sa'dah's residents continuously faced great difficulties fleeing from conflict ridden areas.²³⁶

There was a 40 percent reduction in fuel sales quantity in Sa'dah during 2012 and 2015 with 166 million liters sold in 2012 compared to only 98 million liters sold in 2015, further indicating a chronic shortage of fuels.²³⁷ In fact, by April 2015, the severe absence of petroleum resulted in very limited movement and transport, almost paralyzing the governorate entirely.²³⁸

The continued lack of fuel also had an impact on agriculture throughout the governorate as well; around 21 percent of the cultivable land is not cultivated due to the increase of fuel prices in addition to the high costs of production.²³⁹ Farmers are being squeezed by high input costs and low output prices. Sa'dah has been experiencing significant damage to crop production in farms and storage and irrigation facilities have been dysfunctional. These and the shortage of fuel have seriously affected the production and harvest of irrigated crops, including fruits and vegetables.²⁴⁰ Moreover, most essential food and non-food commodities disappeared in Sa'dah (especially during the blockade) due to constraints in the fuel supply chain, market dysfunctions, and transport restrictions.²⁴¹

Figure 45: Fuel Consumption in Sa'dah Governorate, 2010-2012



Source: UNDP, Comprehensive Desk-Study of Sa'dah Assessments, 2015.

²³⁵ Human Rights Watch, "Invisible Civilians The Challenge of Humanitarian Access in Yemen's Forgotten War", November 2008, <https://www.hrw.org/report/2008/11/19/invisible-civilians/challenge-humanitarian-access-yemens-forgotten-war> (accessed April 2, 2020).

²³⁶ BBC, "اليمن: تزدى الأوضاع الإنسانية في صعدة وغارات التحالف متواصلة", May 2015, https://www.bbc.com/arabic/middleeast/2015/05/150509_yemen_saada_civilians_misery (accessed April 2 2020).

²³⁷ MoPIC, Oil Sector Recovery in Yemen Urgently Needed. Yemen Socioeconomic Update. Issue (14), May 2016, https://reliefweb.int/sites/reliefweb.int/files/resources/yseu14_english_final_1.pdf (accessed April 2 2020).

²³⁸ Yemen Protection Cluster, Daily Situation Update, No. 16 Covering the period of 15 - 18 April 2015, https://www.globalprotectioncluster.org/_assets/files/field_protection_clusters/Yemen/pc-situation-update-no-16-april-2015.pdf (accessed April 2 2020).

²³⁹ UNDP, Comprehensive Desk-Study of Sa'dah Assessments, Jan. 2011 - Jan. 2015.

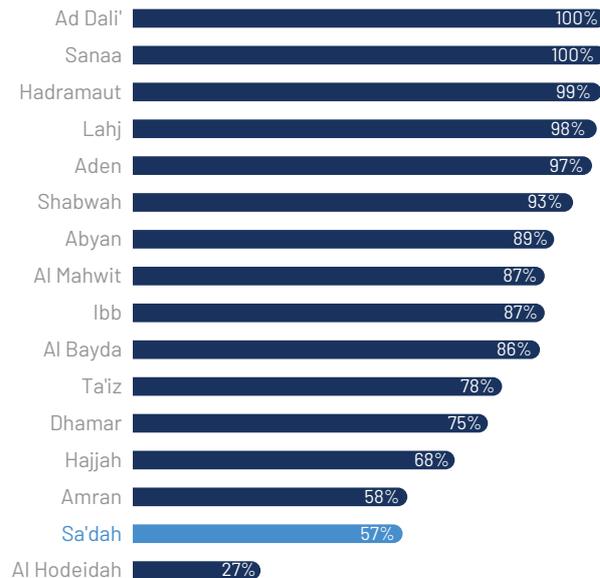
²⁴⁰ FAO, GIEWS Country Brief Yemen, December 2018, http://www.fao.org/giews/countrybrief/country/YEM/pdf_archive/YEM_Archive.pdf (accessed April 2, 2020).

²⁴¹ Human Rights Watch, "Yemen: Coalition Blocking Desperately Needed Fuel", May 2015, <https://www.hrw.org/news/2015/05/10/yemen-coalition-blocking-desperately-needed-fuel> (accessed April 2, 2020).

Liquefied Petroleum Gas (LPG) and Kerosene

LPG in Sa'dah costs more than it does anywhere else in Yemen. With an average percent change in cost of 113 throughout Yemen, LPG prices have risen by 170 percent in Sa'dah.²⁴² Approximately 57 percent of households in Sa'dah report using LPG; one of the lowest penetration rates in the entire country.²⁴³

Figure 46: Percentage of Households Using LPG in Yemen Governorates, 2005



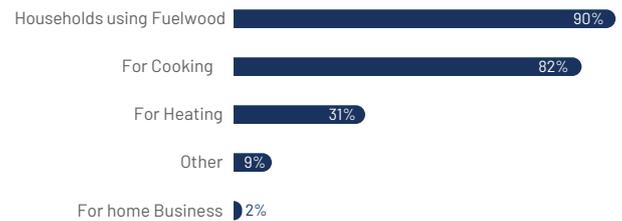
Source: Joint UNDP / WORLD BANK (ESMAP), 2005.

Fuelwood and Charcoal Usage

Prior to the conflict, most rural households in Sa'dah relied on firewood to sustain their livelihoods.²⁴⁴ Ninety percent of the population used fuelwood, 82 percent for cooking, 31 percent for heating, 2 percent for business, and 9 percent for miscellaneous purposes.

Charcoal serves as an alternative form of energy among 3 percent of Sa'dah's households, 66 percent of whom use it for heating purposes while only 16 percent use it for cooking.²⁴⁵ It is safe to assume that these estimates have increased in recent years.

Figure 47: Uses of Fuelwood in Sa'dah Governorate, 2005

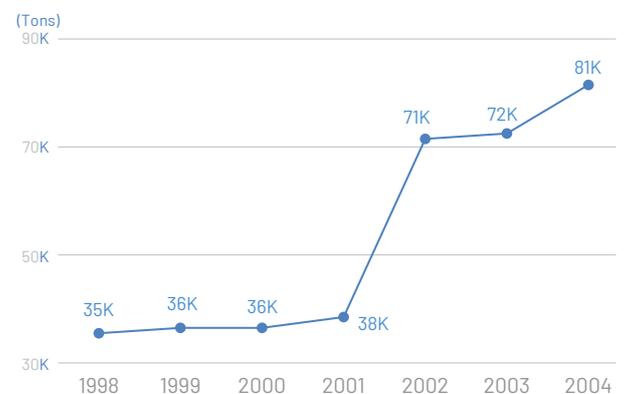


Source: Joint UNDP / WORLD BANK (ESMAP), 2005.

Other Biomass energy sources

Most of the population of Sa'dah cannot access electricity daily. With an abundance in rural area, farmland and grazing livestock, the population quickly turned to more readily available sources, such as dung. National consumption data shows that resorting to dung for the purposes of heat generation was continually on the rise even before the conflict intensified, indicating that the local population was burdened by the continuous lack of electricity and the continuous disruptions in other modern energy sources. By 2004, dung production increased by 43 percent compared to 1998.²⁴⁶

Figure 48: Sa'dah Dung Production From Cattle, Sheep, Goat and Camels (Ministry of Energy 1998-2004)



Source: Lahmeyer International, Renewable energy resource assessment draft report, 2006

Renewable Energy Potential

Owing to the landscape and surrounding mountains according to the Electricity Ministry, Sa'dah has the potential to operate 2,567 solar water heating systems and generate 5.213 MW.²⁴⁷

²⁴² World Bank Group, DNA Yemen Dynamic Needs Assessment Phase 3 – 2018, (Washington DC: 2019).

²⁴³ Joint UNDP / World Bank Energy Sector Management Assistance Programme (ESMAP), Household energy supply and use in Yemen: volume ii, annexes. December 2005, [http://www.infradev.org/InfraDev/assets/10/documents/Yemen%20-%20Household%20Energy%20Supply%20and%20Use%20in%20Yemen_Vol2%20\(2005\).pdf](http://www.infradev.org/InfraDev/assets/10/documents/Yemen%20-%20Household%20Energy%20Supply%20and%20Use%20in%20Yemen_Vol2%20(2005).pdf) (accessed April 2, 2020).

²⁴⁴ Ibid.

²⁴⁵ Ibid.

²⁴⁶ Lahmeyer International, Renewable energy resource assessment draft report. Ministry of electricity the republic of Yemen renewable energy strategy and action plan, August 2006.

²⁴⁷ Ibid.

14 Solid Waste Management (SWM)

Highlights

- Very limited secondary data on the solid waste management is available in Sa'dah and further assessments are needed to determine the situation.
- Waste collection rates have decreased in Sa'dah following the escalation of the conflict, while much of the solid waste fleet has been deemed not operational during the early stages of the conflict in 2015.
- Earlier assessments suggest high rates of the debris accumulation in Sa'dah, which can often be contaminated. Further studies and assessments are needed to address this issue.

Overview

Provision of solid waste management services has been severely disrupted in many parts of Yemen as a result of the conflict. Direct damage, lack of repairment parts, and reduced staffing levels had a direct effect on the efficiency of the service provided. Lack of fuel and its increased prices, as well as access constraints also resulted in a reduced waste collection, causing garbage accumulation on streets in many neighborhoods across the county.

In Sa'dah City, the operational capacity of the solid waste services has decreased following the escalation of the conflict. Limited secondary data suggests that the collection frequency has been on declined after 2015, and the solid waste fleet sustained damage, making almost three quarters of it non-operational. However, further assessments are needed to determine the current status of it. In addition, high levels of damage in Sa'dah city is expected to lead to the accumulation of debris in the city, which can often be contaminated.

Stakeholders and Legal Framework

Following the unification of Yemen in 1990, SWM fell under the oversight of several governmental entities. Conventionally, the Ministry of Housing and Municipalities (MoHM) had been the agency responsible since its inception in the 1970s.²⁴⁸ After 1990, the MoHM was renamed the Ministry of Housing and Urban Development (MoHUD). In 1997, the administrative functions for SWM shifted to the Ministry of Public Works and Highways (MPWH). Then, in 1999, Cities' Cleaning and Improvement Fund (CCIF), a public sector entity responsible for managing the financial aspects for SWM and city improvements, was established. The Public Cleansing Law (Law 39/1999) was passed the same year and a bylaw was drafted to provide detailed regulations for the Public Cleansing Law.²⁴⁹ Following the LAL of 2000, local authorities became responsible for waste collection and management, and in 2006, the responsibility for SWM came under the Ministry of Local Administration (MoLA) and the districts' LCs.²⁵⁰

The NSSWM tasked MoLA with the authority to reorganize and manage policy making, coordinate at the national level, as well as the supervision of the work of LCs in their own districts.²⁵¹ In 2008, the General Directorate for Solid Waste Management was established within MoLA as the supervising agency in charge of implementing the legal framework, issue national strategy and guidelines, coordinate with CCIFs, and distribute government funds. The NSSWM also recognized the need to revise the Public Cleansing Law and bring it in line with the decentralization process to transfer authority to MoLA and LCs. However, the escalation of the conflict in Yemen after 2015 prevented implementation.²⁵²

The CCIFs are managed by the governorate council. According to the NSSWM, 83 percent of the capital investment for all CCIFs came from foreign donors, but also included monies allocated by the central government.²⁵³ Cabinet Decree 236 of 2000 specified that at least 60 percent of the fund must be used to finance SWM activities, while the remainder should be used to finance other projects, such as urban rehabilitation and beautification. CCIF collects most of the fees through surcharges, such as a five percent surcharge on electricity bills and mobile credits.²⁵⁴ While local taxation is the main source of revenue for CCIF, it also receives transfers from the central government. Income sources for CCIF include 5 percent surcharge to the electricity bill, mobile credit surcharge, and other 23 types of fees. Following the escalation of the conflict, lack of water and electricity, reduced mobile phone coverage, and interruption of banking services led to less revenues collected by CCIF. Consequently, this affected payment of salaries of civil service and private sector employees.

Several development actors support Waste Management in Yemen, mainly through working at the institutional level and through funding provision. A limited number of interventions was implemented directly at a governorate or city level. The most prominent international organizations and development actors include the World Bank, World Bank, Japan International Cooperation Agency (JICA), Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), UNDP, United States Agency for International Development (USAID), Mercy Corps (MC), UNICEF and ICRC.²⁵⁵

²⁴⁸ Republic of Yemen, MoLA, National Strategy for Solid Waste Management 2009-2013, (2009), 13-17, https://www.iu-info.de/fileadmin/user_upload/03_Arbeitsfelder/3.5_Kreislauf_und_Abfallwirtschaft/3-Yemen_National_SWM_Strategy.pdf (accessed January 15, 2020).

²⁴⁹ Ibid.

²⁵⁰ Ibid.

²⁵¹ Ibid.

²⁵² Ibid.

²⁵³ Ibid.

²⁵⁴ Ibid.

²⁵⁵ Ibid.

Infrastructure and Operational Capacity

Sa'dah City is served by the Althaseen dumpsite, located in the Kohzah area.²⁵⁶ There is no secondary data on the physical state and operational status of the landfill, and further assessments are needed to determine whether it has been affected by the conflict. Overall, however, out of 21 official landfills in Yemen, only six were operating with some degree of management as of 2009.²⁵⁷ Lack of control of the dumpsites can lead to a devastating effect on the environment and consequently affect human health.

The effect of conflict on the quantity of solid waste is indirect. While the generation of the solid waste in Sa'dah Governorate has increased by 12 percent between 2013 and 2017, the actual per capita waste generation remained almost the same.²⁵⁸ The increase is associated with the population growth in the governorate, which also saw a 12 percent increase.

Figure 49: Estimated Quantity of the Solid Waste in Sa'dah Governorate, 2013-2017



Source: CSO, Statistical Yearbooks 2013-2017.

As for the operational capacity, UNDP assessment indicates that before the crisis garbage collection took place daily and that the same collection frequency was upheld following the escalation of the conflict in 2015.²⁵⁹ However, according to the same assessment, there were only two collections during the assessed month in 2015. Another assessment, conducted in 2016, suggests that the waste collection rates in Sa'dah decreased after 2015 from

50 percent to 30 percent.²⁶⁰ Overall, this suggests a declining trend in the collection frequency, while the discrepancy can be associated with the different coverage. Even if the collection rates remained unchanged, different parts of the city may receive various coverage, with some neighborhoods left completely unserved.²⁶¹

In addition, already as of 2015, three quarters of the waste collection fleet has been deemed non-operational.²⁶² Staffing levels, in turn, have reportedly not been affected by the escalation of the conflict, with all sweepers, drivers, collectors and supervisors working as of 100 percent in 2015.²⁶³

As a result of the active fighting and explosions, large quantities of accumulated debris can be expected in Sa'dah. While no recent data is available on the quantity of debris in Sa'dah City, eight months into the escalation of the conflicts in 2015, it was estimated that 391,680 tons of debris have been accumulated there.²⁶⁴ Such waste can often be contaminated with household products and chemicals, as well as UXO, making it difficult to manage and handle. Moreover, most of these wastes can't be recycled and need to be disposed at a landfill sites, calling for careful management and planning.²⁶⁵

Figure 50: Status of the Waste Collection Fleet in Sa'dah, 2015



Source: UNPD, Yemen Emergency Waste Assessment, 2015.

²⁵⁶ Olmo Forni, Aiden Short, et al., Yemen Emergency Waste Assessment, (UNDP, 2015), <https://www.undp.org/content/dam/yemen/PovRed/Docs/UNDP-YEM-DWR.pdf> (accessed December 18, 2019).

²⁵⁷ Conflict and Environment Observatory, How Yemen's conflict destroyed its waste management system, August 2019, <https://ceobs.org/how-yemens-conflict-destroyed-its-waste-management-system/> (accessed January 19, 2020).

²⁵⁸ CSO, Statistical Yearbook 2017, July 22, 2019.

²⁵⁹ Olmo Forni, Aiden Short, et al., Yemen Emergency Waste Assessment, (UNDP, 2015).

²⁶⁰ UNDP, Country: Republic of Yemen Project Document, 2016, <https://www.undp.org/content/dam/yemen/Projects/docs/Prodoc-WASH.pdf> (accessed March 2020).

²⁶¹ Olmo Forni, Aiden Short, et al., Yemen Emergency Waste Assessment, (UNDP, 2015).

²⁶² Ibid.

²⁶³ Ibid.

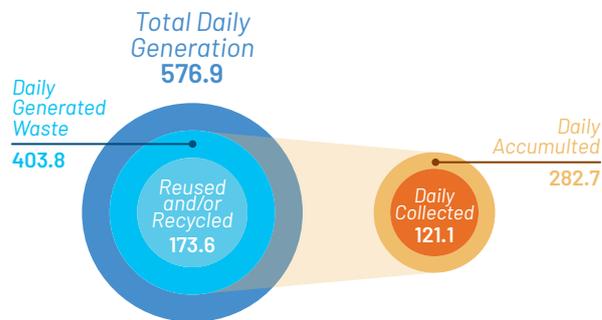
²⁶⁴ UNDP, Country: Republic of Yemen Project Document, 2016.

²⁶⁵ Conflict and Environment Observatory, How Yemen's conflict destroyed its waste management system, August 2019

Population Needs

While very limited secondary data on the solid waste management in Sa'dah City exists, existing sources point towards a conclusion that the provision of SWM services has declined. Overall situation in Yemen also confirms this trend, as almost all of the respondents (89 percent) in the assessment conducted by the WASH Cluster and REACH in 2018 indicated that their household garbage was not picked.²⁶⁶ Consequently, most of the respondents reported leaving garbage on the streets or burning and/or burying it.²⁶⁷ Such practices can lead to the accumulation of garbage on the streets and in turn contribute to the spread of diseases.

Figure 51: Estimated Solid Waste Generation in Sa'dah (Tons), 2015



Source: UNDP, Country: Republic of Yemen Project Document, 2016.

²⁶⁶ WASH Cluster Yemen, REACH, Yemen: WASH household assessment - Water, Sanitation and Hygiene Assessment, November, 2018, <https://reliefweb.int/report/yemen/yemen-wash-household-assessment-water-sanitation-and-hygiene-assessment-november-2018> (accessed February 2020).

²⁶⁷ Ibid.

Highlights

- The roads in Sa'dah governorate and city, as well as other transportation sector assets such as bridges, sustained extensive damage during the various stages of the conflict and require rehabilitation. Damaged paved roads, coupled with the mountainous terrain in the western part of the governorate hinder the mobility between the districts, obstructing the economic and social ties.
- The fuel prices further deteriorate the situation, as the prices have more than doubled as compared to the pre-crisis levels.
- At various stages of the conflict, road blockades alongside damage were reported, further hindering the mobility and access.

Overview

Sa'dah Governorate is in the northwest of Yemen and borders Hajjah and Amran governorates to the south and Al Jawf governorate to the east. Sa'dah City's strategic importance derives from its location on the only direct highway between Sana'a city and Saudi Arabia. The asphalted highway was constructed in 1979s and passes through Sa'dah basin and Sa'dah City and stretches to Baqim.²⁶⁸ To the northeast of the Sa'dah City, another important road connects it to the border crossing Al Buq.

The road network in Sa'dah City sustained significant damage since the escalation of the conflict in 2015, affecting the functionality of roads and mobility. As of 2017, reportedly, the only fully functional road in the city is Sana'a road.²⁶⁹ Fuel shortages and instability have further rendered the mobility within the city.

Stakeholders and Legal Framework

The two main governmental authorities responsible for managing the transportation sector are the Ministry of Interior (MoI) and the Ministry of Transport (MoT). The former is responsible for inspecting and licensing vehicles and services while the latter sets policy and manages airport and port facilities.²⁷⁰ In addition, the MPWH supervises the overall road infrastructure, including development and maintenance.²⁷¹ Its role, however, is restricted to the network of rural roads. The Land Transport Law was introduced on 30 March 2003 to provide the regulatory framework for land transportation.²⁷² Prior to this, land transportation services were provided through two syndicates in the governorate (passenger and freight transport), for which companies had to register through a lengthy and expensive process. The new law sets guidelines for private companies on passenger and trucking transportation services:

- Trucking companies: the law specifies the possession of a minimum of 10 trucks, not more than two years old and a limited amount of 250 heavy trucks, 400 medium trucks or 300 light trucks per company. The MoT awards only one-year renewable licenses based on the information each company is required to submit, which includes policies, regulations and contracts among others. The law also allows companies to submit bank guarantees in lieu of registration fees. This led to a reduction of freight rates by 40 percent a year.
- Passenger transportation services: companies should own no less than 10 buses and have several passenger stations in various city points. All public bus companies in Yemen are private, apart from the state-owned Local Transport Corporation.

The law has never been fully enforced, mostly because of financial and technical issues but also because of absence in human resources capacity. For instance, while in theory the law requires all transportation vehicles to be examined, in practice many vehicles are considered unfit despite being in service.²⁷³ Further regulations were introduced in 2004 that deal with cargo and trucks freight transport, passenger (bus) transport, and car rentals.

²⁶⁸ Marieke Brandt, *Tribes and Politics in Yemen: A History of the Houthi Conflict*, (Oxford: Oxford University Press, 2017).

²⁶⁹ The World Bank Group, *Yemen Dynamic Needs Assessment (DNA): Second Phase Report*, (Washington DC: World Bank, 2017).

²⁷⁰ World Bank Group, *Yemen Transport Sector Input to the Yemen Policy Note no. 4. on Inclusive Services Delivery*, (World Bank, 2017) 4 October 2017, <http://documents.albankaldawli.org/curated/ar/636961508411397037/pdf/120532-WP-P159636-PUBLIC-Yemen-Transport-Input-Note-4-10-17WE.pdf> (accessed March 15, 2020).

²⁷¹ UNOPS, *Yemen Integrated Urban Emergency Services Project, Environmental and Social Management Framework*, (2018), <http://documents.worldbank.org/curated/en/494961526464057594/pdf/P164190-ESMF-Final.pdf> (accessed March 15, 2020).

²⁷² World Bank Group, *Yemen Transport Sector Input to the Yemen Policy Note no. 4. on Inclusive Services Delivery*, 2017.

²⁷³ Ibid.

Infrastructure and Operational Capacity

The road network expansion in the 1970s and 1980s allowed for an improved trade links both within the Sa'dah Governorate and with other governorates. The Sana'a – Sa'dah road was paved in 1979 and cut the journey time between the cities from 10 to 4 hours, while also allowing for a greater variety of the vehicles.²⁷⁴ The road also served as an important economic link, facilitating the transportation of goods, such as sale of fruits from Sa'dah in Sana'a markets. The highway was then extended to Baqim, in the Northwest of the governorate, and ultimately the border of Saudi Arabia. At the same time, the transportation links were improved between Sa'dah and the Red Sea coast, by paving of the roads via Huth district in Amran governorate.²⁷⁵

Meanwhile, the road network between the districts of Sa'dah Governorate has also been improved, fostering economic and social ties. Other roads in the governorate include dirt and damaged paved roads, which are often monitored and controlled by locals. Sometimes, local movement permission may be required, and the journey may be subject to a tax.²⁷⁶

The western part of Sa'dah Governorate is dominated by the mountains, belonging to the Sarawat mountain range. A lot of ancient trade and transportation routes crossed the Western Mountains range. However, due to the difficult terrain, construction of modern roads is difficult. In 2000s, the GoY started the construction of the Northern Ring Road, a 196 km road running through Sa'dah City, Qatabir, Monabbih, Ghamr, Razih, Al Malahit and Harad, and being the only viable link connecting Sa'dah City with district capitals and the remote mountains range.²⁷⁷ Since 2004, however, the construction was hindered due to the difficult terrain and political instability, resulting in some parts of roads still unpaved.²⁷⁸

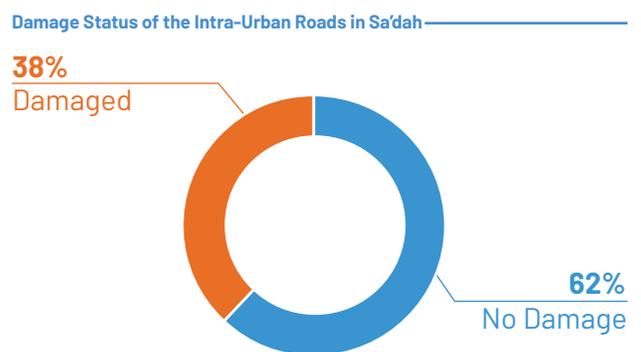
Road Network

Already prior to conflict, the road network was relatively weak in Yemen, although expansion took place. Paved roads reached approximately 9 percent of all roads, or 11 km for every 1,000 km².²⁷⁹ Currently, only 127 km of the intra-urban roads in Sa'dah City are asphalt roads, which represents around seven percent of the total area of internal roads.²⁸⁰ At the governorate level, there are 549 km of asphalt roads.²⁸¹

The road network sustained extensive damage throughout the different stages of the conflict. For instance, important transportation infrastructure has also been destroyed, such as bridges, during the 2007-2009 conflict. In 2011, many asphalt roads became unfit for travelling due to airstrikes and artillery shelling.²⁸² The local authorities budgeted over 1 billion YER for the 116 projects of public coats and works, yet, as of 2013 the disbursement rate did not exceed 20 percent.²⁸³ The Social Fund for Development (SFD), has also been working on implementing roads projects in Sa'dah. However, reports from 2016 indicate that several bridges in Sa'dah Governorate remained destroyed, with alternative routes difficult to access.²⁸⁴

Currently, over a third of the intra-urban roads in Sa'dah City are damaged.²⁸⁵ However, it is important to note that during a previous year, 74 percent of the intra-urban roads in Sa'dah were reported to sustain some degree of damage, suggesting that the situation has improved.²⁸⁶ The local media reported in February 2020 that 3 billion and 127 million YER has been approved to implement priority road projects in Sa'dah Governorate in 2020.²⁸⁷

Figure 52: Damage Status of the Intra-Urban Roads in Sa'dah



Source: The World Bank Group, *Yemen Dynamic Needs Assessment (DNA): Phase 3, 2018*.

²⁷⁴ Barak A. Salmoni, Bryce Loidolt, and Madeleine Wells, *Regime and Periphery in Northern Yemen The Huthi Phenomenon*, (Santa Monica, CA: RAND, 2010).

²⁷⁵ Ibid.

²⁷⁶ Ibid.

²⁷⁷ Marieke Brandt, *Tribes and Politics in Yemen: A History of the Houthi Conflict*, (Oxford: Oxford University Press, 2017).

²⁷⁸ Ibid.

²⁷⁹ The World Bank, *Economic Growth in the Republic of Yemen: Sources, Constraints, and Potentials*, (Washington, D.C.: World Bank, 2002), 46-48.

²⁸⁰ UN-Habitat, University of Sana'a (Academic Team), *The State of Yemeni cities Development Report, Draft 1, 2019*.

²⁸¹ CSO, *Statistical Yearbook 2017*, July 22, 2019.

²⁸² Abduljalil Al Hemyari, *Comprehensive Desk-Study of Sa'ada Assessments*, Jan. 2011 – Jan. 2015, (UNDP, 2015).

²⁸³ Ibid.

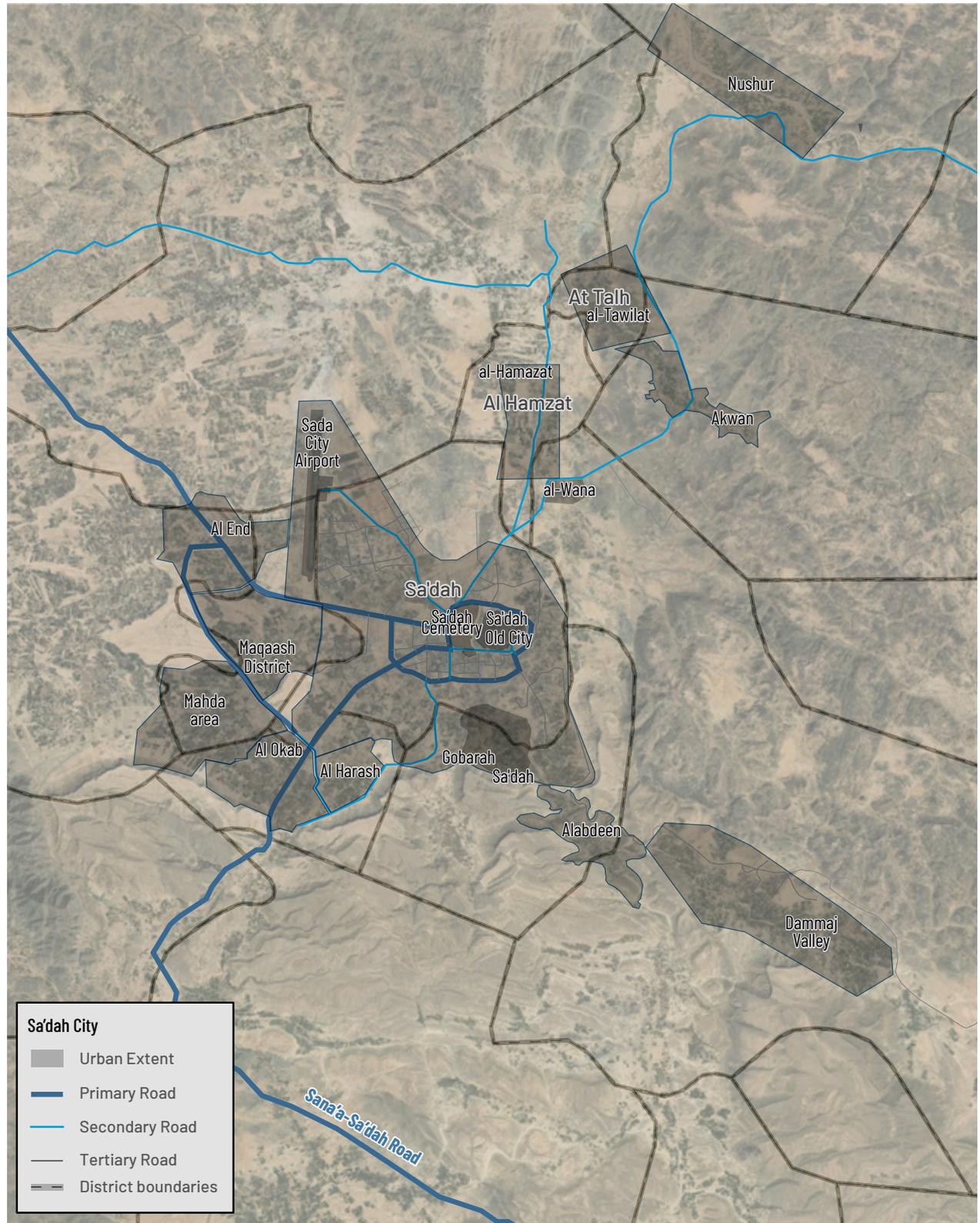
²⁸⁴ Logistics Cluster, *World Food Programme, Yemen Situation Update, 2016*, <https://reliefweb.int/report/yemen/yemen-situation-update-29-june-2016> (accessed April 2020).

²⁸⁵ World Bank Group, *DNA Yemen Dynamic Needs Assessment Phase 3 – 2018*, (Washington DC: 2019).

²⁸⁶ The World Bank Group, *Yemen Dynamic Needs Assessment (DNA): Second Phase Report*, (Washington DC: World Bank, 2017).

²⁸⁷ Yemen News Agency (Saba), "Over 3 billion riyals approved for road projects in Saada during 2020", February 8, 2020, <https://www.saba.ye/en/news3087201.htm> (accessed April 2020).

Figure 53: Road Network in Sa'dah City.



Source: OSM, SecureWatch, UNOCHA.

Sa'dah Airport

Sa'dah airport is one of the domestic airports in Yemen, located northwest of the city. The airport was reportedly closed in 2009, except for military operations.²⁸⁸ The damage assessment conducted in 2015 also indicates extensive damage in Sa'dah airport, with at least five destroyed structures and three craters on the airstrip.²⁸⁹

Mobility

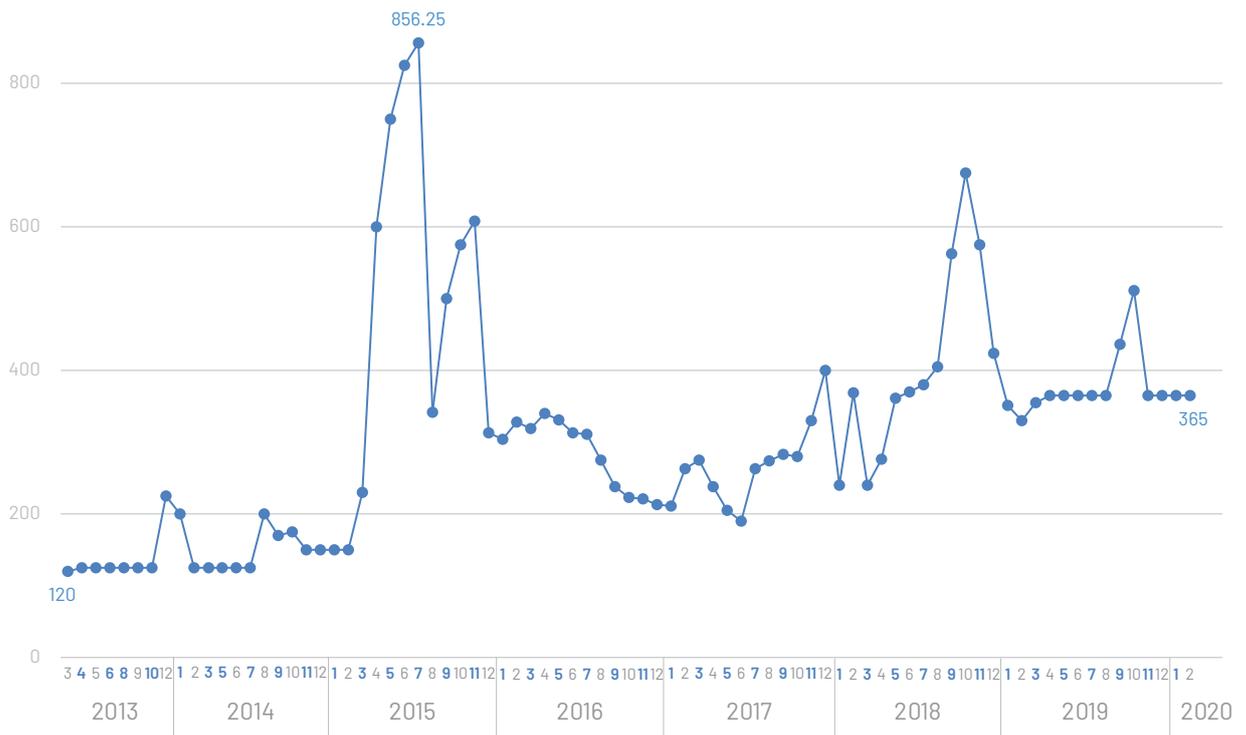
The intra- and inter-governorate mobility has been hindered at various stages of the conflict due to damage, road blockades and wider instability. During 2007-2009, the Houthis closed some parts of the roads, and destroyed other ones, notably including parts of the Sana'a-Sa'dah route, as well as roads between the Razih and Shada'a, Baqim and Majz, and Sa'da and Dahyan.²⁹⁰ Within the same period, the GoY has also reportedly blocked traffic to some areas, including the Bani Mu'adh and along the Sana'a-Sa'dah road.²⁹¹

As of April 2019, Sa'dah District is the only district classified by UNOCHA as accessible in Sa'dah Governorate. All other districts are classified as hard-to-reach due to either conflict, bureaucracy, logistics, or multiple of the above.²⁹²

While the road to the south towards Sana'a and the road towards the north are open as of 28 January 2020, two bridges on the Sa'dah-Baqim road are restricted with alternative access aside the bridge, and one bridge is restricted with alternative access aside the bridge for soft vehicles only.²⁹³ Drivers also take road diversions, often lengthy ones, due to the conflict insecurity.

The mobility is further obstructed due to the increased fuel price, as the petrol prices in Sa'dah have been very volatile throughout the conflict. The pre-conflict price stood at 158 YER per liter,²⁹⁴ while as of February 2020 the price stands at 365 YER per liter (up 131 percent). The highest price was recorded in June 2015 and stood at 856, an increase of 442 percent as compared to the pre-crisis levels. Indeed, in 2015, it was one of the highest recorded petrol prices in Yemen, after Amran and Aden cities.

Figure 54: Fuel Prices in Sa'dah Market, 2013-2020



Source: WFP, Yemen – Food Prices Database. Available at <https://data.humdata.org/dataset/wfp-food-prices-for-yemen>.

²⁸⁸ UNOCHA, Yemen – Sa'ada Emergency Situation Report #1, August 24, 2009, https://reliefweb.int/sites/reliefweb.int/files/resources/793C4139C2EBA1CC4925761D00032EC9-Full_Report.pdf (accessed April, 2020).

²⁸⁹ UNITAR, Situation Update on The Cities Of Aden And Sadah, Yemen, April 22, 2015.

²⁹⁰ Barak A. Salmoni, Bryce Loidolt, and Madeleine Wells, Regime and Periphery in Northern Yemen The Huthi Phenomenon, (Santa Monica, CA: RAND, 2010).

²⁹¹ Ibid.

²⁹² UNOCHA, Yemen: Hard to Reach Districts Dataset, April 29, 2019, <https://data.humdata.org/dataset/yemen-hard-to-reach-districts>.

²⁹³ Yemen Logistics Cluster, Access Constraints as of 28 January 2020, January 2020, https://logcluster.org/sites/default/files/maps/yem_lc_op_accessconstraints_a3l_20200128.pdf (accessed March 2020).

²⁹⁴ WFP, Yemen Market Watch Report, March 2019 – Issue No. 34, 2019, https://docs.wfp.org/api/documents/WFP-0000104941/download/?_ga=2.147311287.1666722025.1585221539-906459213.1576756458 (accessed March 2020).

Vehicles and Road Safety

Between 1996 and 2017, almost 27,800 vehicles have been registered in Sa'dah Governorate, with most of the number plates issued for public vehicles (almost 70 percent).²⁹⁵ The amount of the new plate numbers issued per year has been decreasing, as 813 and 832 new number plates were issued in 2013 and 2014 respectively, while in 2015 the number fell to 464 and no new number plates were issued in 2016. In 2017, the number reached 196.

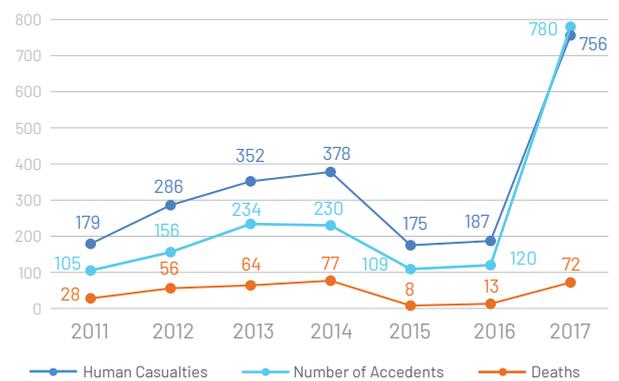
Figure 55: Registered Vehicles in Sa'dah Governorate, 1996-2017



Source: CSO, Statistical Yearbook, 2017.

The road safety in Yemen is generally poor and there is no seat-belt law, as well as a law obliging motorcyclists to wear helmets.²⁹⁶ In Sa'dah Governorate, the number of traffic accidents and associated deaths and casualties has been on increase between 2011 and 2014, sharply falling in 2015-2016, and then rising again in 2017. This may be associated with wider instability, reduced mobility and decrease in transportation usage.

Figure 56: Number of Traffic Accidents, Casualties and Deaths in Sa'dah Governorate, 2011-2017



Source: CSO, Statistical Yearbook, 2011-2017.

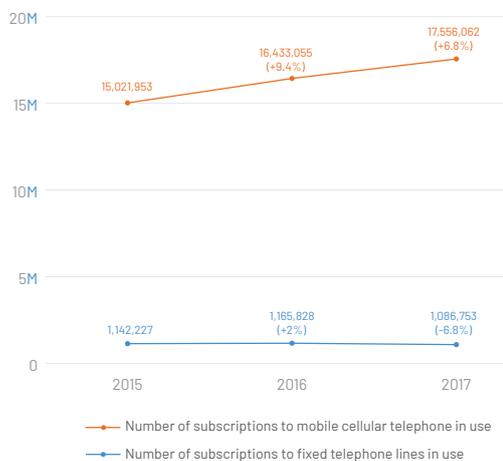
²⁹⁵ CSO, Statistical Yearbook 2017, July 22, 2019, <http://www.cso-yemen.com/content.php?lng=english&id=690>.

²⁹⁶ WHO, Eastern Mediterranean Status Report on Road Safety, (WHO Regional Office for the Eastern Mediterranean, 2010), <http://applications.emro.who.int/dsaf/dsa1045.pdf> (accessed March 18, 2020).

Overview

In 2017, country-wide the total number of subscriptions to fixed telephone lines in use was estimated at 1,086,753, indicating a decrease from the 1,165,828 lines in use in 2016.²⁹⁷ The total number of subscriptions to mobile cellular telephone was estimated at 17,556,062, representing an increase from the 16,433,055 subscriptions in 2016.²⁹⁸ Additionally, in 2017, it was estimated 5,132,388 individuals within the country could access the internet at home, via any device (computer or mobile) and connection, which marks an increase compared to 2016 when the number was estimated at 4,356,959. Pre-conflict, it was reported most individuals access internet at home, followed by their workplace, and internet cafes.²⁹⁹

Figure 57: Number of Subscriptions to Fixed Telephone Lines and Mobile Cellular Telephones in Yemen, 2015-2017



Source: CSO, *Statistical Yearbook*, 2017.

In Sa'dah Governorate specifically, there were 4,859 fixed telephone operating lines; in 2016, this number was 18,244, and in 2015, there were 18,157 operating lines. The governorate furthermore has 6 internet cafes (only in urban areas) and 168 call centers; the same numbers were reported for 2015 – 2017. In addition to limited options of accessing internet services, in September 2019 it was reported that internet services had been completely cut off in Sa'dah area.³⁰⁰ Additionally, means of communicating by telephone and a variety of news outlets and websites have been cut off or blocked by authorities, including for example Saadah Press (<http://www.saadahpress.net>); moreover, content on <http://www.yemenhurra.net>, a website which covers the Sa'dah conflict, was changed and subsequently blocked.³⁰¹ Following clashes in 2011, local radio stations were off air in early 2012; Sa'dah Radio which had been broadcasting for eight hours a day from Sa'dah City changed hands of control in March 2011 and went off air in January 2012.³⁰² These developments are not new, as during the Sa'dah wars (especially the fourth round from January – June 2007 and the fifth round from March – July 2008), authorities have tried to maintain an information blackout.³⁰³ However, news sporadically filtered out due to visits by local and international human rights and humanitarian organizations, improved communications, and actors' direct contact with independent journalists in Sana'a.³⁰⁴

²⁹⁷ HNO data 2019.

²⁹⁸ Ibid.

²⁹⁹ Social Research & Development Center, *Internet Usage Habits in Yemen, Findings of an Internet Survey*, 2013, https://www.srdcyemen.org/index_en.php?m_id=147 (accessed March 9, 2020).

³⁰⁰ Asharq Al-Awsat, "Houthis Increase Internet Rates, Block Networks in Saada," 29 September 2019, <https://aawsat.com/english/home/article/1923706/houthis-increase-internet-rates-block-networks-saada> (accessed March 9, 2020).

³⁰¹ U.S. Government Printing Office, *Country Reports on Human Rights Practices: Report Submitted to the Committee on Foreign Affairs, U.S. House of Representatives and Committee on Foreign Relations, U.S. Senate by the Department of State in Accordance with Sections 116(d) and 502B(b) of the Foreign Assistance Act of 1961, as Amended, Volume 2, 2010*, https://books.google.jo/books?id=2qSs7m8dEVwC&pg=PA2333&lp-g=PA2333&dq=saada+yemen+internet&source=bl&ots=YN-jlmWIWb3&sig=ACfU3U0UCW7_qh02MR05glF50FjqRBvW-8w&hl=nl&sa=X&ved=2ahUKEwiFybvA1r_oAhXCxYUKHe-JVDgc06AEwA3oECAoQAQ#v=onepage&q=saada%20yemen%20internet&f=false (accessed February 15, 2020).

³⁰² Info as Aid, *Yemen Media and Telecoms Landscape Guide*, February 2012, <http://www.cdacnetwork.org/contentAsset/raw-data/70526720-6744-4c6b-a763-17e837197110/attached-File> (accessed February 15, 2020).

³⁰³ Carnegie Endowment for International Peace, *War in Saada From Local Insurrection to National Challenge*, April 2010, https://carnegieendowment.org/files/war_in_saada.pdf (accessed March 19, 2020).

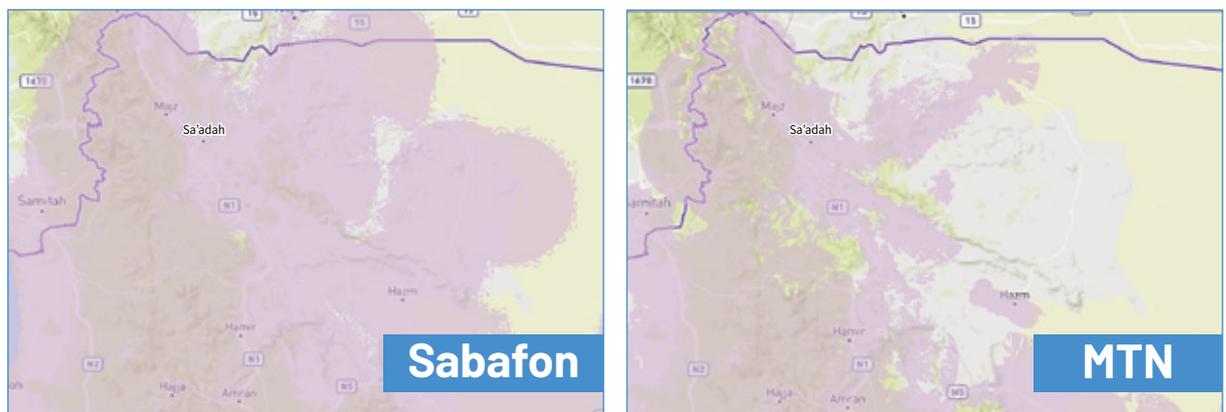
³⁰⁴ Ibid.

Infrastructure and Operational Capacity

In 2014, the state-owned Public Telecommunication Corporation (PTC) had 13,000 km of fiber optic running across Yemen which served as the country's infrastructure backbone and connects Yemen to the international submarine fiber network at Aden, Al Mukalla, and Al Hodeidah and runs up to Sa'dah.³⁰⁵ While damages and needs are yet to be determined, fiber optic networks are usually deployed above ground in Yemen, which makes them visible and therefore vulnerable.³⁰⁶ In their May 2017 report, the World Bank recommends for deployment of fiber via linear infrastructure including electricity grids and roads and/or highways.³⁰⁷

The situation in Yemen has resulted in the Emergency Telecommunications Cluster (ETC), assisting to improve telecoms services. ETC has been operating in Yemen since April 2015 and has provided basic security telecommunications services, supported setting up internet hubs and power charging stations. The ETC provides emergency coordination, security telecommunications and connectivity services to the response community in five sites across Yemen.³⁰⁸

Figure 58: Mobile Network Coverage Sa'dah Governorate, 2019



Source: GSMA, Network Coverage Maps. Available at: <https://www.gsma.com/coverage/>.

Service Providers

There are two mobile phone operators in Sa'dah: Sabafon and MTN Yemen.³⁰⁹ Sabafon, Yemen's first GSM cellphone network, was founded by prominent tribal leader and businessman Hamid Alahmar, whose father helped establish Al-Islah.³¹⁰ Yemen Mobile, a state-owned operator, and Y-Telecom (HiTS Unitel) do not provide services in Sa'dah Governorate, including Sa'dah City. Telecom service actors provide weak and intermittent cellular reception in Sa'dah City and surrounding areas.

In January 2020 it was reported that more than 80 percent of internet capacities in Yemen had gone out of service due to the Falcon internet cable, an undersea fiber-optic cable in the Su'ez Canal, being cut³¹¹, forcing the vast majority of Yemenis offline and exposing the vulnerability of Yemen's internet infrastructure.

³⁰⁵ World Bank, Input to The Yemen Policy Note no. 4 on Inclusive Services Delivery, Yemen Information & Communication Technology (ICT), 27 May 2017, <http://documents.worldbank.org/curated/en/337651508409897554/pdf/120531-WP-P159636-PUBLIC-Yemen-ICT-Policy-Note-Input-to-PN-4.pdf> (accessed February 15, 2020).

³⁰⁶ Ibid.

³⁰⁷ Ibid.

³⁰⁸ ETC, Yemen: conflict, <https://www.etcluster.org/emergencies/yemen-conflict>.

³⁰⁹ GSMA, Network Coverage Maps, available at: <https://www.gsma.com/coverage/>.

³¹⁰ Casey Coombs, "In Yemen, the internet is a key front in the conflict", Coda Story, 10 March 2020, <https://www.codastory.com/authoritarian-tech/yemen-internet-conflict/> (accessed February 15, 2020).

³¹¹ Al Masdar Online, "The operator announces the exit of more than 80% of international internet capacities in Yemen", 9 January 2020, [https://almasdaronline.com/articles/176281\(-](https://almasdaronline.com/articles/176281(-) accessed February 15, 2020).

Population Needs

Reliable and secure telecommunications and internet services are vital, but significantly disrupted. While a complete picture of damage to the telecommunications infrastructure is not available, mobile towers are often deliberately targeted, maintenance is dangerous to staff (which have often been withdrawn due to the conflict), and a scarcity of telecommunications equipment (including charging stations) as well as limited internet access is reported, especially in more rural areas.³¹² Humanitarian organizations are hindered in their operations due to inaccessibility and disruption of communication channels and rely on satellite and radio communications.³¹³ These challenges are exacerbated by a lack of infrastructure, and difficulties in importing needed supplies. HNO reports that humanitarians will require solar-powered solutions to overcome power outages and fuel shortages.³¹⁴

Physical damage to Information and Communications Technology (ICT) infrastructure appears to be the primary cause of telecommunications and internet shortages in Sa'dah City. In Sa'dah specifically, warplanes have struck power stations and telecommunication towers, leaving Sa'dah in complete darkness after sunset.³¹⁵ Few lights are seen amid a severe shortage of fuel supplies, save for the homes who own generators. In November 2018, media reported airstrikes targeted two local telecommunication networks (towers and engines) in Haidan and Sahar districts in Sa'dah Governorate.³¹⁶ More recently, early April 2020, airstrikes hit a telecommunications network in Haydan district in Sa'dah Governorate, further restricting access to telecommunications infrastructure for as many as 13,449 households³¹⁷. This is the fourth recorded instance in 2020 of telecommunications infrastructure being hit by airstrikes; two incidents occurred in Haydan District and two in Saqayn District.³¹⁸

³¹² CIA Factbook, Yemen, last updated 6 December 2019, <https://www.cia.gov/library/publications/the-world-factbook/geos/ym.html> (accessed January 15, 2020).

³¹³ See, e.g., Yemen Health Cluster, Health Cluster Bulletin #1 (period up to 7 June 2015), Yemen Humanitarian Crisis, http://www.emro.who.int/images/stories/yemen/Health_Cluster_Bulletin_.pdf?ua=1 (accessed February 15, 2020).

³¹⁴ UNOCHA, HNO 2019, https://reliefweb.int/sites/reliefweb.int/files/resources/2019_Yemen_HNO_FINAL.pdf (accessed January 17, 2020).

³¹⁵ Mada Masr, "Dispatch from Yemen: Saada, city of death and displacement", 15 October 2015, <https://madasmasr.com/en/2015/10/15/feature/politics/dispatch-from-yemen-saada-city-of-death-and-displacement/> (accessed March 9, 2020).

³¹⁶ Yemen Extra, "Saudi-Led Coalition Targets Two Communication Networks in Haidan and Sahar in Saada", 26 November 2018, <https://www.yemenextra.net/2018/11/26/saudi-led-coalition-targets-two-communication-net-works-in-haidan-and-sahar-in-saada/> (accessed March 9, 2020).

³¹⁷ CIMP, Weekly Highlights, Hub: Sa'ada, 26 March - 1 April 2020, April 3, 2020.

³¹⁸ Ibid.

ANNEXES

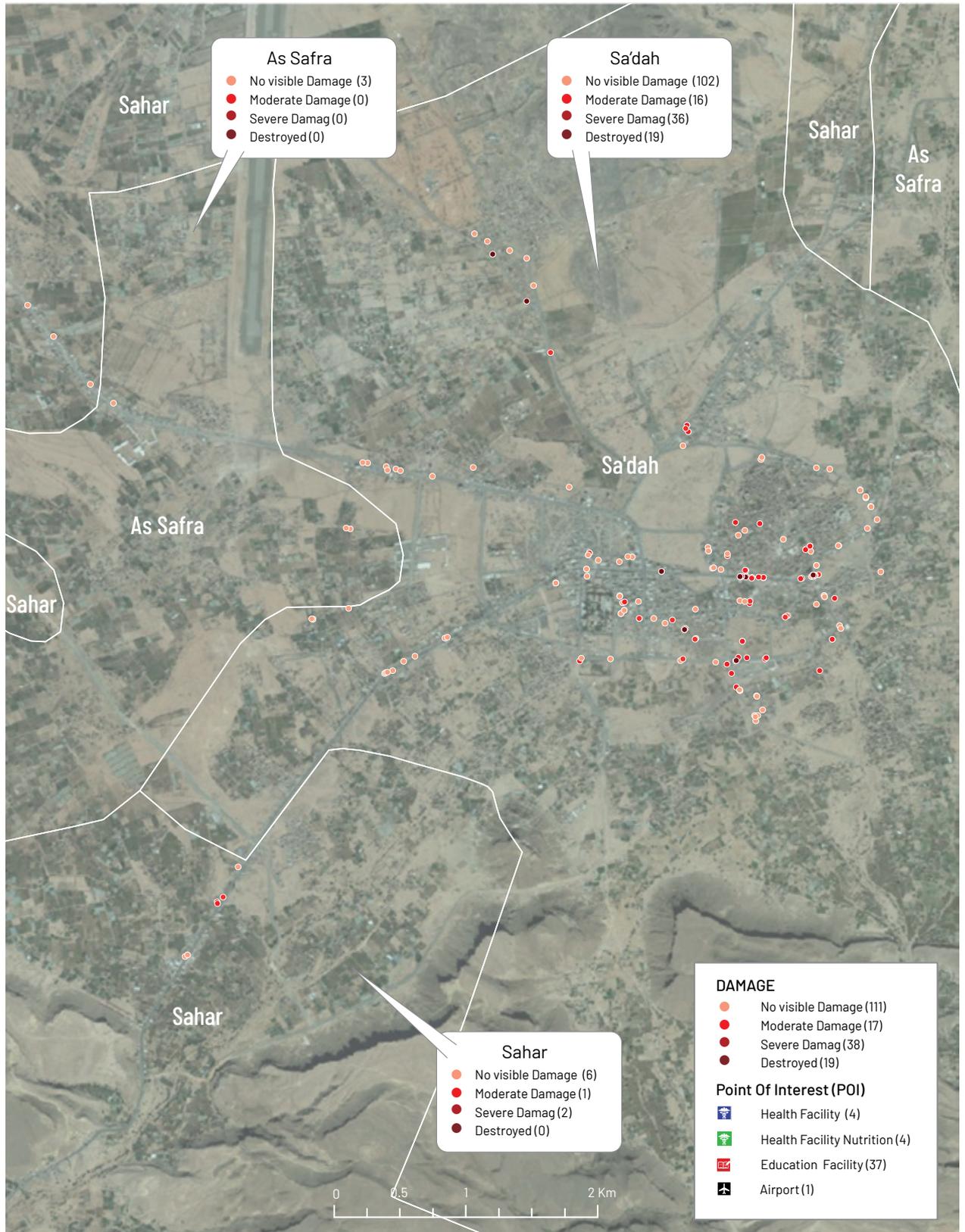
A Asset Verification

Since the escalation of the conflict in 2015 and to this day, Sa'dah City continues to be targeted by heavy bombardment and remains beleaguered by ground fighting.

The team identified multiple areas within the city of Sa'dah based on verifying satellite imageries from UNOSAT (2019) and Digital Globe (May 2020) for 173 buildings, in addition to real pictures (March and April 2020). After that iMMAP GIS unit has triangulated data from different sources, compiled GPS coordinates and analyzed it as shown on the map below:

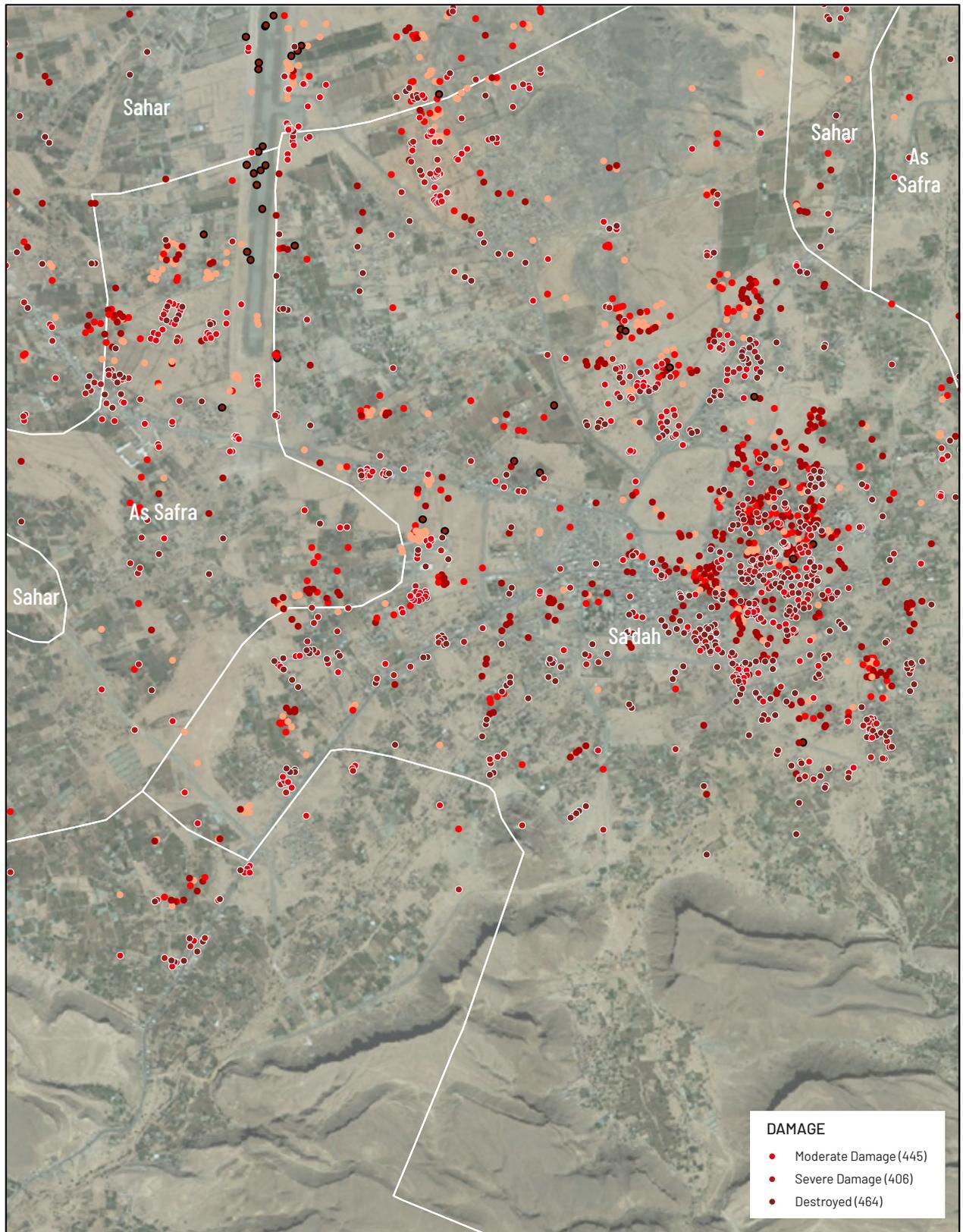
Satellite imageries have shown that the damages are localized and clustered in the city center as the highest number of damaged buildings are seen there. For the most part, airstrikes targeted the airport, military camps, the residences of senior officials and few markets as Sa'dah received the highest number of airstrikes in Yemen in 2019 (504 out of 1,376)³¹⁹ which is double the number of 2015 although the total airstrikes in Yemen have declined. In Sa'dah, the third highest number of shelling and armed clashes were reported in 2019 which explains the damages in infrastructure and housing generally.

Figure 59: Assessed Locations to Verify Damages



Map Name: Sa'dah City Assets Verification , Date Created: 28 May 2020, Datum/Projection: WGS_84, Data sources: OCHA, UNOSAT, OSM, Digitalglobe 2019
Disclaimer: The boundaries, names and designations used in this map do not imply official endorsement or acceptance by IMMAP.

Figure 60: Damage Assessment for Sa'dah city, 2019



The asset verification and field images results showed that the damages on the ground are much worse than the satellite images, especially in the old city, due to the fact that the escalation of the conflict in 2015 and to this day, Sa'dah City continues to be targeted by heavy bombardment and remains beleaguered by ground fighting.

Nevertheless, satellite imagery can be relied on in rapid asset verification when assessing damage on a large scale or when it is difficult to conduct in all areas during periods of armed conflict and political tension.

Figure 61: Photos from Field Asset Verification for some of the governmental and residential areas



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