Preservation Under Siege:

Adaptive Conservation Approaches for Yemen's Heritage

by
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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be electronically available to the public.

Abstract

Yemen is no stranger to conflict. In fact, Yemen's urban heritage, marked by tower houses and fortifications, reflects enduring architecture and craftsmanship developed over centuries. Towards the end of the 20th century, international interest in the preservation of Islamic cities placed Yemen center stage, leading to the award of three UNESCO World Heritage titles within a decade and to major publications and conservation projects.

However, this momentum stalled following the 2011 Arab Spring revolution and the devastating Saudi-led aerial raids in 2015, which caused the loss of many historical sites and disrupted the passing down of traditional construction techniques from one generation to the next. The thesis explores heritage preservation amidst Yemen's ongoing conflict. Unlike existing scholarship that anticipates a stable government and resumption of foreign aid, this thesis proposes adaptive and local solutions for preserving Yemen's heritage in its current, war-torn reality.

It explores three proposals: re-purposing abandoned settlements of Yemenite Jews as shelters for displaced refugees, leveraging the Yemeni diaspora as potential donors, and utilizing the highly debated *waqf* system as a self-sustaining mechanism. The village of Bayt Baws in Sana'a is introduced as a case study, providing a grounded, culturally resonant, and logistically feasible model for heritage preservation in Yemen today.

Acknowledgments

I would like to begin by expressing my deepest gratitude to the person who forged the intellectual path that led me here: Dr. Michele Lamprakos. Her scholarship not only gave me the vocabulary to understand Yemen's architectural legacy but instilled in me the respect and reverence it deserves. Her book, *Building a World Heritage City: Sanaa, Yemen,* has been nothing short of a touchstone throughout my academic journey, my guiding text and the foundation of this thesis.

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Finally, to the people of Yemen—this work is for you. May our resilience, like our heritage, never fade.

for Abdrahman.

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Note on Transliteration

For the sake of readability and consistency throughout this thesis, I have adopted a simplified pluralization convention by adding an "-s" to Arabic singular nouns (e.g., *usta* becomes *ustas*), rather than using their correct Arabic plurals (e.g., *asatiyyah*).

List of Abbreviations

EOPOCS	Executive Office for the Preservation of the Old City of Sanaa (now GOPHCY)
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation; formerly Gesellschaft für Technische Zusammenarbeit, GTZ)
GOAMM	General Organization for Antiquities, Museums, and Manuscripts
GOPHCY	General Organization for the Preservation of Historic Cities of Yemen
ICOMOS	International Council on Monuments and Sites Institute of Housing Studies (Rotterdam)
MOC	Ministry of Culture
MOE	Ministry of Endowments
PDRY	People's Democratic Republic of Yemen (South Yemen; joined with North Yemen in 1990 to form the Republic of Yemen)
SFD	Social Fund for Development
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific, and Cultural Organization
YAR	Yemen Arab Republic (North Yemen; joined with South Yemen in 1990 to form the Republic of Yemen)

A popular Yemeni joke depicts Prophet Adam on the back of Archangel Gabriel, recently descending to Earth from Heaven. They fly over the world as Gabirel points out some nations. "There is Greece. There is Italy. Here is Egypt." Meanwhile, Adam is perplexed, not recognizing any of the sights he's seeing. Finally, Gabrielle flies over the Arabian Peninsula, and before he can say anything, Adam yells excitedly," And there is Yemen!" Gabriel is stunned by Adam's recognition, so Adam follows up, stating, "Nothing has changed there!"

00 INTRODUCTION

0.1 Situating Yemen

Yemen lies in the southwestern corner of the Arabian Peninsula, with Saudi Arabia to its north, Oman to its east, and the Gulf of Aden to its South. To its west, it is separated from the Horn of Africa by the narrow Bab el-Mandeb strait, a critical maritime channel connecting the Red Sea to the Gulf of Aden.[1] This puts Yemen at the junction of Africa, Asia, and the Middle East; and with it being the only Southern Arabian country with fertile land, it became a historical center for trade and cultural exchange, influencing its rich history and diverse heritage. In recent decades, Yemen has become sort of the black sheep among the Gulf countries, who never fully integrated Yemen in their Gulf Cooperation Council (GCC).[2] In contrast to its wealthy and politically stable neighbors, Yemen struggled with lack of oil reserves and repeated civil conflicts and tribal uprisings. Its most recent uprising, the 2011 Houthi insurgency,[3] has further distanced Yemen from the stability enjoyed by GCC states. In fact, Saudi Arabia led a nine-states coalition and launched a military intervention in Yemen in March 2015, supported by the United States and the United Kingdom, to restore the internationally recognized government and counter the Houthi takeover of the capital, Sana'a.

Ancient and Islamic Civilization

Archaeological and genetic evidence indicate that the first *Homo Sapiens* migrations out of Africa went through Bab al-Mandeb around 60,000 years ago, rendering Yemen a cradle of civilization. During the third millennium BCE, Bronze Age Yemeni societies exhibited outstanding megalithic structures, fortified settlements, and tombs that conveyed a society of social and technical advancement. Prior to the world's association of Yemen with conflict and instability, it was

1. Recently, the strait has been receiving international attention as the Houthis (see below) have been attacking and threatening commercial ships passing through the strait, targeting ships associated with Israel or facilitating U.S. interests in reaction to the conflict in Gaza. These activities have disrupted international commerce and resulted in U.S.-led military strikes on Yemen.

2. The GCC, informally known as the Gulf countries, is a political and economic alliance formed in 1981 among six Arab states in the Arabian Peninsula: Saudi Arabia, Kuwait, Bahrain, Qatar, the United Arab Emirates, and Oman.

3. The Houthis, also known as Ansar Allah (Supporters of God), are a Zaydi-Shia political and military organization from the northern Yemen province of Saa'da. The Houthis are named after the founding figure, the late Hussein Badreddin al-Houthi, a Yemeni religious and political leader and onetime member of parliament. Their political ideology is a blend of religious revivalism and anti-imperialist rhetoric, and their control extends now to most of northern Yemen, including the majority of the people. They have since been one of the central actors in the ongoing Yemeni civil war, fighting against the internationally recognized Yemeni government and a Saudi-backed military coalition. Saudi Arabia saw the Houthi rise as an extension of Iranian influence on their southern border, which they consider a major security threat.

in fact historically dubbed Arabia Felix, or "Fortunate Arabia."

Yemen's most prominent era was during the golden age of the Sabaean kingdoms, from 900 BCE to 500 CE. These kingdoms developed legal codes, devised a sophisticated script, and established trade networks that reached from the Mediterranean to India. Sabaean engineers constructed the Great Marib Dam, a feat of hydraulic engineering that watered tens of thousands of acres of desert, allowing for agriculture and urban civilization to flourish. A civilization mentioned in the Torah, the Qur'an and classical Greek writings, the Sabaean kingdom was home to the Queen of Sheba and a key player of the profitable incense trade. Cities such as Marib and Sirwah became centers of economic activity, and temples such as Awwam and Nakrah (Figure 0.1) have inscriptions in the ancient South Arabian script.[4]

Following the coming of Islam in the 7th century, Yemen accepted the new religion swiftly its cities, Sana'a, Taiz, and Zabid, developed into great centers for Islamic scholarship, legal studies, and commerce. For example, Zabid grew to be a great center of Sunni legal studies and hosted the building of over 80 mosques and madrasas. Meanwhile, Sana'a gained a reputation for its religious thinkers and for its elaborate residential architecture that integrated spiritual beauty with daily life.[5]

20th Century Political Evolution

Despite the colonization of much of the Middle East, Yemen retained a significant amount of autonomy. Its city of Aden was briefly occupied by the British and northern Yemen was under some Ottoman control in the 16th and 19th century; however, Yemen itself was never colonized with kind of administrative control typically associated

4. The Old City of Sirwah (April 24th, 2015), the Marib Dam (May 5th, 2015), the Old City of Marib (June 13th, 2015), and the Temple of Nakrah (March 6th, 2016) are some of the sites destroyed by Saudi-led coalition airstrikes. See subsection "Heritage Destruction."

5. On Bronze, Sabaen, and Early Islamic era see Lamya Khalidi, "The Destruction of Yemen and Its Cultural Heritage," *International Journal of Middle East Studies* 49, no. 4 (November 1, 2017): 735, https://doi.org/10.1017/S0020743817000691



Fig. 0.1 Ancient Sabaen Temple of Awwam in Marib. Photograph by Dan, *Arsh Bilqis, Ma'rib,* February 23, 2008, Flickr, https://www.flickr.com/photos/21013862@N08/2286631026.

0.1

with European colonialism. That independence was mainly due to the scarcity of resources, saving the country from much of a detrimental colonial effect felt elsewhere but also prevented the country from enjoying the benefit of infrastructure and modernization initiatives that were associated with being a colony. In many ways, Yemen made its own transition into the modern era, uneven, but staunchly self-governed.

During the early 20th century, Yemen was split between Ottoman-occupied north and British-occupied south. Following the collapse of the Ottoman Empire, the north was then occupied by the Zaydi Imamate until 1962, when the Yemen Arab Republic (YAR) was founded following a revolution.[6] At the same time, the southern region saw the formation of the People's Democratic Republic of Yemen (PDRY) after a socialist revolution in 1967. These two administrations, characterized by the northern tribal-military and southern Marxist morals, evolved under extremely different ideological circumstances and foreign alignments. Northern Yemen, populated by the Hashid and Bakil confederations and identified with Zaydi Shi'ism, relied on frequent raids on Lower Yemen's agriculture. On the other hand, Lower Yemen, which is more fertile and has a Sunni majority, was essentially organized around kinship relations and village networks. These differences gave rise not just to regional hostilities but also to deep-seated social hierarchies. Unification followed in 1990, and Ali Abdullah Saleh became president of the newly unified Republic of Yemen. Saleh's rule (1978–2011) was supported by a balancing act of coercion and patronage, by foreign aid and oil revenues. His presidency ushered in relative stability, but it started to unfold following 9/11 when he was pressured to crackdown on terrorism. Subsequently, it led to the uprising of the Houthis, succession movements from the South, and the revitalization of al-Qaeda in the Arabian Peninsula (AQAP).[7]

6. My maternal family had a big part of the revolution. Initially, they participated in a failed 1948 uprising that led to her grandfather, great-grandfather (soon executed), and great uncles' imprisonment from 1948 to the mid-50s in the historic Cairo Castle of the Hajjah Province.

7. Michele Lamprakos, *Building a World Heritage City* (London: Routledge, 2016), 28–32.

Lamprakos' book will be mentioned frequently in this thesis. Thus, its subsequent references will be noted in a short format.

Political Trajectory Since the 2011 Arab Spring

In 2011, Yemen was inspired up in the wave of Arab Spring protests that had been initiated in Tunisia. Prompted by regional demands for democratic reform, protests broke out in several Yemeni cities. Although the revolt did not directly spiral into an outright civil war like in Syria or Libya, incidents of violence intensified as competing groups attempted to takeover. President Ali Abdullah Saleh was severely injured in an attack on the presidential compound in June 2011 and, by November 2011, relinquished power to his deputy, Abdrabbuh Mansour Hadi. Hadi was sworn in as president in February 2012 after an uncontested election; however, his government was immediately confronted with numerous problems, such as being unable to stem al-Qaeda assaults in the capital and surrounding areas.

Fighting intensified in 2014 after the Houthis had rejected a draft federal constitution and taken over key districts in Sana'a. The push towards Aden in 2015 rang alarm bells for their northern neighbor, and Saudi Arabia led a coalition as a response with airstrikes and a naval blockade (Figure 0.2). Saudi Arabia viewed the Houthi advance as Iran's expanding influence on the Arabian Peninsula, its regional rival, and a direct threat to its southern border. Peace initiatives, such as several ceasefire agreements between 2016 and 2017, were consistently unsuccessful. In December 2017, ex-President Saleh was killed while fighting with the Houthis. Shortly thereafter, in 2018, the UAE-backed southern separatist movement, Southern Transitional Council (STC), took over Aden, deepening the country's political fragmentation.

In the subsequent years, instability persisted. In April 2022, seemingly under pressure from Saudi demands, President Hadi handed over

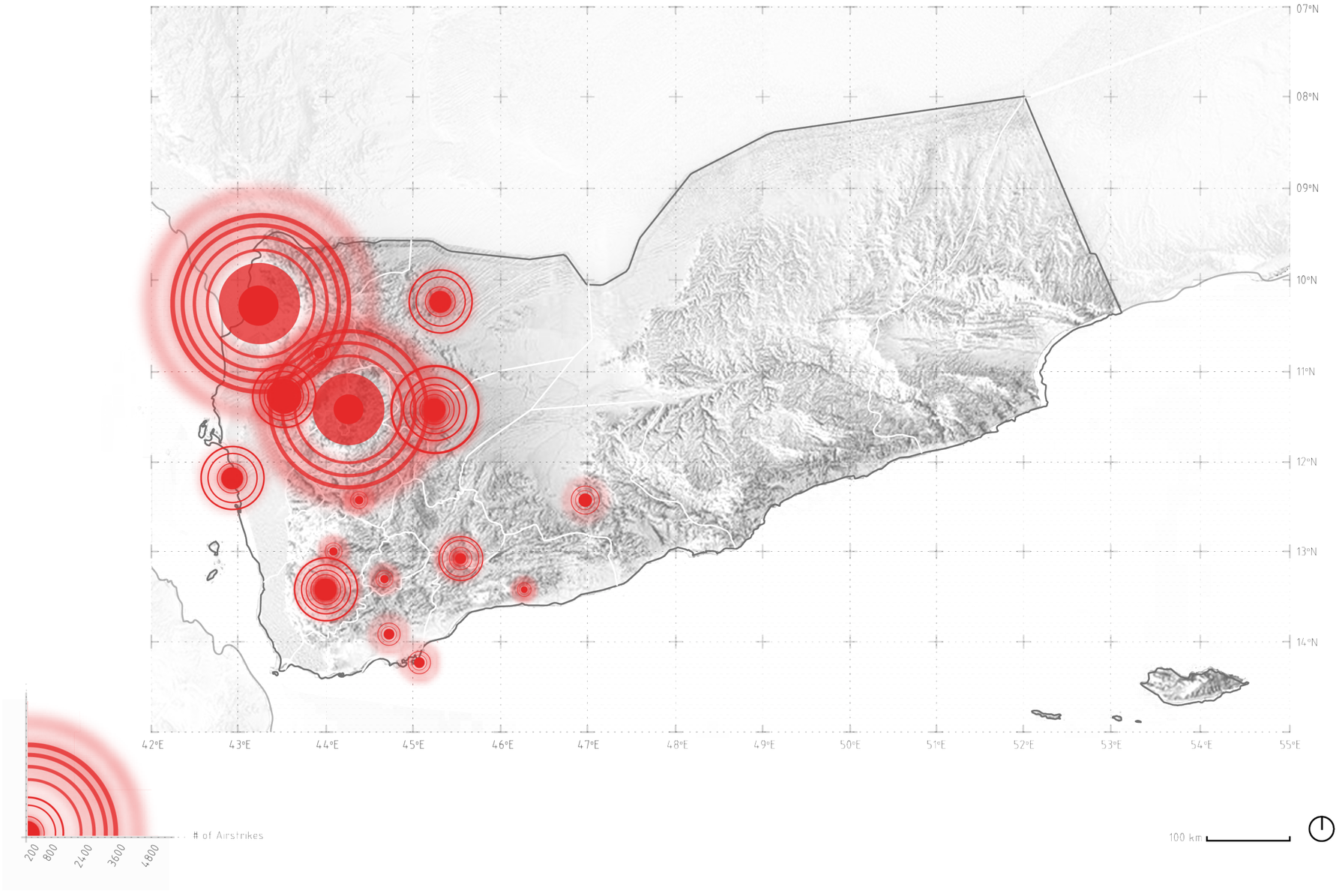


Fig. 0.2 Map of the 25,000 Saudi-led coalition air raids from 2015-2022.

his powers to a new Presidential Leadership Council, led by Rashad al-Alimi. This move was taken in an attempt to unify the anti-Houthi front but has done nothing much to heal the fractured politics, with the Houthis holding sway in the north and the STC ruling from Aden. During this time, al-Qaeda (AQAP) suffered territorial and leadership losses and entered a period of retrenchment.[8]

By 2024, AQAP had begun a renewed cycle of attacks, particularly in the countryside, and was driven from some territories by the Houthi and STC forces. AQAP is still a formidable regional threat despite these reverses, in contrast to the ongoing weakening of the Islamic State (ISIS) in Yemen. Starting in November 2023, the conflict heightened as the Houthis attacked Red Sea commercial shipping in retaliation for Israel's Gaza military operations. This prompted retaliatory airstrikes by the United States and the United Kingdom beginning in January 2024. A minimum of 85 civilians were murdered by over 300 airstrikes documented as of February 2025, according to the Yemen Data Project.[9] The battle underscores the enduring complexity of Yemen's war, now further internationalized and as fragmented as it could be.[10]

Current Humanitarian Crisis

The coalition's indiscriminate bombing, naval blockade, and targeting of public services led to Yemen's humanitarian crisis being among the worst in the world. After more than a decade of conflict, Yemen's economy has shrunk by over half and is edging on the brink of collapse. Consequently, more than 80 percent of the population is below the poverty line, and 18.2 million people are in urgent need of humanitarian aid. To put it into perspective, Yemen is the second largest country in the Arabian Peninsula, with a population of 32 million people in contrast to the GCC's average of 10.2 million. Despite ongoing support from international organizations, more than 17.1 million Yemenis still suffer from severe food insecurity, and five million people are at risk of famine. Malnutrition is most debilitating in women and children, with 1.4 million pregnant or breastfeeding women requiring immediate attention. Half of all children under the age of five are malnourished, jeopardizing an entire generation.

The crisis has also crippled Yemen's educational system. More than 2.5 million children are currently out of school, and an estimated 8.6 million school-aged children need educational assistance. Displacement, lack of schools in their area, or the need to work to help their families are some of the reasons why many of them have to quit school. The expense of the war extends beyond poverty: in excess of 19,200 civilians, in addition to over 2,300 children, have been killed or wounded in coalition airstrikes alone. These statistics speak both to the depth of Yemen's suffering and the imperative of crafting comprehensive, locally driven solutions that address both the human cost and the country's long-term reconstruction.[11]

Architectural Heritage and Cultural Identity

Yemen is a country with extreme variety of landscapes, from vast deserts to coastal landscapes and endless mountain range. Yemen is also a culmination a few large cities, numerous towns, and thousands of remote villages and hamlets. Trevor H.J. Marchand, an Emeritus Professor of Social Anthropology at SOAS, summed up how this blend of varied landscapes and remoteness produced Yemen's architectural heritage:

8. "Actor Profile: Al-Qaeda in the Arabian Peninsula," ACLED, January 31, 2024, https://acleddata.com/yemen-conflict-observatory/actor-profiles/al-qaeda-in-the-arabian-peninsula/ (accessed April 6. 2025).

9. "US-UK STRIKES: Operation Poseidon Archer," yemendataproject.org, n.d., https://yemendataproject.org/ (accessed April 6, 2025).

10. Marcus Montgomery, "A Timeline of the Yemen Crisis, from the 1990s to the Present," Arab Center Washington DC, February 19, 2021, https://arabcenterdc.org/resource/a-timeline-of-the-yemen-crisis-from-the-1990s-to-the-present/ (accessed March 29, 2025).

11. UNHCR, "Yemen Crisis Explained," www.unrefugees.org, March 21, 2024, https://www.unrefugees.org/news/yemen-crisis-explained/. (accessed April 1, 2025)

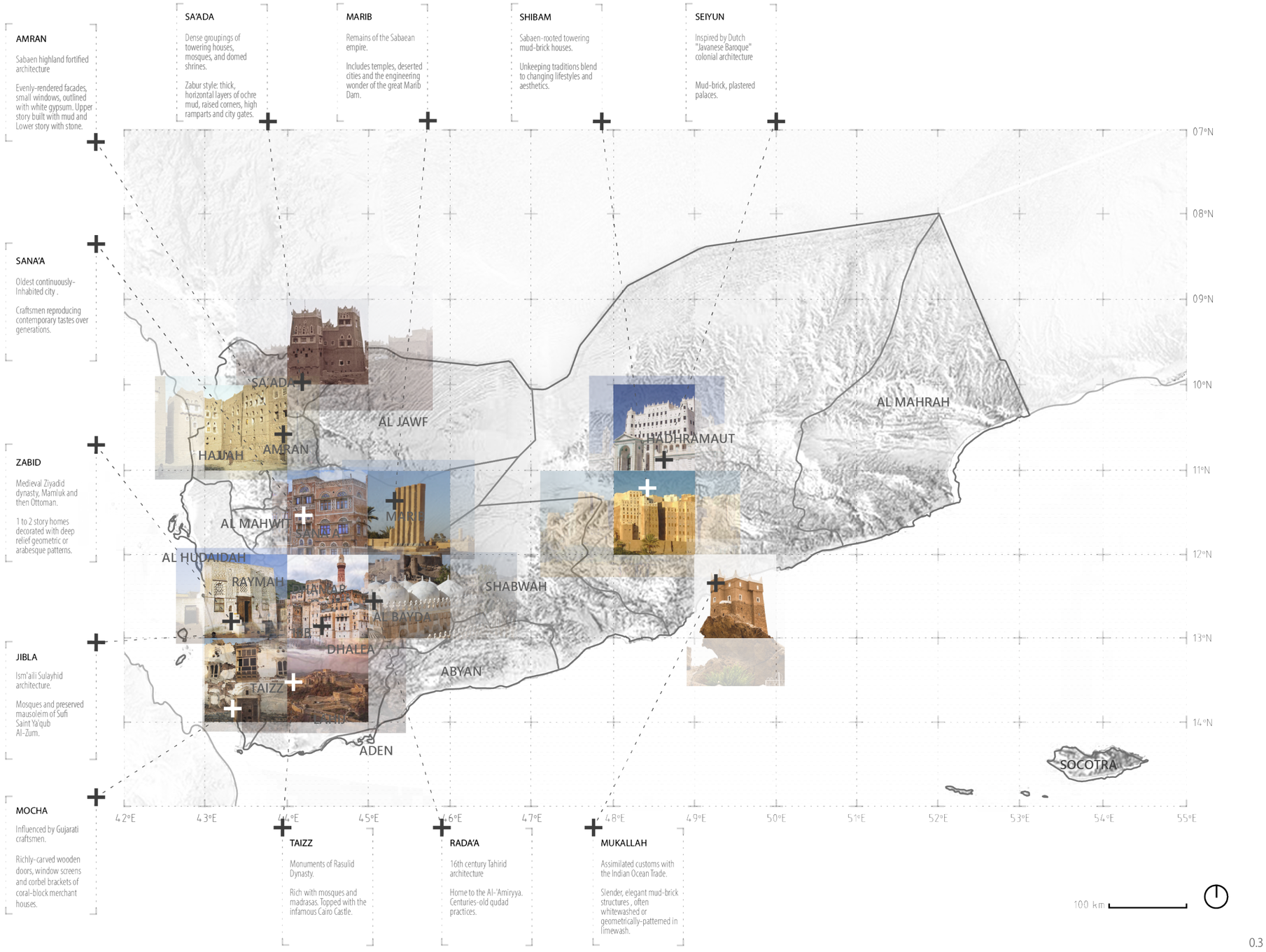


Fig. 0.3 Map of the architectural styles around Yemen.

> Every setting possesses a distinct 'sense of place' that results from a mixture of native ingenuity and the supplies of natural building materials to hand. In Yemen, the arrangements and formal languages of space, place, and architecture are deeply infused with local histories, social hierarchies, tribal relations, religious identities and gender practices. The building traditions of many coastal towns, highland cities and desert outposts also absorbed and adapted foreign architectural styles and engineering principles that arrived with sea trade or on overload routes.[12]

Trade routes introduced designs and materials from South Asia, East Africa, and the Mediterranean, infusing local styles with Persian, Gujarati, Ottoman, and colonial elements. This synthesis is apparent throughout Yemen (Figure 0.3). Along the Red Sea coast lies the towns of Mocha,[13] al-Hudaydah, and al-Luhayyah, where they are known for their merchant houses with intricately carved wood doors, window screens and corbel brackets, a testament to Gujarati woodwork from Indian and European sailing fleets that can be also spotted in other Red Seas port cities like Jeddah (Saudi Arabia), Suakin (Sudan) and Massawa (Eritrea). Likewise, the Hadhrami diaspora,[14] especially to Indonesia and Malaysia, introduced new stylistic elements, including the Dutch 'Javanese Baroque' that is reflected on the palaces of Tarim and Seiyun in Hadhramaut.[15]

This architectural pluralism is beyond a regional phenomenon; it is a nationwide mosaic of cultural patrimony. Yemen's built heritage was an effective tool for national identity construction, especially during the post-revolutionary and unification periods. In contrast to unitary nationalism, Yemeni heritage discourse championed pluralism, promoting regional variation as elements of a common "shared genius."[16] Sana'a, as an icon of early Islamic civilization, and Marib, as the pre-Islamic desert ingenuity, came to be twin symbols of a national heritage that was capable of transcending political and sectarian differences. This inclusive story served to universalize tribal, religious, and regional identities within a larger cultural narrative, imparting a unifying character and "the decentralization of power."

Amidst current political and economic trials in Yemen, the deep connection to architectural heritage is one such essential factor of cultural resilience. The buildings in question, together with the knowledge systems which created them, irrevocably ground communities in a shared past while at the same time providing a base for continuity. They remind Yemenis not just of they once were, communities shaped by innovation, diversity, and enduring custom.

Destruction of Heritage

The cultural heritage in Yemen has been a subject to destruction, erosion, and neglect by several factors, including conflict, mass displacement, extremism, harsh weather and the breakdown of preservation institutions. Beyond the human toll of war, more subtle war casualty such as the degradation of local knowledge systems, the attrition of the master builders' skill base and the imposition of foreign conservation models constitutes a crisis of culture.

Long before the current conflict, heritage destruction has always been present in Yemen. Under the reign of Imam Ahmad (1948-1962), medieval fortresses, such as al-Qahira castles in Hajjah and Taizz, became prisons and military garrisons and held perpetrators of the 1948 rebellion and their sons.[17] Shortly after

12. Trevor Marchand, "'Buildings That Fill My Eye': An Introduction to the Architectural Heritage of Yemen," in *Architectural Heritage of Yemen: Buildings That Fill My Eye* (London: Gingko Library, 2017), 11–27.

13. A now popular name referring to chocolate coffee beverage, Mocha is actually derived from the historic Yemeni port city where coffee was first cultivated and was one of the world's primary coffee-exporting centers from the 15th to 18th centuries.

14. The Hadhrami diaspora was the movement of Yemenis from Yemen's Hadhramaut region between the 18th and 20th centuries to neighboring countries in East Africa, Arabian Peninsula, and across the Indian Ocean basin, in countries such as Indonesia, India, and Malaysia. Driven by economic hardships, Hadhramis became traders, scholars, and administrators and significantly influenced Islamic networks and commercial life in Indonesia and Tanzania. Although many integrated, they tended to maintain a specific identity through religious institutions, endogamy, and connections with their homeland.

15. On the variety of Yemen's architectural heritage see Marchand, *Buildings*, 11-27; Fernando Varanda, *Art of Building in Yemen* (MIT Press (MA), 1982).

16. On this point see Lamprakos, *Building*, 93-4.

17. On the rich history of Yemen's medieval fortresses see Noha Sadek, "The Forts of Yemen: The Example of the Citadel of Ta'izz," in *Architectural Heritage of Yemen: Buildings That Fill My Eye* (London: Gingko, 2017), 111–17.

the 1962 revolution, the Egyptian-backed government demolished much of Old Sana'a's historic walls to make way for a modern administrative and commercial center.[18] During the introduction of cars in the 1970s and 1980s, the development of new roads, though welcomed by most rural communities, often came at the expense of ancient agricultural terraces and settlement sites. Moreover, in the 1990's, President Ali Abdullah Saleh's government, in the name of "modernization," initiated large-scale renovations that demolished significant Zaydi architectural elements in the province of Saa'da. These included the demolition of the Friday Mosque of al-Nadhir in 1985 and the radical remodeling of medieval forts like al-Qal'ah, which were renovated with concrete-block buildings and surveillance equipment. These were not simply functional upgrades; they were ideological statements of control. Most saw them as attempts to erase the visual and cultural markers of the former Zaydi Imamate, further upsetting Yemen's already fragile sectarian and regional balances.[19]

These past instances, though troubling, their cumulative damage is overshadowed by the widespread and seemingly calculated obliteration of heritage sites under the Saudi-led air campaign that began in 2015. As a precautionary measure, UNESCO handed Saudi Arabia the coordinates of Yemen's fifty most valuable heritage sites in the hope of sparing them.[20] However, in an egregious twist, many of them were instead targeted by the coalition in the early months of the war. Among the affected sites were three World Heritage sites, the Old Cities of Sana'a (June 12th, 2015) and of Zabid (May 12th, 2015) and the Landmarks of the Ancient Kingdom of Saba, Marib (3 times between April 4th, 2015 to March 6th, 2016); moreover, two site were hit from UNESCO's tentative list, the Historic Cities of Saa'da (April 1st, 2015) and Thula (May 30th, 2015). Coalition airstrikes also destroyed many museums. One of the most blatant attacks was on the Dhamar Archaeological Museum, which housed over 12,500 artifacts as well as a large quantity of undocumented archaeological remains from active archaeological digs. Overall, confirmed reports of 60 sites were destroyed by the coalition (Figure 0.4).[21]

Terrorist groups also accelerated this cultural degradation. AQAP and ISIS have intentionally targeted 19 sites from 2014 to 2016, including Sufi shrines, Christian cemeteries, and other non-Sunni heritage sites across Yemen. Although their destruction represents an estimated 20 percent of all confirmed heritage destruction, it is also among the most personal and severe, destroying the entirety of a structure in most cases. Witnesses have reported fighters arriving in person, ransacking the shrines, tearing down the building, with graves unearthed and human remains strewn about.[22] This kind of extremist violence is not just iconoclastic but ideological.

Such deliberate assaults on cultural heritage go beyond physical destruction; they strike at the heart of communal identity and memory. As Robert Bevan argues in *The Destruction of Memory: Architecture at War* (2015) in the fog of war, it is often challenging to discern what destruction is incidental and what is deliberate.[23] However, when heritage sites are bombed despite being listed on no-strike coordinates provided by UNESCO, as in Yemen, the line between collateral damage and cultural targeting becomes blurred. Bevan emphasizes that fear and despair are the intended outcome—architecture becomes a weapon, its destruction meant to sow psychological terror, disorientation, and collective trauma. While indiscriminate area bombings create a broad atmosphere of despair, the symbolic demolition of specific structures sends a more chilling and targeted message. In such cases, heritage destruction becomes a form of violent propaganda. As archaeologist Lamya Khalidi has poignantly noted, heritage is Yemen is not a relic but rather a living continuum, and its targeted erasure is an assault on not only the

18. On Sana'a's early days of Modernization see Lamprakos, *Building,* 32-46.

19. Saa'da is one the most targeted provinces in Yemen in recent decades. With it being the center of Zaydi's school of thought and the home base of the Houthi's, its heritage and residents have been the target of attacks from ex-president Saleh, Saudi Coalition airstrikes, and most recently, US air raids. One particular US airstrike received international attention when a drone hit a group of 70 Yemeni men that President Trump accused to be a Houthi gathering on April 5, 2025. See The Associated Press, "Yemen Houthi Rebels Say Latest US Strikes Killed 2, Day after Trump Posted Bomb Video," NPR, April 6, 2025, https://www.npr.org/2025/04/06/g-s1-58612/yemen-houthi-rebels-say-latest-us-strikes-killed-2-day-after-trump-posted-bomb-video (accessed April 7, 2025).

20. Lynn Meskell and Benjamin Isakhan, "UNESCO, World Heritage and the Gridlock over Yemen," *Third World Quarterly*, July 13, 2020, 1–16, https://doi.org/10.1080/01436597.2020.1784000.

21. More of the gravity on destruction see Lamya Khalidi, "The Destruction of Yemen and Its Cultural Heritage," *International Journal of Middle East Studies* 49, no. 4 (November 1, 2017): 735–38, https://doi.org/10.1017/S0020743817000691.

Khalidi and I obtained the list from Muhannad al-Sayani (now deceased), previous director of the Yemeni General Organization of Antiquities and Museums (GOAM). The list is tracked confirmed destruction between March 2015 until end of 2016. Al-Sayani had to take a break due to the onslaught of raids and has since then passed away due to Covid-19. It is unknown if GOAM resumed documenting heritage destruction throughout Yemen.

22. Henri Neuendorf, "Al-Qaeda Militants Destroy Sufi Shrine in Yemen," Artnet News, February 16, 2015, https://news.artnet.com/art-world/al-qaeda-militants-destroy-sufi-shrine-in-yemen-255050. (accessed April 15, 2025).

23. Robert Bevan, *The Destruction of Memory: Architecture at War* (2005; repr., London: Reaktion Books, 2016), 148.

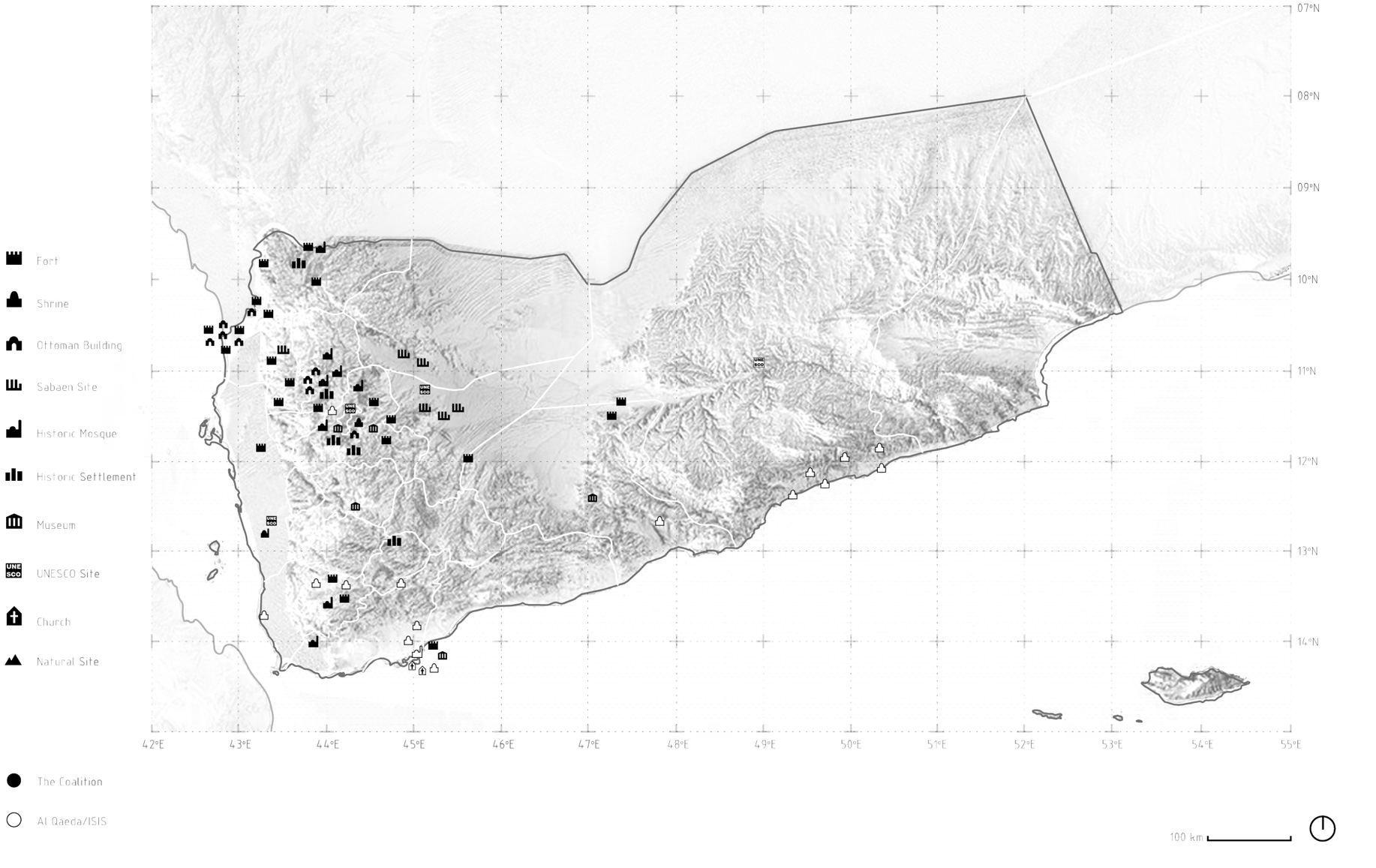


Fig. 0.4 Map of the destroyed heritage by the Coalition and terrorist groups from 2015-2016.

people's sense of history, but also their place and identity, as "it is difficult to rationalize destruction of cultural heritage in any context, and even more so in this land where the past, the present, and the landscape are intricately interrelated".[24]

Beyond the deliberate destruction of heritage, looting, too, has risen at archaeological sites across Yemen, particularly those left unguarded due to combat. With the war exacerbating lawlessness and poverty, locals have ransacked ancient temples and tombs, selling off bits of their heritage on the black market. The Awwam Temple in Marib, one of the oldest and most revered heritage sites in Yemen, is now protected by a 12-year-old boy and a rusted gate. These atrocities have been highlighted by social media campaigns led by citizens who are concerned, but grassroots efforts remain unfunded and unsupported.[25]

0.2 Rethinking Preservation in Conflict

Due to the Saudi-led military intervention and the collapse of state power, most conservation work in Yemen has been on hold since 2015. Foreign personnel were swiftly evacuated, research publications paused, archaeological work halted, and international funds have disappeared. Beyond the grotesque destruction of heritage in an unprecedented manner, Yemen has also been losing the generational transfer of traditional building knowledge due to master masons and craftsmen fleeing war, changing careers, or due to them aging and passing away.

Everyone who values Yemen's cultural heritage and understands the scale of its deterioration has made efforts to raise the alarm. The Yemeni government appealed to UNESCO to add more sites to the list of World Heritage in Danger in hopes to alleviate their danger.[26] Local residents have began a grassroots movement and took to social media to spread awareness and call for volunteers to clean and protect sites.[27] Scholars, too, have joined the discussion—most notably Trevor H.J. Marchand, an Emeritus Professor of Social Anthropology at SOAS and a specialist in vernacular architecture, who once undertook a year-long apprenticeship in minaret construction with Yemeni *ustas*. Marchand spearheaded a collaborative volume of 20 essays that showcases a wide range of studies and reflections on Yemen's architectural heritage—serving as both a scholarly intervention and an urgent plea to the international community for action.[28] Within the book, many scholars assuming the return of foreign funding and the end of the internal turmoil so heritage efforts in Yemen can resume. Italian scholars Renzo Ravagan, Sabina Antonini De Maigret and Cristina Muradore note in their joint essay that "the future of conservation and preservation work in Yemen will rely heavily on the funding and financial aid that will be made available to Yemen when the current conflicts come to an end."[29]

Yemeni professionals Nabil Al-Makaleh and Fahd Al-Quraishi further reinstate the dire situation Yemen is currently in, stressing on how heritage acts as a social adhesive especially during times of conflict:

> Yemenis have both the right and the duty to protect and preserve their cultural achievements and the vestiges of their ancient civilisation. When and if the turmoil ends, it could take Yemen a century or more to rebuild and restore its damaged heritage. But this task would require a budget beyond Yemen's means — and which the country did not possess even during the glorious heyday of its ancient kingdoms.[30]

24. Khalidi, "Destruction," 736.

25. Djamel Belayachi, "Yemen: Ancient Ruins of Saba Kingdom Temple Vandalised and Looted," The Observers - France 24, June 8, 2021, https://observers.france24.com/en/middle-east/20210611-yemen-ancient-ruins-saba-kingdom-temple-awwam-vandalism-looting (accessed March 31, 2025).

26. Mina Aldroubi, "Yemen Government Urges UNESCO to Add More Sites to Endangered Heritage List," The National News, January 27, 2023, www.thenationalnews.com/gulf-news/2023/01/27/yemen-government-urges-unesco-to-add-more-sites-to-endangered-heritage-list/ (accessed April 8, 2025).

27. See Belayachi, "Yemen."

28. Trevor H.J Marchand, ed., *Architectural Heritage of Yemen: Buildings That Fill My Eye* (London: Gingko, 2017) https://doi.org/10.2307/j.ctt201mpg0.5.

29. Renzo Ravagan, Sabina Antonini de Maigret, and Cristina Muradore, "Preserving and Transmission Traditional Building Techniques in Yemen," in *Architectural Heritage of Yemen: Buildings That Fill My Eye* (London: Gingko, 2017), 149–55(52).

30. Nabil Al-Makaleh and Fahd Al-Quraishi, "Preservation of Cultural Heritage Is the Preservation of Cultural Identity and Belonging," in *Architectural Heritage of Yemen: Buildings That Fill My Eye* (London: Gingko, 2017), 215–20(218).

They go on and called on the international community to act fast but delicate. Conserving both the tangible and intangible heritage should be the cornerstone of future initiatives, and this should comply with the existing legal framework:

> The international community therefore has a responsibility to uphold these agreements and to ensure that all groups—national or otherwise—respect the protocols. Failure to do so renders the international community complicit in Yemen's destruction.[31]

Even before the 2015 war, heritage efforts have been critiqued and urged to be more locally grounded. At the center of this thesis is Michele Lamprakos' book, *Building a World Heritage City: Sana'a, Yemen* (2015), in which she critiqued the limits of "values-based" conservation and argues for more inclusive and empowering models driven by local stakeholders.[32] All these resources assume the return of foreign funding and the end of the internal turmoil, yet such hope remain unrealized a decade later. Thus, this thesis proposes pragmatic solutions that adapts to Yemen's current realities rather than relying on foreign, idealized models.

Methodology

Yemen's heritage cannot wait for the 'peace' envisioned by foreign institutions to adhere to their models. It requires immediate, pragmatic interventions that accept and adapt to the realities of ongoing conflict, economic adversity, and fragmented governance. The absence of international efforts has certainly exposed Yemen's architectural heritage to risks, but it has also opened possibilities for alternative preservation approaches. Chapter 1 studies master builders' knowledge and all kinds of challenges they face as they navigate the preservation of their practices amidst a rapidly modernizing and conflict-ridden society. Later, Chapter 2 analyzes prominent conservation projects across Yemen, comparing their success, shortcomings and local community's feedback. After determining the key factors behind a successful safeguarding campaign in Chapter 3, the thesis then considers three controversial and delicate strategies that, if executed appropriately, can serve as scalable models and be replicated throughout Yemen. These proposals include re-purposing abandoned settlements of Yemenite Jews as shelters for displaced refugees, leveraging the Yemeni diaspora as potential donors, and utilizing the highly debated *waqf* system as a self-sustaining mechanism.[33] Chapter 4 goes into detail with each proposal's controversial nature, examines whether they can be mitigated or resolved, and identifies the level of attainability and potential local stakeholders. Lastly, it evaluates each strategy's capability of being self-sufficient and resilient to further turmoil.

Homage to My Roots

Weeks after my acceptance into architecture school, the 2015 Saudi-led coalition began its aerial raid in Yemen. That timing was not lost on me. Since then, I have never been able to separate my architectural education from the unfolding crisis back home. Yemen's heritage, for me, was never just an academic interest: it was a wound, a responsibility, and a quiet obsession. Writing this thesis became my way of unburdening myself, of grappling with what Robert Jan once described: "Answering my question of my place in the world."

In the two years since I began this work, Yemen has been through

31. Al-Makaleh and Al-Quraishi, "Preservation," 215–20.(20).

32. On a more empowering process as opposed to "values-based", see Lamprakos, *Building,* 23-6.

33. *Waqf* is a sustainable, ongoing charitable endowment used throughout Islamic history to develop and maintain community such as mosques, fields and institutions. More on waqf in Yemen see Eirik Hovden, *Waqf in Zaydi Yemen: Legal Theory, Codification, and Local Practice,* vol. 46 (Leiden: Brill, 2018).

yet another tumultuous chapter: escalating Al Qaeda attacks, Houthi strikes on Israel, ship hijackings in the Red Sea, and retaliatory U.S.-UK airstrikes that have left dozens dead. The fragility of identity and place became harder to ignore, and this thesis became an archive of those emotions and thoughts, filtered through a single village, Bayt Baws.

Bayt Baws, in its stillness and decay, holds multitudes. It is a site of conflicting histories: Muslim and Jewish, royal and marginalized, preserved and erased. Even amid heightened political conflict, Bayt Baws remains Sana'a's most prided attractions. From the ambiguity of its name to its multi-faith past, Bayt Baws illustrates how heritage is not merely inherited—it is negotiated, and at times, weaponized. This place taught me that to restore history is not only to rebuild walls, but to carefully navigate the collision of opposing truths.

The proposal on diaspora was my way of making space for myself. As a stranger to my own land with a foreign education, that distance haunted me. How much do I belong in this conversation? How much of my ambition is contribution, and how much of it is savior complex? And yet, I know that the diaspora, those in between worlds like me, have a role. The key is not to overwrite the local, but to support it, to move alongside it with humility and care.

My proposal on *waqf* was perhaps the most quietly radical. It was my protest against the orientalist framing that still permeates even the most well-meaning heritage discourse on Yemen. In contrast to the narrative of decay and dysfunction, I argued that the very fabric of Yemen's historic urban resilience was *waqf*. The tight-knit urban clusters, the equitable public services, and the continued community maintenance, all owe much to this tradition. The deterioration we see now did not begin with some ancient flaw in the system, but

with its disruption during modernization and nationalization. Just as the *waqf* system was sidelined, so too was Yemen's endogenous conservation logic.

I began this thesis looking for my place in Yemen's heritage preservation landscape. But somewhere along the way, I stopped searching. I surrendered to the realization that Yemen's architectural heritage does not need me to save it. It has survived Ottoman campaigns, British colonization, revolutions, earthquakes, and it continues to fight in the current warfare. It is already resilient. My role is smaller than I once imagined—and that's okay.

01 ARCHITECTURE WITHOUT ARCHITECTS

Every Yemeni is instinctively an architect.

A popular Yemeni saying

1.1 The Architecture

Historical Context

Yemen's vernacular architecture epitomizes centuries-old building traditions that have been efficiently rooted in native customs and environments. Whether it is in the country's coastal towns, mountain cities, or desert communities, this natural expression of architecture highlights the skills and cultural wealth of its population. Therefore, Yemen's architectural legacy meets the criteria for recognition as a "living world heritage" under UNESCO guidelines.[34] Fundamentally, Yemen's architectural heritage stands as proof of its peoples enduring spirit and the timeless knowledge embedded in its constructed landscape. It serves as a testament to the significance of safeguarding heritage in times of conflict.

Various architectural styles and buildings customs have bloomed as a product of the local landscape and weather conditions through Yemen. Moreover, architecture in Yemen is also closely intertwined with local socio-metrical inputs such as local histories, social hierarchies, religious beliefs, and gender roles.[35] Different communities have also embraced external influences from trade routes or conquests over centuries. Despite these influences, Yemeni masons and craftsmen still integrated these foreign concepts and materials seamlessly into their work, blending them with local aesthetics. The outcome is a display that honors both native traditions and external inspirations. Despite the recent conflict and subsequent economic collapse in Yemen, its architectural legacy stands as a symbol of resilience and cultural unity. This chapter aims to showcase the custodians of Yemen's heritage, the *ustas* (master builders and craftsmen), delving into their knowledge, training, and challenges. Yemen's *ustas* have designed spaces not only to shelter but also to engage with their natural and cultural landscapes. Across the country, they ensure their techniques, whether it is woodworking, plastering or masonry, are preserved to maintain the architectural identity and authenticity throughout Yemen's cities, towns, villages and hamlets.

34. Ravagan et al., "Preserving," 149-155(152).

The 2003 UNESCO Convention for the Safeguarding of Intangible Cultural Heritage identifies traditional building techniques, oral traditions, and knowledge systems as living heritage. As noted by ICOMOS during the 14th General Assembly, conservation of such "traditional knowledge systems and connected with material aspects of culture" indicates the intangible significance contained within built heritage, with craftsmen being "living monuments."

35. Trevor Marchand, *Minaret Building and Apprenticeship in Yemen*. Routledge, 2013, 11.

36. Marchand, *Minaret Building,* 11-27

Conflict as a Reality

The current unrest in Yemen is not isolated event but rather an extension of its deep-rooted history of conflict, characterized by an ever-recurrent pattern of wars and conflicts going back thousands of years that have left a mark on its society, politics, and culture. However, it is important to note the biggest difference being foreign intervention and catastrophic drone attacks. Yemen's strategic location as the center of trade routes has rendered it a desirable region for regional powers and empires since antiquity. From the ancient civilizations of Saba and Ma'in to the rule of the Ottoman and British Empires and today's economic powers, Yemen's geographical position has made it a battleground for conflicting interests resulting in years of conquests, invasions, and raids, fueling an unending cycle of conflicts and instability.[36]

Furthermore, Yemen's tribal competitive politics, mainly found in northern Yemen, has historically been the cause of conflicts and divisions. Over numerous generations, the interplay of tribal allegiances and rival competitions has mixed with conflict, intensifying tensions and fostering an environment characterized by instability. Unforgiving mountainous geography has historically been difficult for potential conquerors to overcome, causing long,

37. Sadek, "The Forts," 111–7.

resolute campaigns. In other words, the culmination of centuries-old protection from conquests is deeply embedded in its historical fabric. Recognizing the origins of Yemen's struggle over power, due to its position at trade routes or to intricate tribal relationships, helps tackling current conditions and working towards peace, stability and unity in the nation.

Protective Measures

Yemen's architecture goes beyond the mastery of local talent; it also tells a story of conflict, resistance and strength as shown by how buildings and settlements were designed and built in the region. The country is known for high rise tower homes and hundreds of villages and hamlets placed strategically on tough, terraced terrains. Furthermore, the architecture stems of local, durable materials, with protective features such as windowless ground floors and ultra-thick doors. Lastly, many settlements are heavily fortified with only one method of entry through a guarded gate, usually topped with a citadel or watchtowers at its highest peak.[37]

Yemeni settlements were often isolated from each other, a reality that still holds true in many communities today. This isolation led to the development of styles and city layouts uniquely tailored to each location. Lastly, the size and style of buildings in Yemen widely range in order to match with the landscapes and living conditions of its locals.


1.1


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Fig. 1.1 High-rise tower homes, Shibam. Photograph by Dan, *Shibam*, February 24, 2008, Flickr, https://www.flickr.com/photos/twiga_swala/2286378093.

Fig. 1.2 Strategic placement on rough terrain, Haraz Mountain Village. Photograph by Rod Waddington, *Haraz Mountain Village,* Yemen, August 20, 2013 , Flickr, https://www.flickr.com/photos/rod_waddington/15609809403.

Fig. 1.3 Use of local, durable materials, Thula. Photograph by Rod Waddington, *Thula Village*, n.d., Flickr, https://www.flickr.com/photos/rod_waddington/32848243298.

Fig. 1.4 Windowless first floors, Zabid. Photograph by Rod Waddington, *Zabid*, August 18, 2013, Flickr, https://www.flickr.com/photos/rod_waddington/50857688511/in/album-72157635314684116.

Fig. 1.5 Bab al-Yemen gate, Old Sana'a. Photograph by Dan, *Bab-Ul-Yemen, Sana'a*, February 23, 2008, Flickr, https://www.flickr.com/photos/twiga_swala/2286002741.

Fig. 1.6 A citadel, Haraz. Photograph by Rod Waddington, *Medieval Fort, Haraz Mtns*, August 17, 2013, Flickr, https://www.flickr.com/photos/rod_waddington/51890376976/in/album-72157635314684116.

1.2 The Usta

Usta and the Transmission of Knowledge

Those who created and continue to uphold Yemen's architectural heritage are known as the *ustas*, whose innate sense of proportion and spatial design and rich cultural understanding have defined Yemen's skyline generation after generation. Predictably, they are highly respected within their communities for their commitment to preserving the country's history and carefully passing down their expertise. Their works, from lofty minarets to elegantly proportioned tower houses, are as much a mirror of the values of their society as they are an engineering feat.

Recently, they have found themselves at a crossroads. Political instability, economic adversity, and social transformation endanger their practices and intergenerational passage of their knowledge. They have responded in varying ways depending on their circumstances. Some fled their communities or the entire country entirely due to the conflict. Others have changed careers to make ends meet and often encouraging their children to pursue different fields. This poses a major risk to the continuity of the craft which is traditionally passed down from father to son. Similarly, due to the rise of costs, *ustas* have substituted traditional materials with cheap, more readily available alternatives such as concrete and imported metal windows and doors. This trend is driven mainly by the clients' demand for less costs or to cater to their 'modern' preferences. Tragically, another significant reason to lost heritage practices is the aging and gradual passing of *ustas*. Lamprakos' book, which marks the end of a flourishing, decades-long era of publications on Yemen's heritage; in it she already warned that many *ustas* were in the fifties and sixties at the time of publishing.[38] Now, over a decade later, with the ongoing tension, financial strain, and the effects of a global pandemic, their realities are more precarious than ever.

38. Referring to Michele Lamprakos, *Building a World Heritage City* (Routledge, 2016). Which was initially published in 2015 coinciding with the Saudi-led intervention in Yemen.



1.7

Fig. 1.7 Builders in the Haraz Mountains. Photograph by Charles Fred, *Builders*, September 6, 2005, Flickr, https://www.flickr.com/photos/40279823@N00/41467678.

Practice Without Theory

For many centuries, Yemen's *ustas* have shaped the country's urban and rural landscapes without the aid of formal schematics, mathematical formulas, or architectural plans. Their understanding of materials, spatial relationships, and proportions is not the result of scholarly training but of firsthand knowledge that has been passed down through generations. In fact, formal architectural education in Yemen was a comparatively recent development, which took shape only in the 1980s in universities such as the University of Sana'a and the University of Aden. Before that, the *ustas* was the architect, contractor and builder all in one.

Ustas acquire what can best be described as an intuitive sense of proportion, developed through extended practice. As one master builder so elegantly phrased it, a minaret is in proportion when it 'fills my eye.'[39] This remark addresses a fundamental concept: beauty and accuracy are gauged not by outside criteria but by an internal sense of aesthetic and cultural criteria. These *ustas* depend on their bodily capabilities and sensorial intuitions as designing tools, and they train on spatial composition and form through practical engagement, not theoretical contemplation. Significantly, the Qur'an represents the ultimate standard of beauty and perfection in Yemeni society. The *ustas*' aesthetic taste is grounded in Islamic philosophy, in which harmony, balance, and proportion, mirroring divine order; hence, their work is not merely technical but spiritual as well.

39. Quoted from usta Ahmad al-Maswari and the inspiration behind Marchand's book title. See Marchand, "Buildings," 11-27(13).

40. Trevor Marchand, *Minaret Building,* 95.

The Apprenticeship Process

The path to becoming an *usta* is a demanding one that goes well beyond the learning of technical skills. At its center is a master-apprentice bond that shapes as much the moral character of the apprentice as his trade. Apprenticeship begins with manual labor: hauling materials, cleaning tools, and watching the master builders work. This phase forms the basis of the discipline required for the art form, akin to how a child first approaches Islam, which is primarily interested in conformity to a set of rules prior to gaining an inner understanding.[40]

As apprentices continue their training, they are exposed to progressively more complicated tasks. But the instruction is rarely verbal; as builders often remark, learning occurs just by looking. The transmission of this knowledge occurs through processes of imitation and repetition, which not only build practical competence

but also instill humility and respect for hierarchical authority. Marchand characterizes this type of non-lexical knowledge as being bound to indirect teaching, learning from observation and repetition instead of being abstracted theoretically. Legitimacy is drawn by the *usta* not from officially documented knowledge, but from his performance and individuality. His actions and words are not so much explanations as they are events conveying truth and knowledge. Eventually, apprentices would be given the opportunity to demonstrate their craft on a niche aspect of the project. Thus, this transmission of knowledge is as much a product of the identity of the one transmitting it as of that which is transmitted.

Usta's Unspoken Expertise

Traditional apprenticeship consists of bodily repetition and mimicry, with a near absence of categorical language or explicit teaching among the builders. As a result, scholars and architects, who are trained in theoretical and verbal pedagogy, find it frustrating to decipher the modes of communication of the *ustas*—modes that resist formal explanation.[41] But this silence is not ignorance; instead, it illustrates a different kind of knowledge, one that is performed, not represented, and meaning is achieved by doing, not saying.

Ustas rarely say how a work is 'right,' though they are not afraid to denounce what they consider unpleasant. Their verdicts are graphic and metaphorical, often likening buildings to distorted human form. One builder dismissed a stunted design, calling it "all legs and no body," and likened to "an old hunchbacked woman." Such analogies imply the judgment of beauty and flaw is by bodily perception. As Marchand points out, the body of the builder does not only function as a tool but also as a proportion measure. The anthropomorphic

41. Both Lamprakos and Marchand expressed hardship and frustration when first interacting with *ustas* during their time in Sana'a.

viewpoint in which ustas perceive architecture is its own unique vocabulary, though not one that is easily codifiable.

Although their speech might not fit formal academic terminology, *ustas* are not silent. Their knowledge often manifests itself in communal settings, most notably during qat sessions (Figure 1.8).[42] In this relaxed social setting, they share stories, metaphors, and even sketches. Furthermore, they retell past projects, dissect current trends, and sketch on scraps of paper when the qat kicks in and inspiration hits. Lamprakos points out that these tales and metaphors—often dismissed as idle chatter—constitute, in fact, the language of these builders. They convey subtlety, context, and a deep understanding of their craft. These oral traditions, based on localized knowledge, defy rigid classification but offer great insight into the cultural logic underlying Yemeni architecture.

However, Lamprakos points out that modern disciplines like conservation and architecture must create and manage a market for their expert knowledge. They do so in part by translating the "situated" knowledge into more abstracted or codified knowledge forms.[43] While necessary for the operation of bureaucratic institutions and global collaboration, this translation often strips away the cultural logic and embodied wisdom built into local practice. The disconnect between the two knowledge systems risks marginalizing the ustas, whose knowledge does not live up to institutional standards.

Experts like Professor Sultan Sallam, whose work was cited and commended by Lamprakos, play an essential role in bridging this gap.[44] Knowing that the builders "cannot articulate their knowledge," Sallam worked as their interpreter. Having spent months on the site, he painstakingly recorded their gestures, choices, and details in the manner of the eighteenth-century encyclopedists. " I express for the *ustas*, in words and drawings, what they cannot say for themselves," he notes. In doing so, he bridged the gap between embodied tradition and architectural scholarship, without diluting the originality of the builders' methods. Moreover, Sallam's work has been adopted as a practical tool by some builders, with one *usta* even modifying his design to include a more elaborate entrance inspired by the patterns documented in Sallam's book during the restoration of a house in Old Sana'a. His drawings, especially of the intricate *hizams* (decorative brick courses), have helped preserve technical knowledge that many *ustas* have forgotten—underscoring how facilitated documentation can complement and even revitalize traditions.

The challenge, then, is not to reform *ustas*' process, but to comprehend and preserve it. Their silence is not a case of absence; it is its own language—rooted in practice, metaphor, and social ritual. Adopting this perspective enables a more authentic and inclusive conception of heritage, one that honors the knowledge of builders.



1.8

Fig. 1.8 A typical qat session. Photograph by Charles Fred, *Qat Chewers - Country Style*, September 6, 2006, Flickr, https://www.flickr.com/photos/40279823@N00/41466781.

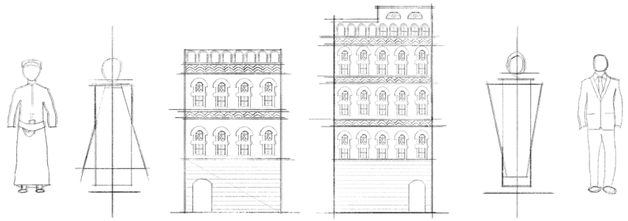
42. Qat is a mildly narcotic plant whose leaves are chewed for their stimulating effects. Commonly used to enhance sociability, reduce fatigue, and suppress appetite, qat chewing is a deeply entrenched social ritual in Yemen. Roughly 80% of the population participates in this daily practice, which typically begins after lunch and extends into the evening. These gatherings serve as important venues for discussion, decision-making, and community bonding. See Nicole Glass, "The Water Crisis in Yemen: Causes, Consequences and Solutions ," *Global Majority E-Journal* 1, no. 1 (June 2010): 17–30, www.american.edu/cas/economics/ejournal/upload/glass-accessible.pdf.

Despite its cultural prominence, qat poses serious threats to Yemen's water security. It consumes over 40% of the country's renewable water resources and 30% of water in the Sana'a Basin alone, far surpassing domestic and agricultural needs. With groundwater extraction rates exceeding natural recharge, qat cultivation has significantly worsened physical water scarcity. While socially and psychologically valuable, the crop's environmental and developmental costs have made it a critical concern in Yemen's ongoing crisis. See Hussein Gadain, "Being the Change in Yemen: Improving Integrated Water Resources Management for Food Security," www.fao.org (Food and Agriculture Organization of the United Nations., March 22, 2023), www.fao.org/countryprofiles/news-archive/detail-news/ru/c/1634924/.

43. Lamprakos, *Building,* 156.

44. Sultan Sallam, professor at Sanaa University, authored an influential but unpublished thesis on traditional Yemeni building crafts (University of Cairo, 1988). Cited by Lamprakos, he noted that "skilled artists have been transformed into unskilled workers," highlighting the deskilling of local craftsmen. His detailed documentation has become a practical resource for both scholars and ustas. See Lamprakos, *Building,* 140, 148, 238.

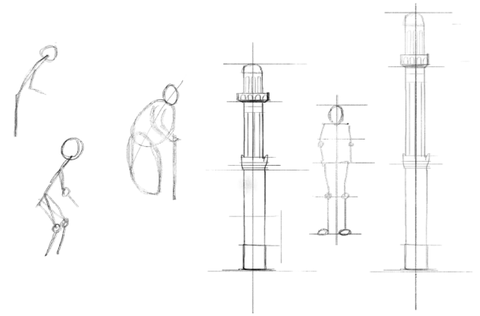
Fig. 1.9 Attempts to visualize ustas' analogies.



"A short house is like a person in *sha'bi* (popular) dress, with a janbiyya. A tall house with a *mafraj* (rooftop room) is like a man in a suit and tie."

U*sta Ahmad al-Rawdhi* explaining Sanaani proportions.

see Lamprakos, "Building," 150.



It looked like an old woman bent over, like an old hunchbacked woman. ... "
..."with such a stunted brick shaft atop that towering stone base. ... "
..."she was all legs and no body."

Ahmad al-Masrawi on the minaret of Masjid 'Addil. MB 185-186

see Marchand, "Minaret Building," 185-6.

Islam as a Foundation

The theoretical foundation of traditional Yemeni architecture is strongly rooted in Islamic doctrine. Sallam explained to Lamprakos that the worldview of the *usta* is based on the belief that "God is most beautiful." This theological orientation not only influences their aesthetic appreciation but also their conception of knowledge itself. In Islamic tradition, the term *ilm* (knowledge) is the second most mentioned concept in the Qur'an God's name, occurring 854 in 14 different forms—denoting its sacredness.

Ilm is thus seen by the *ustas* to extend beyond the realm of religious knowledge and includes technical knowledge and craftsmanship. Yet, due to such knowledge being considered linked to sacredness, it needs to be protected from the factors that could question it. The *usta's* authority is derived not only from his technical expertise, but also from the legitimacy of his personal integrity and authenticity. Thus, the *ustas* recreates raises the art of construction to a level higher than mere technical labor—reinforcing his position as a moral and spiritual leader among his people.

The Effects of Modernization

In the last few decades, the construction boom that was driven by remittances from Yemeni workers in Gulf nations had initially benefited *ustas*, providing them with an unprecedent number of projects and led them to experiment with new technologies and architecture fusion. However, these projects eventually came to be led by new professionals fresh out of university—engineers, architects, and construction managers that had skills more fitted for the Gulf-inspired developments. The introduction of new materials, technology, and building practices has increasingly complicated the environment for *ustas* to work. In this new economic order, their traditional skills were devalued. Most of the highly esteemed *ustas* were hired in concrete building for contracting firms owned by Gulf-returnees that were well versed in new technologies. However, many turned into unskilled laborers, and their social status declined.

Yemen's traditional knowledge systems have then come under strain this social and political transformation. The launching of public discussion of architecture and heritage due to the spread of university-trained architects have democratized access to knowledge and thus eroded the once-revered status of the *usta*. Paradoxically, Yemen's education system has both obstructed and enabled the traditional process. Although Yemen's education system has traditionally emphasized more obedience to authority and discipline than the cultivation of critical thinking abilities, increasing societal demands for democratization are gradually reshaping attitudes toward authority. As a result, the *usta's* role as the sole guardian of architectural knowledge is being radically reconfigured.

Democratic dialogue as opposed to the previously closed knowledge to the masses has empowered clients to be more decisional regarding materials and design at the cost of conventional practices and established norms. Increasingly, younger generations of apprentices and workers are also likely to challenge and argue with conventional power hierarchies. This development endangers the traditional apprenticeship system, where complete obedience was once fundamental to the learning process.

Neo-Traditionalism and the Politics of Authenticity

In recent decades, Yemen has witnessed a striking revival of interest in its traditional architecture with the rise of international attention on its heritage. Neo-traditional styles emerged as dominant, and in some cases mandatory, aesthetic choices in both public and private new construction—incorporating features such as stone banding, decorative plasterwork and most importantly, *qamariyyah* windows.[45] Even Sana'a's first Pizza Hut branch was not allowed to open until it has added *qamariyyah* window screens on top of the storefront window, even though it is traditionally a residential motif.

This new movement, often described by Yemeni builders as a *tajdid al-turath* ("renewal of heritage"), is paradoxical in nature. On the one hand, it reflects pride in local traditions and a desire to reclaim a sense of rootedness while continuing a struggling tradition. On the other hand, it has brought new challenges regarding the authenticity and refinement of contemporary construction. Although neo-traditional structures may appear to pay homage to the past, professionals lament the superficial copying of traditional ornamentation—particularly when these motifs are applied without regard for architectural harmony or cultural relevance. The term *turath mutahaddath* ("modernized heritage") captures the ambivalence, with some viewing it as a respectful tribute and others as a cheap imitation of the past. In the eyes of foreign-trained architects, this trend risks becoming decontextualized or even "kitsch."[46]

45. A ***qamariyya*** is a traditional Yemeni stained-glass window, typically set into gypsum plaster above a home's window openings. These windows diffuse sunlight into soft, colorful patterns, serving both aesthetic and practical purposes by providing sunlight while allowing privacy.

46. Lamprakos, *Building,* 99.



1.10

Professionals' Perception of the Ustas

Despite recurring lamentations by Yemeni architects in the early 2000s about the impending demise of the *ustas* and their craft, scholars like Marchand believe there was little concrete evidence of such decline. In cities like Sana'a, traditional building arts continued to thrive under the guidance of seasoned ustas, who led groups of trainees and village laborers on various restoration and construction projects. Nevertheless, Marchand believes that these claims of concern often seemed to mask deeper professional aspirations.[47] In anticipation of the decline of traditional knowledge, university-trained architects stood poised to monopolize architectural practice and discourse. Their public lament over the disappearance of the *ustas*, in turn, can be seen less as a preservationist concern and more as a rhetorical move toward professional consolidation.

47. Marchand, *Minaret Building,* 238.

Fig. 1.10 An example of turath mutahaddath ("modernized heritage"). Photograph by Dan, *Sana'a*, February 23, 2008, Flickr, https://www.flickr.com/photos/twiga_swala/2286009799/in/album-72157603971273613/.

At the heart of this dispute is the disagreement of opinion regarding the role of the *ustas* with Yemen's built heritage. Conservation professionals are divided: some argue that the *usta* is a key player in conservation circles, whereas others believe that he has too much autonomy and thus incompatible with international best practices in conservation. This tension alludes to an uncomfortable fact: although *ustas* possess the most suitable hands-on experience for restoring Yemen's heritage fabric, their knowledge systems resist standardization and codification required by international practices.

Authority and the Professionalization of Building Knowledge

As pointed out earlier, modern architecture and conservation professions often legitimize themselves by creating their own space for their expertise codifying experience-based knowledge of traditional craftsmen into formalized systems of theory and regulation. This intrusion not only reinforces their professional relevance but also entrenches them as the central custodians of cultural heritage. However, in Yemen, this transition remains incomplete. The *ustas*' highly contextual and non-verbal knowledge has defied abstraction, placing the architects and conservators in a dilemma: they struggle to claim authority while remaining dependent on the very expertise they often sideline.

Although some professionals openly acknowledge the irreplaceable skills of the *ustas*, they are frequently excluded from conservation policymaking and implementation. This marginalization is particularly frustrating for the *ustas* themselves, whose work continues to underpin most successful restoration efforts. One *usta* working on a mosque restoration ironically noted that he was tasked with removing a layer of cement plaster he had once applied under the directive of earlier state-led modernization campaigns.[48]

48. Lamprakos, *Building,* 158.

Architecture only began to emerge as a formal academic field in Yemen in the 1980s and 90s. Many of Yemen's trained professionals came of age during the UNESCO-led heritage campaigns of the 1990s. Nevertheless, the persistent political and economic instability has stalled the institutional growth of the profession. Consequently, Yemen's professional architecture sector continues to be in its young stage and has not yet supplanted the roles of the traditional master builders. Nowadays, Yemeni architectural knowledge is in two parallel yet often disconnected realms: the theoretical frameworks created by international and academic forces, and the local, practical proficiency of the local *ustas*. Both systems continually affect the built environment of the country, not always in harmony but through a continual negotiation of purpose and authority.

02 CONSERVATION HISTORY

2.1 Heritage Conservation in the Modern World

The modern notion of heritage conservation, with key concepts such authenticity and significance, as emerged during the geopolitical and intellectual shifts of the 20th century.[49] These ideas are derived from immerging intellectual currents like such as historicism and Romanticism, in which they conceptualized the past as distinct and irretrievable, casting monuments as fixed records whose value lay in their "material authenticity." Thus, "material authenticity" was regarded as the primary source of a building's value, with the indefinite preservation of its physical fabric seen as most appropriate. This viewpoint accentuated the preservation of the individual monument. By the early 20th century, however, a broader concept of authenticity began to take shape—one that connected heritage to elements of culture and viewed the past as an integral, albeit fluid, component of collective identity. Following post World War 2 rebuilding and emerging national identities of the mid-century came along the "modern notion" of cultural heritage, which no longer limited heritage to individual monuments but rather began broadening cultural landscapes and living traditions.

One of the most profound outcomes of the period post World War 2, as it was going through decolonization and modernization, was the development of international institutions such as UNESCO.[50] Even before a formalized global framework for heritage conservation was in place, the international community mobilized for one of the first major rescue campaigns: the safeguarding of the monuments of Nubia from 1959 and continuing into the 1980s.[51] Simultaneously, conservation emerged as a formalized practice and was shaped by the growing recognition of cultural heritage as a global concern—heritage increasingly regarded as possessing "outstanding universal value." As a result, a group of conservation professionals drew up the Venice Charter in 1964, followed by the adoption of the World Heritage Convention by UNESCO in 1972.[52]

49. This chapter draws heavily on Lamprakos, B*uilding a World Heritage City: Sanaa, Yemen,* which served as a foundational source for understanding the complexities of heritage preservation in Yemen and comparing the strengths and weaknesses of past conservation campaigns. It provides a rare and nuanced synthesis of perspectives from foreign academics, international policymakers, Yemeni officials, local professionals, ustas, and everyday residents.

See page 9-10 for the shift from material authenticity to cultural identity in modern heritage conservation.

50. The United Nations Educational, Scientific and Cultural Organization was founded on November 16, 1945, just two months after the end of World War II, with the mission to promote peace and security through international cooperation in education, science, and culture.

51. Lamprakos, *Building*, 13.

52. The Venice Charter established foundational principles for the conservation and restoration of historic monuments, emphasizing "material authenticity."
World Heritage Convention (1972), adopted by UNESCO, created a global framework for identifying and protecting cultural and natural sites of "outstanding universal value."

53. Lamprakos, *Building*, 14.

"Islamic Cities," an Orientalist Trope

Newly independent countries in the Middle East were uncertain on showcasing and investing on the very thing they wanted to part away from: the 'backwardness' associated with Middle Eastern societies.[53] They eventually sought the historic preservation of their monuments and vernacular architecture to assert their cultural identity as well as capitalize on it for economic development and international recognition. Local technocrats, usually schooled in Western institutions, along with European architects focused on handling preservation from a modernist lens. Most notable plans were André Guitton's plan for Aleppo (1954), Ludovico Quaroni's plan for Tunis (1964), and Michael Ecochard's plan for Damascus (1986). However, proposals didn't come without a neocolonial subtext. In many scenarios, Western planners disregarded residents' well-being by opposing the introduction of modern infrastructure, such as running water and other technology, to preserve the 'picturesque' character of the old city. This "museological view of culture" was due to the lack of development from principles used for artworks and monuments, leading to staunching the city's vitality.

It wasn't until the 1970s when development agencies such as the United Nations Development Programme (UNDP) and the World Bank convinced Middle Eastern countries to consider preserving their old cities as a strategy for urban development, potentially boosting national pride and tourism traffic. International institutions homed in on historic cities—entire neighborhoods, *souqs* (markets),

streets—as they were seen as living repositories of history. Unlike the preservation of singular monuments, projects of this magnitude sought for large-scale international collaboration and financial assistance, which coordinated timely with global initiatives.

UNESCO gradually began adding what they defined as old "Islamic"[54] cities in the MENA region to its World Heritage List: with Fez being first in 1976 (Morocco); the Medina in Tunis, the Old City of Damascus, and "Islamic Cairo" in 1979, the Walled City of Jerusalem in 1981; Shibam-Hadhramaut in 1982 (Yemen), Tyre in 1984 (Lebanon); Marrakesh in 1985; Aleppo and Old Sana'a in 1986; and later on Zabid in 1992 (Yemen). In an effort to expand its campaigns beyond the preservation of archaeological and monumental sites, UNESCO launched an international safeguarding campaign for Islamic City of Fez in 1981; subsequently, it anticipated campaigns for Islamic Cairo, Shibam-Hadhramaut, and Old Sana'a. These campaigns were seen to turn the global attention to supposedly neglected sites in need of financial, technical and intellectual support.

It is hard nowadays not to miss the neocolonial discourse expressed by Western scholars, professionals and institutions toward Middle Eastern old cities during the latter half of the 20th century. The terminology of "Islamic-Traditional" cities can be seen in published records of the World Heritage Convention and other guidelines of that period; they are seen as "timeless"—a harmful romantic trait to enforce these cities as static relics, as opposed to living, evolving societies. These ideas, rooted in Orientalist teachings,[55] frame the urban fabric as a product of Islamic practices, while ignoring the historical and social factors that shaped these spaces. Lamprakos points out that the neocolonial mindset is even more prevalent towards the inhabitants of these urban settings, coming from Western institutions and Native elites and professionals alike.[56] The locals were seen in two ways: one as the bearers of the diminishing 'authentic' culture; the other, paradoxically, as the very contributors of the urban fabric's deterioration as they seek more modern lifestyles.

Criticism of the Venice Charter was raised, particularly from scholars and practitioners in the Global South, starting from the 1980s and onward over its Eurocentric and modernist bias. Most notoriously, the Venice Charter bans the reconstruction of a historic fabric, enforcing its modernist ideals of authenticity and purity.[57] Critics argued that its values are often conflicting with non-Western context, where heritage intertwines with living traditions and community practices. One of the backlash coming from the developing world is that this Western bias undermines the major influence of traditional building and craftsmanship on these regions. Western professionals often marginalized master masons and local artisans, often only brought in for peripheral roles, where their 'authentic' skills were employed to satisfy restoration criteria without valuing their broader cultural contribution.[58]

All Eyes on Yemen

With Fez being UNESCO's first international campaign for rehabilitation of an "Islamic" city, it inspired Arab professionals to seek for World Heritage listing for their historic cities, some seeking for UNESCO safeguarding campaigns.[59] Most importantly, it became the standard for the succeeding cities, through its success and shortcomings. Although Western planners conducted many studies, few work was done on the ground, becoming one of their gravest mistakes. There was another factor the planners didn't grasp initially and with it, its subsequential consequences. In Western countries, historic districts and their strict conservation regulations

54. Lamprakos dives into the Orientalist undertone in UNESCO's General Director Mahtar M'Bow's discourse on Middle Eastern old cities. Lamprakos, *Building,* 14-16. Later seen in Yemen as well by Yemeni professionals and even Ustas. See Lamprakos, *Building,* 235.

55. This viewpoint towards inhabitants can also be seen in Sana'a, Yemen, from professionals and even *ustas*. Lamprakos, *Building,* 16, 235.

56. Orientalism is the Western practice of representing Eastern cultures, especially those centered in the MENA region, as exotic, less developed, and fundamentally different. Coined by Edward Said in his 1978 classic *Orientalism*, in which he maintained that such representations were used to legitimize colonial rule and formed a distorted, simplistic conception of the 'Orient' as opposed to the rational and advanced 'West.'

57. There were stark differences in *ustas*' involvement with campaigns between Shibam and Sanaa. More on that in "2.2 Yemeni Case Studies".

58. Lamprakos, *Building*, 20.

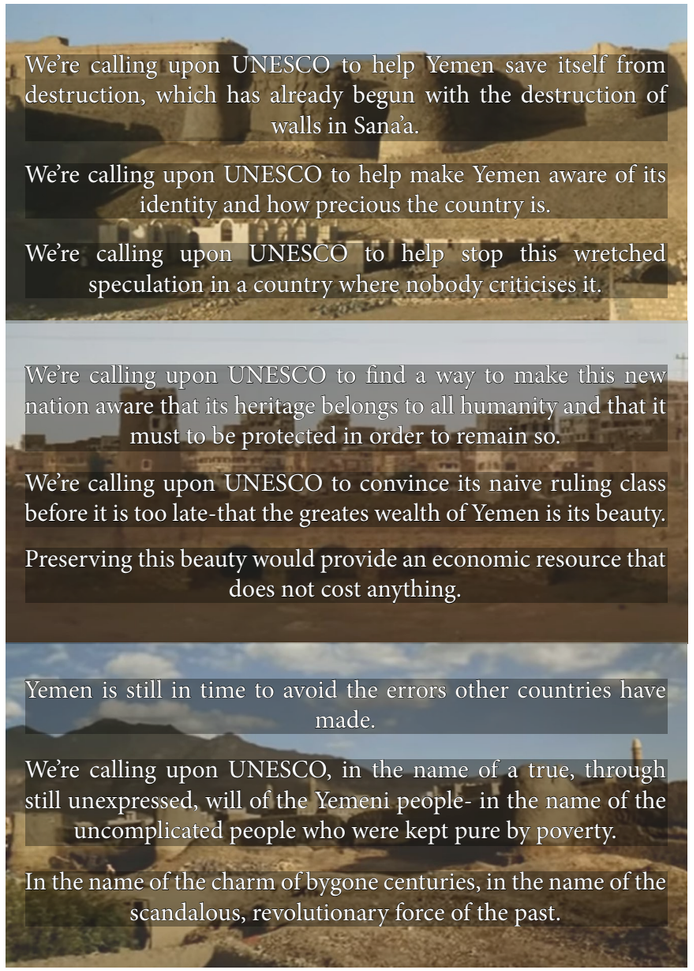
59. According to officials and architects in Sana'a, Fez was an important model for their own effort. See Lamprakos, *Building,* 15.

60. Taken from the film's summary on IMBD. See Rodrigo Amaro, "Le Mura Di Sana'a," IMDb, 2025, https://www.imdb.com/title/tt0317933/.

61. Lamprakos, *Building,* 50.

result in high restoration and maintenance costs, thus leaving the occupancy to the upper class. In contrast, in the Middle East and North Africa, wealthy residents prefer modern neighborhoods, leaving older districts or 'ghettos' to fall into neglect. This disconnect in conservation efforts can worsen historic fabrics by deeming them "untouchable," guided by vague guidelines and regulation that were forcibly set in place to uphold its global status. That was the case in Fez and a concern for the succeeding cities. Cairo's campaign fell through due to lack of political support, giving Yemen's cities of Sana'a and Shibam-Hadhramaut the chance of being the next sites for heritage initiatives.

Even before official interest in Yemen had materialized, one unexpected voice had already called for its heritage protection. While shooting footage of Sana'a in 1970 for his upcoming film, *Arabian Nights*, director Pier Paolo Pasolini used the extra film stock he had on with him to produce a short documentary, Le Mura di Sana, to plead for UNESCO's attention to the city. In the twelve and a half minute film, Pasolini's voices over footages of Sana'a, calling for UNESCO to protect the old city from a "modern invasion."[60] In addition to the significant Orientalist tropes in this documentary, as is in his blockbuster movie, The film ends with a "prayer-like incantation" in its final minutes, "evoking the quasi-religious role of heritage in the modern era" (Figure 2.1).[61] While there is no record of it, locals in Sana'a and Italian consultants credit the documentary, given its release around the same time as UNESCO'S World Heritage Convention, to the attention towards Yemen's direction.



2.1

Fig. 2.1 The transcript of Pasolini's appeal. "Le Mura Di Sana," Film, 1971. 00:10:40-00:12:49.

2.2 Yemeni Case Studies

The next section discusses six of the most significant architectural restoration projects in Yemen, where each project represents a distinct era in the nation's conservation history. These projects are grouped into three chronological stages. The 1980s "discovery era" saw Yemeni heritage being put on the global map, with international intervention spearheading in Old Sana'a and Shibam. These programs were based heavily on outside expertise and funding, testifying to an era in which Yemen was being "discovered" by international heritage societies. By comparison, the "revival era" in the 1990s and early 2000s was Yemen's most stable and economically prosperous era. In this era, restoration programs were more independent and were increasingly carried out by Yemeni professionals and craftsmen. This was also the time when there was a renewed wave of restoration initiatives in Old Sana'a and Shibam, building on the previous international interventions. Lastly, the current era, a period of conflict starting in 2015 to date, constitutes a shift towards resilience-oriented models of conservation amid a protracted war and humanitarian crisis. Operations launched by the ALIPH Foundation, the Daw'an Mud Brick Association, and UNESCO's Cash-for-Work initiative emphasize early stabilization efforts, local employment opportunities, and cultural heritage preservation under unstable circumstances. These three phases together signify not only chronological benchmarks, but also shifts in the comprehension, appreciation, and safeguarding of heritage within Yemeni circumstances.

2.2.1 Sana'a Safeguarding Campaign (1983-1988)

Background

The Old City of Sana'a holds an estimated 5,000 tightly-clustered tower homes, peppered with tall minarets and green gardens. The city boasts of being one of the oldest continuously inhabited cities in the world, with legend claiming it was founded by Shem, son of prophet Noah.[62] The old city remained largely intact during the 16th century Ottoman rule due to its fortified nature, with its gates separating the new Ottoman city. Although the city's gates were partially demolished following the 1962 civil war, influenced with Egypt's modern models, its social fabric proved remarkably resilient despite modern intrusions.[63] By the 1970s, however, influential families relocated to newer districts, leaving many homes abandoned. This period of abandonment, paired with Yemeni officials' modernizing aspiration, threatened Old Sana'a's integrity immensely. What came as a shock to Yemeni officials is when foreign embassies and international organizations took interest in moving into these tower houses, leaving Yemenis to reevaluate the old city's importance.[64]

In 1978, UNESCO voted Sana'a as one of the most deserving Islamic cities of an International Campaign for its Protection and Preservation.[65] Following international spotlight and its enlistment as a World Heritage site, the old city welcomed numerous preservation projects through the span of decades. Below I go over one of the first and largest of all, the UNESCO's Safeguarding Campaign (1983-1988), and dissect its numerous subprojects—highlighting successful and failed projects.

62. Lamprakos, *Building,* 32.

63. Ronald Lewcock, "The Campaign to Preserve the Old City of Sanaa," in *Architectural Heritage of Yemen: Buildings That Fill My Eye* (London: Gingko, 2017), 131-39(131).

64. Lamprakos, *Building,* 50.

65. Lewcock, "The Campaign," 131-39(135).

Fig. 2.2 A typical street in Old Sana'a. Photograph by Rod Waddington, *Sanaa, Yemen,* n.d, Flickr, https://www.flickr.com/photos/rod_waddington/16832146669/in/album-72157635314684116/



2.2

Infrastructure First and Foremost

One of the most profound actions taken during this campaign was at the very beginning of the project when discussing conservation strategy. Ronald Lewcock, an architectural historian and UNESCO coordinator, was part of University of Cambridge's expedition to Yemen in 1973, which produced the foundational publication with Professor R. B. Sarjeant.[66] Lewcock was appointed by UNESCO to be the coordinator of the campaigns of Sana'a and Shibam, undertaking studies in Yemen to develop the program of the campaigns, leading to his title as the "Godfather" still referenced decades later.[67] During the early days, Lewcock along with 'Jellal Abdelkafi, the town planner of Tunis, opposed ICOMOS[68] loyal consultants who believed priority goes to preserving monuments. Abdelkafi and Lewcock stressed treating Old Sana'a like Venice, where its value "derives from the whole fabric, not just the monuments." They stressed prioritizing infrastructure and street paving in order to improve the people's livelihood and reduce further exodus while also preventing the potential collapse of future buildings, an issue prevalent in Sana'a. However, other consultants invoked the Venice Charter which was prioritizing historic monuments.

66. Serjeant, R. B., and Ronald B Lewcock. *Sana: An Arabian Islamic City.* London: World of Islam Festival Trust, 1983.

67. Lamprakos, *Building,* 74.

68. The International Council on Monuments and Sites is the advisory body to UNESCO on matters of cultural heritage.

Publicity Over Impact

The campaign thus followed a two-phased approach: first comes infrastructure, and then conservation. Conservation of buildings was delayed for at least two years, following Lewcock's suggestion. However, it went through its first major obstacle. When UNESCO approached embassies to help fund the campaign, with a few exceptions, most opted out to sponsor infrastructure and were only interested in high-profile restorations. Thus, North Yemen had to finance important infrastructure work and initiate the international

campaign. The campaign set a precedent for international organizations, requiring new institutional, legal, and funding mechanisms. However, these issues were not new; in fact, they were raised in the Venice and Fez campaigns.[69]

Structure

An issue from the beginning was the lack of clarity of UNESCO's role in the campaign to local officials. They presumed UNESCO's involvement would come with funds; however, they were surprised by its role as purely coordinating body, as opposed to a financing one. UNESCO proposed an autonomous office, outside of the ministerial system, that reports directly to the Prime Minister. Yemeni officials, while later admitting that the role was beyond their scope, were still against the idea of a single powerful and independent office. The office that was in charge of that, the Executive Office for the Preservation of the Old City of Sana'a (EOPOCS), was reportedly interfering with the responsibilities of other ministries.[70] EOPOCS stayed in charge until its decline in 1990, bringing back competition between offices which hindered the implementation of projects. Another substantial problem is the overlapping of ministries' roles; there were many redundancies and legal overlap.[71]

EOPOCS's biggest challenge was structuring and governance problems. The office, even though it had effective control over the old city, lacked a legal basis to support its activities, as opposed to other cities like Fez. There were disputes over whether the office would concentrate on documentation and technical assistance or enforcement. Even after 15 years since the launch of the campaign, government conservation agencies like GOPHCY and EOPOCS still had unclear roles, coordination and transparency. This resulted in

69. Lamprakos, *Building,* 71.

70. That included the responsibilities of the Ministry of Municipalities, Antiquities, Endowments, Public Works and the Mayor's office. See Lamprakos, *Building,* 73.

71. The ministries of Municipality and Public Works merged for several years and then separated a few years later.

international institutions going after more independent agencies, such as the Social Fund for Development (SFD).

Foreign Expertise

One of the ramifications of foreign donor aid is the tendency to rely excessively on outside experts instead of strengthening the local profession. Despite Lewcock's recommendation, few initiatives were directed toward training the Yemeni workforce or resurrecting traditional apprenticeships. Yemeni professionals were often employed in supervisory roles without the necessary experience or proper training. Moreover, leadership posts were filled by political appointees who lacked appropriate expertise.

Foreign consultants often interact only with higher officials. With their visits confined to short-term missions and seminars, they offer limited technical input, training, and equipment supply. Moreover, most of them take little interest in learning the local context and their experience. Thus, it leaves them frustrated by the ineffectiveness of local offices, as they are disconnected from the promising, on-the-ground efforts. Meanwhile, most local experts had begun to gradually gain experience in decision-making and fieldwork practice, working with international consultants, contractors, and local builders. The campaign's initial conservation work was characterized by commitment and passion; however, the initial momentum was later derailed by bureaucratic delays and political instability.

The foreign consultancy experience was generally very confusing to Yemeni experts. Instead of following "international" charters, foreign specialists had diverse attitudes and approaches influenced by their home country and education. Conservation as a new and

still developing profession had no universal norms, which made cooperation even more difficult. Despite such challenges, Yemeni experts were "reflective and critical."[72] They evaluated elements of international practice and applied them in their own context. Like *ustas*, they often embraced conservation discourse while making practical decisions that deviated from it when situations demand it.

Financial Issues

Donor countries and policymakers were not interested in funding infrastructure projects; rather, they were keen on high-profile projects. By 1986, the EOPOCS office gained momentum and had 40 staff on board, waiting for donor funds that they have been expecting. The conservation budget was estimated at 200 million U.S. dollars, of which 40 percent was funded by YAR,[73] 10 percent grants, and the remainder through foreign loans. However, foreign consultants were counting on rich Arab countries but were surprised to see that most of the interest came from foreign nations, mainly European countries as well as from Japan and North Korea.

The German Ambassador at the time convinced the conservation office to start with a "demonstration project" and donors would follow suit.[74] He was right. In fact, as soon as the Yemeni government committed funds for the project, many embassies joined in. However, according to UNESCO and EOPOCS procedures, they largely dictated project priorities and restoration methods. Yemeni professionals were aware of their limited experience in conservation, and so they often lacked the leverage to challenge these decisions. Bureaucratic obstacles and insufficient collaboration between foreign and local experts further hindered meaningful engagement, resulting in a disconnect that prevented effective integration of local knowledge into conservation efforts.

Both the Yemeni government and international agencies were criticized for not investing in human capital, noting that the Yemeni government did not require training as a condition for foreign donor aid.[75] This lack of investment left Yemeni conservation efforts overly reliant on foreign input and lacking attention on developing a sustainable, local-driven approach.

Ustas

The conservation viewpoint of the *ustas* comes with deep irony. While the government and international community celebrate the old city as "world heritage," the heirs of the very tradition that built it remain marginalized.[76] Since the early days of conservation efforts in Yemen, architects and consultants warned against the loss of traditional construction skills. But people like Marchand argue that such alarms may have been exaggerated or even deceitful.[77] The reality seems to lie somewhere in between. In cities such as Sana'a, traditional techniques have been mostly substituted with modern materials, especially concrete, forcing *ustas*' children to seek other careers. Conversely, in locations such as Shibam-Hadhramaut, where traditional materials are still favored, *ustas* have remained predominant—with traditional practices continuing to be in use and adapting over time. In Shibam, innovative conservation initiatives that reinforce apprenticeship schemes have been effective; however, such initiatives remain uncommon.[78] One *usta* complained on the lack of attention they are getting. wondering: "If they do not first preserve the craftsmen (*al-hirafiyyin*), how can they preserve the old city?[79]

72. Lamprakos, *Building,* 165.

73. Yemen Arab Republic, or North Yemen. See Lamprakos, *Building,* 80.

74. Lamprakos, *Building,* 76.

75. Lamprakos, *Building,* 85.

76. Lamprakos, *Building,* 158.

77. See Chapter 1.

78. Lamprakos, *Building,* 159.

79. Lamprakos, *Building,* 158.

Other problems stemmed from insisting on reputable general contractors who did not have traditional building experience. Most *ustas* were not qualified under new contracting systems, nor did they know about tendering procedures. Most importantly, they did not have finance. Although the Social Fund for Development (SFD) attempted to overcome these problems with the Sa'ila Project, a pilot initiative in Sana'a aimed at restoring and beautifying houses along the Wadi Sa'ila in hopes of attracting tourists, problems still arose.

The *ustas*' difficulties were vividly encapsulated in the Sa'ila Project: which focused on "capacity building" through the training of *ustas* to be contractors and the Local Council as a managing counterpart. Still, these plans failed, and the Local Council underperformed, failing to manage construction or collect homeowner payments, and leaving contractors (in this case, the *ustas*) unreimbursed long after project completion. One of the *ustas*, a master *qaddad* (plaster), complained of the physical and monetary cost of the work, and that he had gained only "exhaustion and reputation."[80]

Tourism in Mind

In the 1970s and 1980s, policymakers imagined Yemen's stunning heritage sites as a primary driver of tourism and economic growth. This "cultural tourism" was aimed to balance the declining agricultural economy in Yemen, and the government policy reflected this priority by 1977.[81] However, tourism numbers never approached projected levels, and they all together collapsed following the 2011 revolution. Despite this, officials still longed for tourism to climb, often at the expense of catering to the locals' connection to the heritage.

There were few local community-based initiatives, but most decision-

80. More on their struggles see Lamprakos, *Building,* 212-3.

81. Lamprakos, *Building,* 64.

making favored external audiences over local livelihoods, bypassing local knowledge and overlooking how historic environments could serve daily life.[82] Restoration projects, including the *samsaras* (caravansary) and sections of the ancient city wall, were mainly aimed at tourists and rich citizens. Though attempts to resurrect traditional handicrafts were promising, they were often without the involvement of local craftsmen—thereby limiting their potential social and economical contribution.[83] These schemes were prone to delays, and many remained in the planning phase by the 1990s.

The mismatch between planning and lived experience revealed a deeper disconnect: differences in priorities between foreign consultants, Yemeni policymakers, and local professionals. Foreign consultants like Lewcock favored services for locals, such as post offices and banks, and limits on tourist activities in the old city. Yemeni policymakers, though, prioritized tourism revenue and proposed conversions of old houses to hotels to help fund restoration work. The proposed *samsaras* projects reflected this tension: consultants saw them as local shopping centers, whereas policymakers saw them as tourist sites, a vision which was finally incorporated within the amended campaign strategy.[84]

Waqf System

This disconnect was further compounded by the absence of coordination with existing institutional frameworks, most notably the *waqf* system. A *waqf* (pl. *awqaf*) is an Islamic charitable endowment consisting typically of donated property or assets set aside in perpetuity to find religious, educational, or social services. Once a property is designated as a waqf, the endowed property cannot be transferred, divided or sold. In Yemen, the Ministry of

82. Lamprakos, *Building,* 230.

83. More on local alienation see Lamprakos, *Building,* 82-4.

84. Lamprakos, *Building,* 169.

Endowments (MoE) is designated to manage most types of the endowed properties, legally and financially, in the country. As a result, the Ministry is embedded within conservation circles, with any work on endowed property requires its approval and budget allocations. Many *awqaf* consist of an entire complex—usually of a mosque, a bathhouse, lavatories, agricultural gardens, and a water supply system. It is estimated that two thirds to 90 percent of the Old City of Sana'a, including most of the public buildings and most of the market, is endowed under *waqf*, making the Ministry a powerful player in the preservation planning.[85]

The MoE is primarily responsible for the maintenance of mosques, which are *waqf* property but also fall under the authority of the General Organization for Antiquities and Museums (GOAM) and the General Organization for the Preservation of Historic Cities of Yemen (GOPHCY). This overlap makes conservation more difficult. The MoE is reportedly predisposed to profit-making rather than conserving the past, a view that has been criticized by conservation experts.[86] In the past, the *waqf* system's inability to factor in inflation resulted in widespread abuses, and its managers are bound to be perceived as visionless for conservation. The nationalization of *waqf* properties was one Tunisian response to deal with such problems. Others consider *waqf* to be an endogenous conservation mechanism motivated by social utility rather than aesthetic or historical reasons. The MoE often reminds the GOPHCY of its position as custodian of heritage in the classical sense, emphasizing the utility of properties for generating income, especially for mosques. GOPHCY professionals respond that the Ministry's policy devalues historic importance, making conservation a question of money.

One of the most revealing examples of institutional conflict is the case of *Samsarat al-Baw'ani*, considered to be the oldest *samsaras* in Sana'a, and possibly one of the oldest structures in the Old City. The building had long been identified by conservation experts as a critical site in need of preservation The MoE permitted a merchant to leave the exterior of the building intact while modernizing its interior. However, GOPHCY considered the *samsara* a monument that should be restored with meticulous care, but no agreement was made.[87] In MoE's eyes, as long as the "historical style" of the façade is spared, they can alter its interiors—going against archaeological preservation values. Their desire to bring in the most revenue, usually at heritage's cost, resulted in decisions condemned as short-sighted by conservators.

Locals' Hostility

Despite efforts to explain conservation work, residents of Sana'a Old City were first suspicious of, even hostile to, the campaign. Progress up to 1989 dispelled these suspicions; nevertheless, some remained. Muhammad al-Sa'ad, an urban geographer, commented on the residents' fear that the campaign would decide things on their behalf without their consent. Officials were inclined to explain such resistance in terms of an apparent 'lack of awareness' or 'ignorance,' despite the clear absence of real community participation.[88]

Southern Yemeni architects at the conservation office recalled that EOPOCS leadership consistently rejected their attempts to engage the community, undermining the conservation efforts. As a matter of fact, they went out of their way to discourage such involvement. The lack of transparency, coupled with the Sana'anis' defensive nature, increased suspicions and hostility. Contrary to Shibam, where participatory meetings were included as part of the process, Sana'a's approach reduced trust and undermined the objective of the

85. Lamprakos, *Building,* 76.

86. Lamprakos, *Building,* 129.

87. Lamprakos, *Building,* 131.

88. Lamprakos, *Building,* 77.

89. Lamprakos, *Building,* 78.

90. Lamprakos, *Building,* 199, 231.

91. As part of Italy's program of foreign aid. Studio Quaroni carried out 3 phases by three teams over the course of the 1980s: architecture and conservation, led by Ludovico Quaroni; urbanism, led by Adolfo DeCarlo; and sociology, led by Corrado LaRocca.

92. Lamprakos, *Building,* 66, 122.

conservation effort. That is especially true since Sana'a's demography was changing with rural migrants replacing long-time families, thereby altering the community's sense of "urban identity."[89]

The widespread distrust often escalated into open hostility, with conservation staff suffering threats and violent attacks. Surveyors in the 1970s described feeling unsafe walking the roads, and as recently as 2002, people working on conservation efforts were shot at. Misunderstandings also fueled underlying suspicions; for instance, the Swiss team working on a private residence, Bayt al-'Anbasa, was accused of stealing artifacts thought to be inside the foundations of the building. This well-publicized incident underscored the extreme distrust aimed at outside conservation efforts.[90]

Controversial Projects

Studio Quaroni and Bonifica's Facility Proposal (1981)

The origins of conservation work in Sana'a are often credited to the Italian efforts in the early 1980s. In 1981, the Italian Foreign Affairs Ministry entrusted Studio Quaroni and Bonifica S.p.A. with the task of developing a master plan for the Old City.[91] The studio favored revitalization over mere conservation, and it sought to preserve the "authenticity" of architectural elements while adding modern services and infrastructure to make the Old City more livable. For instance, ancient tower houses were converted into multi-family dwellings. One of the most controversial proposals was the destruction of the single-story *souq* shops (Figure 2.3) to provide space for a two-story commercial building with basement parking—a proposal heavily rejected by local policy makers and conservation professionals.[92]

It was a unanimous consensus between foreign consultants that the



Fig. 2.3 Single-story shops in a souq in Old Sana'a. Photograph by Dan, *Sana'a*, February 23, 2008, Flickr, https://www.flickr.com/photos/twiga_swala/2286024167/.

93. Lamprakos, *Building,* 169.

souq was to be the economic center of the Old City; nonetheless, the studio said that its infrastructure was not fit for contemporary commerce. The streets were not paved, traffic was heavy, and trash filled the area. They suggested demolishing the existing shops and building a new center, with refurbished *samsaras*, gardens, and other traditional features to maintain the look of the souq but enhance usability. The new *souq* would be made as a center for economic activities. But this radical suggestion encountered fierce opposition from Yemeni officials and professionals, who feared that it would disrupt social and economic relations and bring in foreign materials and functions.[93] Lamprakos remarked that not all Yemenis felt that way. One architect criticized many at the conservation office for their old school, romantic outlook of the city. He suggested another look

94. Lamprakos, *Building,* 231.

95. Lamprakos, *Building,* 87, 189.

96. Lamprakos, *Building,* 190, 202.

at the studio's project, citing that romantic notions should come after the economic needs, safety and future of the old city.[94]

Studio Quaroni and Bonifica's Residential Project (1986-1993)

Part of the campaign's rescue of the Old City was to restore 30-100 individual private houses as demonstration projects and help establishing a loan bank to aid homeowners. But the loan bank never materialized, and funds were limited. Most decision-makers thought that homeowners were responsible for maintaining their homes, with the campaign officials admitting that restoration cost would be theirs to bear in a large measure. A demonstration project of the Quaroni Bonifica team was the actual implementation of such plans, to combine city conservation and provide a model for reproducible future projects.[95]

The restoration faced a lot of issues such as ownership disputes and trust issues with the residents. In one instance, a house's owners reoccupied mid-restoration, prompting protests from the Italian team. The resident read in the newspaper that their house will be used as a center for conservation studies, prompting them to rush back in with weapons. The Italians wanted to complete the project, even offering the family USD 1,000,000 for their home, but the family didn't believe the offer was legitimate. Moreover, high costs and complicated procedures deterred replication despite attempts at the use of conventional materials and methods. Labor disputes also surrounded the project, with locals complaining of secrecy and exclusion from restoration, fueled suspicion and rumors.[96] The project was widely condemned for its methodology and outcome. Prioritizing costly foreign high-tech expertise over local methods sent



Fig. 2.4 Typical back alley in Old Sana'a. Photograph by Rod Waddington, *Street Life, Sana'a,* n.d, Flickr, *https://www.flickr.com/photos/rod_waddington/31150335176/in/album-72157635314684116/* album-72157635314684116/.

97. Lamprakos, *Building,* 203.

98. Lamprakos, *Building,* 101.

the wrong message, thus deterring further community participation. Lastly, the secrecy and project's astronomical costs highlighted its inefficiency, and there was a regretful acknowledgment that the money spent could have been used to refurbish many more houses.[97]

Besides residences, the studio studied the network of alleys surrounding the Old City. It proposed to transform public spaces within the city into a European-style "collective" concept met with resistance. The idea of using the city's narrow alleys for vehicular travel was perceived as culturally insensitive, as these alleys are valuable semi-private paths for women and their children. Citizens noted that these spaces are vital social functions and should not threaten the integrity of the city's social fabric to be equated with neighborhoods in Europe.

Bustan al-Amri UNESCO Project (2003-2004)

The idea of an "old city" is frequently invoked as a justification to protect traditional religious and social values in the face of rapid societal change. Citizens may invoke this rhetoric of conservation to resist elite-backed programs of modernization. This results in a complicated relationship between global conservation policies, like those provided by UNESCO, and local tradition.

One prominent example is the project in Bustan al-'Amri, a garden which is part of the Qubbat al-Mahdi mosque *waqf*. A survey by GOPCHY reported over 40 gardens in the Old City, maintained under the *waqf* system. During the UNESCO's Campaign, a project was drawn up to convert the site, and neighboring gardens, into a public park and an ecomuseum. It was also supposed to restore the mosque's well enclosure and utilize traditional water channels for

98. Lamprakos, *Building,* 101.

99. Lamprakos, *Building,* 104.

irrigation. The project was one of a series of projects rehabilitating and upgrading the Wadi Sa'ila area. Some of the residents endorsed this vision, campaigning for authorities to adopt it, but the project was never actualized.[98]

In 2003, the Ministry of Culture established an open-air theatre in the garden of Bustan al-'Amri to enhance cultural activities, especially after Sana'a was declared the Arab Cultural Capital for 2004. These activities, like a performance by a German orchestra, were exclusive of the local residents, thereby establishing a pseudo-colonial atmosphere in which the Old City was made a destination for foreign tourists alone. This was met with protests by residents claiming that the use of *waqf* land for entertainment contravened the patron's original intention and was not suitable for a location associated with a mosque. The scandal made front-page headlines and even reached Yemen's Parliament.

Locals, naturally, favored the original garden plan proposed by UNESCO as being closer to conservative Islamic ideals and the *waqf's* goals. They invoked both Islamic law and the mandate of UNESCO in opposing modernization, emphasizing their desire to preserve the cultural and religious character of the Old City. In attempting to assuage local fears, the theater was used during Ramadan to perform *tawshih* (religious music), reflecting an attempt to reconcile modernization and traditional practice.[99] The Social Fund for Development had considered a proposal to demolish the theater and restore the garden to its original condition, but it appears the plan was ultimately abandoned.

White-Washing the Old City (2003-2004)

In December 2003, The Ministry of Culture launched a city-wide façade white-washing project. Traditionally, homeowners plaster on special occasions, such as weddings and Eid (Islamic holiday), and represent a cultural process. Reports are conflicted on whether or not the Ministry consulted conservation authorities. Nevertheless, the MoC spent 65,000,000 Yemeni Riyals (around 350,000 U.S. dollars) on the project. Protests came out from the local conservation community, with a veteran of the UNESCO Campaign lamenting the city's "Disney-like" quality.[100] Aside from symbolic harm, the project has done physical harm as well. Plastering is a renewal process, which entails brightening facades with diluted plaster. However, craftsmen have been ordered to remove old plaster and apply a new one, using sharp tools and towels rather than their hands, straying away from traditional techniques. This rushed technique resulted in damaging older monuments and erasing centuries-old decoration and calligraphy.[101] Craftsmen's complaints were overruled, highlighting their low position in the current hierarchy. Professionals were expressed concern that the initiative undermined community engagement and set a harmful precedent for future endeavors, implying that conservation is about state-sponsored ornamentation rather than a community-driven process:

> "We're trying hard to convince homeowners to contribute to restoration costs. ...
> ... Now people are spoiled, because the Ministry of Culture paid 100%-but it was all surface work, there was no substance. ...
> ... The good thing is that plaster wears away. A few rainy seasons and it will be gone."[102]

The white-washing project was one of the first independently initiated conservation efforts by the government. While it remains unclear whether conservation offices were consulted, its greatest flaw lay in its underlying priority: appealing to tourism. Rather than investing the funds to initiate a broader, sustainable effort, the money was spent on a one-time beautification campaign—leaving residents with the impression that maintenance is the state's responsibility.

100. Quoted by Saba al-Suleihi in Lamprakos, *Building,* 214.

101. Lamprakos is referring to the fourteenth century minaret of al-Abhar Mosque see Lamprakos, *Building,* 214.

102. Abdullah al-Hadrami, one of the veterans of the UNESCO Campaign, quoted in Lamprakos, *Building,* 215.

2.2.2 Shibam-Hadhramaut Campaign (1983-2013)

Background

Famously dubbed the "Manhattan of the Desert " (or its lesser-known "The High One" by its locals), Shibam-Hadhramaut[103] is a dense urban fabric located in Hadhramaut valley comprising of around 500 earthen tower houses, soaring from five to up to eleven stories high. There is epigraphic evidence, that is the study of inscriptions, that Shibam existed around 500 BCE and played a significant regional function.[104] Its building tradition is closely associated with that of the ancient South Arabian civilization, preserved by the isolation of its desert valley location.[105]

Shibam's ancient appearance is incredibly well-conserved. Tom Leiermann, a German architect who was involved with the Shibam Urban Developmeny Project—a joint Yemeni German enterprise managed by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)—for a decade said it best, "There is probably no town in the world that still so closely resembles its appearance 2000 years ago as Shibam."[106] The survival of Shibam's mud-brick tower houses owes to their climatically adapted mud-brick architecture, the preservation methods of lime plaster from ancient South Arabia, and its past as a trade hub.

103. Some publications use the name "Shibam-Hadhramaut" to distinguish this World Heritage city in the Hadhramut region from other Yemeni towns similarly called Shibam. For the purposes of this book, "Shibam" will refer exclusively to the mudbrick tower-house settlement in Hadhramaut.

104. Tom Leiermann, "Rehabilitation of Historic Shibam and Zabid, Yemen as an Impulse for Community and Economy," *Built Heritage 5*, no. 1 (December 2021): 2, https://doi.org/10.1186/s43238-021-00044-8.

105. Tom Leiermann, "Preserving Shibam: The City of Towering Mud Houses," in *Architectural Heritage of Yemen: Buildings That Fill My Eye* (London: Gingko, 2017), 141–47.

106. Leiermann, "Rehabilitation," 2.

Despite its resilience, Shibam has grave vulnerabilities. The earthern structures, with a lifespan of approximately 300 years, uses indigenous hardwood which are vulnerable to termite attack. In addition, extreme flooding is a constant threat. Due to its location at the edge of the Hadhramaut Valley, the region is vulnerable to flash floods and heavy rains. Medieval accounts and other documentary evidence emphasize flooding as a recurring risk,[107] with the recent flood of 2008 demonstrating how rapidly an earth structure can be destroyed in such an event.[108]

While the physical material of Shibam's architecture is fragile, its architectural form, urban layout, and construction techniques have altered very little. These structures require constant care, including annual whitewashing, mud plastering every ten years, and deep repairs every 30 years. Thus, Shibam's survival depends heavily on the dedication of its residents and local labor force—even with large-scale rehabilitation programs and government support. However, with climate change and the escalating conflict, this commitment alone is not enough without the establishment of external support.[109]

Two major projects come in mind when it comes to Shibam, the UNESCO's Safeguarding Campaign in the 1980s and the Urban Development Project (2000-2013), a German-Yemen collaboration by Yemen's SFD and the German state development agency (GIZ, formally GTZ) in collaboration with GOPHCY. Highlights from both projects will be studied further below.

Competition with Sana'a

While Sana'a secured its World Heritage listing in 1986, Shibam-Hadhramaut was already on the list by 1982. South Yemen didn't join North Yemen until 1990 to form the Republic of Yemen, so with Shibam in South Yemen, competition arose between the two countries in showcasing their heritage cities. While the four-year delay can be partially faulted from the North Yemeni Government, Lewcock, who coordinated both UNESCO Campaigns, reveals that not all UNESCO officials were convinced of the "outstanding universal value" that Sana'a possessed.[110] Lamprakos suspects that Shibam, with its restrained tower houses in cubic volumes and modular rhythm, was better assimilated to the modernist lens. Sana'a on the other hand, was deemed too extreme and "vernacular". She analyzed certain dictions used in relation to both Sana'a and Shibam. As noted earlier, film Pasolini called the beauty of Sana'a "unreal ... almost excessive." A UNESCO film on Sana'a and Shibam, produced nearly two decades later, categorized Sana'a as "flamboyant… amusing… like a child's dream come true."[111] These preferences would continue shaping consultants' evaluations and recommendations for years to come—an often-overlooked element in the quest for "outstanding universal value." Nevertheless, both campaigns launched in tandem, with Shibam's succeeding Sana'a's by two days.[112]



Fig. 2.5 Shibam with Hadhramaut Valley in the Background. Photograph by Dan. *Shibam*, February 23, 2008, Flickr, https://www.flickr.com/photos/21013862@N08/2286377195.

2.5

107. Ronald B. Lewcock, *Wadi Hadramawt and the Walled City of Shibam* (UNESCO, 1986).

108. Leiermann, "Rehabilitation," 2.

109. Leiermann, "Rehabilitation," 3.

110. Lamprakos, *Building,* 63.

111. It's unsurprising that the Ministry of Culture pushed for the white-washing of the old city, although critics criticized its "Disney-like" appearance. UNESCO, seen in its wording, has historically emphasized Old Sana'a's whimsical character as its biggest universal attribute.

112. Lamprakos, *Building,* 71.

Scale and Cultural Differences

According to Lamprakos, Lewcock was astonished with the stark contrast of culture between Shibam and Sana'a. In Shibam, community meetings were a normal and expected part of the process, while in Sana'a, such gatherings were discouraged or viewed unfavorably by officials.[113] The distinctions are a result of several factors, mainly due to socio-political ideologies and the cities' scale. In Shibam, a more "enlightened" mentality, stemmed from decades under a prevalent socialist system, sparked a more collaborative environment.[114] This environment achieved many feats Sana'a couldn't—including steering away from a top-down approach, less bureaucratic overlap, a better involvement of *ustas* in rehabilitation, and more engagement from the community. Aside from cultural differences, one of the largest factors contributing to the more positive outcomes of Shibam is scale. Afterall, Sana'a is ten times larger than Shibam.[115] More on the differences between the two will be discussed below.

Infrastructure First... and Archaeological Sites

Similar to Old Sana'a, tackling infrastructure was regarded with the upmost priority by Lewcock—following the same anti-orientalist mentality of considering residents' needs over museumification.[116] Lewcock highlighted in his UNESCO mission publications the urgency of reserving phase one of the campaign to install underground services in one coordinated operation that includes: sewage, drainage, water supply, stormwater drains, telephone and television wiring.[117] Moreover, cracked underground concrete pipes endangered buildings of collapse. While telephone and television aerial wiring weren't a significant concern, Lewcock suggested adding it to the underground effort to cut costs and beautify the streets.

113. Lamprakos, *Building,* 208.

114. "Enlightened attitudes", as opposed to backward and tribal, is repeatedly echoed by professionals from Lower Yemen as well as visiting foreigners—a part of a much larger discourse between the sociological differences of then North and South Yemen. See Introduction Chapter and Lamprakos *Building,* 78, 208.

115. Old Sana'a is home to around 5,000 houses as opposed to Shibam's 450 see Lamprakos, *Building,* 208.

116. It is worth noting that the UNESCO campaign also looked over archaeological sites around Hadhramaut Valley. Aside from prioritizing infrastructure, Lewcock asked for the immediate protection of archaeological sites from flooding, exposure and vandalism.

117. Lewcock, *Wadi Hadramawt*, 121.

Unlike Old Sana'a, Lewcock actually asked for the protection of major archaeological sites in tandem with infrastructure within phase one of the campaign.[118] His urgency might be due to the age of these sites (from the ancient Sabaean era) as well as due to their depleting condition that can be alleviated with low-cost measures. This included protecting the sites from flooding (through construction of deflection dams), from pillage or vandalization (by surrounding them with fences or 24-hour surveillance), and lastly from the weather (by conservation of exposed buildings).

Structure

Acknowledging the large feat of the Shibam project, a local UNESCO campaign office was set up to provide daily control of the conservation and rehabilitation work in Shibam.[119] It was directed by a "distinguished" Shibami Salih Ahmed Bakhbaireh, a member of the Governing Council of Shibam, in addition to an engineer (technical) and an assistant with a background in English (administrative). Lewcock recommended this exact structure in his initial strategy report, and he made sure to include the word distinguished in that report as well.[120] Professional credentials alone are not enough; in this participatory project, earning the trust of locals requires someone who is also a respected, noble member of Shibami society.

The latter project was a joint project funded by GIZ and SFD, in collaboration with the local branch of GOPHCY. The SFD is an independent organization working outside the ministerial bureaucracy, underwritten by the World Bank and funded by a variety of donors. Recognizing GOPHCY's limited institutional capacity in the late 1990s, the World Bank identified SFD as a more capable and autonomous organization, with the resources to recruit

118. Lewcock, *Wadi Hadramawt*, 113.

119. Ronald Lewcock, "The Campaign to Preserve the Old City of San'a, Report No. 6" (Paris: UNESCO, 1987), 1.

120. Lewcock, *Wadi Hadramawt*, 107.

and compensate experts effectively. Until today, many donors prefer to channel their funds through SFD to bypass the "cumbersome" bureaucracy.[121] Becoming one of the most appealing Yemeni agencies to work with, local professionals with prestigious degrees and the best English have left to other organizations to work for SFD. [122]

Utilization of Ustas

The Urban Development Project depended upon and fostered a confident cohort of *ustas*. As stated earlier, mud is the favored material for construction in Wadi Hadhramaut because it is inexpensive and readily available and thus traditional techniques and methodology developed over time. The consistency of this relationship has preserved the prestige and authority of *ustas*, who were seen to be collaborators in the Shibam conservation effort, a phenomenon not experienced in other regions.[123]

The project supported the establishment of an association of mud builders, apprentices, and laborers. They used various innovative methods to maintain high standards of work and help inexperienced builders. For example, an elderly *usta* was hired to guide the younger builders, and less experienced artisans were also paired with older *ustas* to help them learn how to obtain contracts.[124] Although the younger builders were skilled in mud construction, they lacked knowledge of the unique architectural character of Shibam, which includes its famous tower houses. Much of the structural issues in Shibam were traced to the use of piped water systems. To counter such problems, the project collaborated with *ustas* in establishing maintenance norms and building reuse standards without imposing rigid norms. Omar Abdulaziz Hallaj, a principal actor involved in the project, noted that the methods, materials, and details used by *ustas* would necessarily evolve on an individual basis, and that such

121. Lamprakos, *Building,* 90.

122 Lamprakos, *Building,* 136.

123. Lamprakos, *Building,* 159.

124. Lamprakos, *Building,* 207.

flexibility was important in their perpetuating their craft.

An important goal of the project was to ensure the long-term viability of mud construction by safeguarding the apprenticeship system with as little disruption as possible. Though the historical ornament was retained and renewed for buildings of particular historical significance, the scheme allowed *ustas* to modify and modernize most of the details, in accordance with customary practices. This way, it is recognized that traditional building methods will continue to have relevance only if they adapt to changing conditions and fashions. This version of authenticity is in close alignment with the perspective of the *ustas*: a dedication to respecting the traditions of their predecessors, yet also creatively responding to modern problems and opportunities.[125]

Funding and Residents' Recognition

American economist Burkhard von Rabenau was commissioned to come up with solutions to enable Shibami homeowners to upgrade their homes. He argued that the residents were indirectly being taxed to reside in a place that is recognized by UNESCO, and as a result they are not allowed to develop or construct to lower, cheaper standards while being pressured to constantly upkeep their homes. To address this "tax", his solution was to offer subsidies to counteract the costs. These subsidies would be financed by Yemen's SFD if they were granted openly and the residents contributed their portion, and if they also included a significant training element for the local workforce. Homeowner accountability was a feature of the project, where they were responsible to oversee the restoration process, prioritize, select master builders, and manage budgets. Subsidies were paid in installments as the work proceeded. By 2005, nearly

125. Lamprakos, *Building,* 217.

126. Lamprakos, *Building,* 206.

127. Lamprakos, *Building,* 208.

200 houses, along with public buildings like mosques, old fountains, watchtowers, and the city gate, have been restored. Restoration was financed by homeowners, and they had to pay 70 percent of the expenses, which was too costly for most of them. But the project did attract a lot of interest, with local *ustas* calling it a "benefit to the city."[126]

SFD and GOPHCY staff doubted that a project so participatory could succeed in Sana'a, a city ten times as big as Shibam. Sana'a homeowners in the mid-2000s had limited access to repair grants drawn from funds to pay for damage caused by street paving or ruptured water pipes. These grants were both inadequate in quantity and scale to cover repair requirements for all houses affected. Also, Sana'a's administrative complexity and numerous stakeholders, who would anticipate fiscal "cuts" from projects financed, posed real challenges.

For the Sana'a Campaign, Lewcock and the International Working Group recommended a loan bank and other homeowner support schemes. Some officials, however, felt that a loan bank would not be honored in Sana'a. Even in Shibam, there were problems, with the people initially expecting that the government would be doing it all for the restoration. Over time, however, individuals came to appreciate the importance of their own involvement. This reversal of thinking was crucial to the project's success and highlights the



2.6

Fig. 2.6 A collapsed mudtower. Photograph by Dan. *Shibam*, February 23, 2008, Flickr, https://www.flickr.com/photos/twiga_swala/2286389731/.



2.7

Fig. 2.7 Narrow alleyways in Shibam. Photograph by Jialiang Gao, *Buildings inside the high-rise town of Shibam, Wadi Hadhramaut (or Hadhramout, Hadramawt) Yemen, with traditional windows and doors*, September 1990, Wikimedia, https://commons.wikimedia.org/w/index.php?curid=1450142.

2.2.3 'Amiriya Madrasa Restoration (1983-1996)

Background

The 'Amiriya Madrasa is a 16th-century structure built during the Tahirid dynasty in Rada', Yemen. Rada', a highland town 150 kilometers southeast of Sana'a, was a prominent administrative and cultural center during the Tahirid Sultanate period.[128] It served as a religious, educational, and cultural hub, featuring a mosque, prayer hall, and schoolrooms. Architecturally, it represents a blend of local styles, incorporating stone, baked brick, and the traditional lime-based plaster, *qudad*, for protection.

Over the centuries, the building fell into disrepair due to neglect, earthquakes, and misuse, including its occupation by squatters and use as storage by local shopkeepers.[129] By the 20th century, it was in a state of advanced decay. The restoration of the Madrasa was a collaborative effort between the Yemeni and Netherlands' governments. The project, which was structurally completed in 1987 and had the last pieces such as *qudad* done by 1996, was faced with major hardships, including bureaucratic delays, shortage of funds, and skepticism from the locals.

Structure

Structural repairs were funded by the Dutch government, while the restoration of the roof and application of *qudad* were handled by Yemen under its General Organisation of Antiquities, Museums, and Manuscripts (GOAMM; now goes by GOAM). The Ministry of Awqaf, being the custodian of religious structures, was responsible for evicting squatters from the land and compensating owners of neighboring property.

128. Selma M. S Al-Radi and Ruth Barnes, *The 'Amiriya in Rada'* (University of Oxford: Oxford University Press for the Board of the Faculty of Oriental Studies, 1997), 173.

129. The Tahirid Sultanate or dynasty was an Arab Muslim dynasty that ruled Yemen from 1454 to 1517. They succeeded the Rasulid dynasty and were eventually replaced by the Egyptian Mamluks after only 63 years in power.

Iraqi archaeologist Selma al-Radi had a key role in restoring the 'Amiriya Madrasa, both as director of the project and as an enthusiastic supporter of Yemeni cultural heritage conservation. She excavated at sites in Iraq, Kuwait, Lebanon, Syria, Turkey, and Egypt, but it was her work in Yemen that she would become renowned for. She first saw the Amiriya Madrasa in late 1970s while helping set up the National Museum of Yemen. Her leadership was marked by her ability to cope with the interaction between architectural preservation, artisan skills, and local community sensitivities. Al-Radi's vision and determination ensured that the restoration not only revived the physical structure of the 'Amiriya but also restored endangered traditional practices such as *qudad* application.[130]

Funding

In initial planning, UNESCO sent representatives who then estimated a budget of 5 million U.S. dollars for restoration. Al-Radi, recognizing that figure is impossible to fundraise, pledged to the use of local resources, techniques, and personnel—thus minimizing reliance on costly foreign experts. The project was eventually taken on by the Yemeni government with the continuous support of the Dutch, with the services of architect Jon Bjornson and later oversight under the patronage of Prince Claus of the Netherlands, the husband of Queen Beatrix, through the Koninklijk Instituut voor de Tropen (KIT). The new estimate was 200,000 U.S. dollars, but ultimately, the project's actual expenditure around 800,000 U.S. dollars—still a fraction of UNESCO's estimate. The Yemeni government ultimately bore most of the expenses, supplemented by funding from organizations like the Agha Khan Foundation and private donors.[131] Al-Radi blames the increase of the costs to sporadic disbursement of funds. These "dribs and drabs" hindered bulk procurement of materials, forced the

130. Al-Radi consequently published a book documenting the madrasa's history and heritage effort. See Al-Radi and Barnes, *The 'Amiriya.*

131. Other contributors to the project were the Agha Khan Award for Architecture $20,000), the Anglo-Arab Business Forum in London (€500) and the artist Derek Hill (€500).

laying off of workers, and entailed extra costs arising from operating inefficiencies.[132]

132. See note 3 in Al-Radi and Barnes, *The 'Amiriya*, 199.

133. For a detailed documentation of the qudad process see Al-Radi and Barnes, *The 'Amiriya,* 191-98.

Reviving Qudad

At the core of the 'Amiriya Madrasa restoration project was the resurrection of *qudad*, a historical lime-based plaster famous for its incredible strength and water-resistance. Abundant in the building of edifices, cisterns, and monumental structures in the Arabian Peninsula, the application of *qudad* had nearly ceased in Yemen due to the extensive use of cement. Treasuring its cultural heritage and history, as well as recognizing that its life span is 500 years, al-Radi gave utmost importance to the restoration of this material in the context of the restoration project.

She worked together with the limited number of masons who retained knowledge of the craft, spearheading an initiative aimed at rediscovering, refining, and modifying the conventional techniques. The task of creating and applying *qudad* is well-known for being exceptionally labor-intensive. After being overlooked for many years, the resurgence of *qudad* demanded rigorous experimentation to achieve optimal proportions of lime and cinders, as well as to relearn the timing and methods associated with its application. Under al-Radi's mentorship, workers received training, thereby safeguarding the transmission of this knowledge to subsequent generations.[133]

Innovation Restricted

Al-Radi recalled how the lead *usta* often wanted to improvise, proposing modifications to "improve" the historic building. However, Al-Radi emphasized keeping the original composition, advising the *usta* that for a historical monument, maintaining faithfulness to the original design was essential. Nevertheless, she allowed the *usta* to undertake a significant rebuilding of the foundation and other structural components. This project highlights the exchange of interpretation between professionals and *ustas* on what constitutes "historic."[134]

134. Lamprakos, *Building,* 144.



Fig. 2.8 An exterior shot of the 'Amiriya Madrassa. Video by Qanat Al Ghad Al Mushreq | قناة الغد المشرق , "Aaruf Baladak: Masjidu wa Madrasatu Al Amiriyyah.. Tuhafatan Jameelatan Istithna'iyatan." Youtube, August 24, 2016, 9:40, https://www.youtube.com/watch?v=NUB6oqbOjh4.

Post-war Projects

Since the start of the civil war in 2011 and then the Sauli-led coalition raids in 2015, heritage preservation in Yemen has entered a new phase that is dominated by conflict, displacement, and humanitarian crises. In contrast to the earlier periods of international discovery and local revival, the current environment for preservation demands responses that emphasize adaptability and resilience. The modern endeavors focus not only on the restoration of damaged cultural heritage but

also on using heritage as a tool for improving local empowerment, job creation, and psychological healing. Organizations like the ALIPH Foundation, Daw'an Mud Brick Association, and UNESCO have emerged as major players in this field, responding to urgent needs while creating new models for the protection of heritage in extreme conditions.

2.2.4 ALIPH Foundation Nationwide Projects

The ALIPH Foundation (International Alliance for the Protection of Heritage in Conflict Zones; also an acronym for the first letter of the Arabic alphabet) is a multi-state organization dedicated to safeguarding and rehabilitating cultural heritage in war zones. Created in 2017 in Geneva Switzerland, it operates as a private partnership that is recognized as an international institution and financed by government institutions, private donors, and cultural institutions. Its purpose is to offer rapid and flexible responses to protect threatened heritage, by supporting conservation projects, enabling local knowledge, and creating cooperation among stakeholders.[135]

ALIPH has invested in thirteen projects in Yemen, contributing a total of 4.3 million U.S. dollars, the third highest budget after Iraq and Afghanistan. Out of the thirteen projects, seven were geared toward preservation and restoration, five of them were towards archiving and digitization, and one was towards public education. Moreover, only two were completely spearheaded by Yemeni organizations, while the rest were operated by foreign centers and organizations in collaboration with local partners. Future efforts can be consolidated by enhancing Yemenis' agency—at both the institutional and grassroots levels—in restoration planning, financing, and implementation. Yet ALIPH's range of diverse projects, spanning the entire country and ranging from historic Islamic fabric to prehistoric rock art, recognizes that Yemen's cultural heritage is not limited to its capitals or UNESCO-listed sites. Moreover, while some projects are collaborated with independent organizations like SFD and Daw'an Foundation, most projects were partnered up with state organizations like GOAM and GOPCHY—balancing between reinforcing government legitimacy and diversifying with independent actors.

135. More on ALIPH's mission, structure, and project see "ALIPH Foundation: Protecting Heritage to Build Peace," ALIPH Foundation, 2025, https://www.aliph-foundation.org/en. (accessed January 24, 2025).

2.2.5 The Daw'an Architecture Foundation Efforts Across Hadhramaut

The Daw'an Architecture Foundation is a private, independent foundation in Mukalla, Yemen, operating in the framework of the Ministry of Social Affairs and Labour, Hadhramaut Branch. It was founded by Iraqi architect Salma Damluji[136] and is dedicated to the preservation and development of Hadhrami architectural heritage and urban culture. It directs all aspects of restoration and construction works in coordination with master builders, craftsmen, local communities, and external experts to make them culturally and locally relevant. It is financially independent, generating revenue from public and private institutions. Moreover, its only foreign member is its founder, Damluji, while every other member is a local Hadhrami expert.

The Foundation's primary goal is rehabilitation and restoration of historic sites, villages, and sites across Hadhramaut, specifically Wadi Daw'an, and other areas like Mukalla, Ghayl Bawazir, and Shihr. The Foundation began working after the 2008 floods in Hadhramaut. Among its first restorations were the Shaykh 'Umar Bawazir Mosque

136. Salma Samar Damluji is an Iraqi-British architect, author, known for her pioneering work in the conservation of traditional architecture in southern Yemen. She has authored two significant books on Yemen's architectural heritage: Salma Samar Damluji, *The Valley of Mud Brick Architecture: Shibam, Tarim & Wadi Hadramut* (Reading: Garnet Publishing, 1992).
and
Salma Samar Damluji, *The Architecture of Yemen: From Yafi to Hadramut* (London: Laurence King, 2007).

and Wali tombs in Sah, where restoration work commenced in 2009 and was finished in 2011.

Having participated in eighteen projects thus far, half of the foundation's work has been devoted to Sufi mausoleums, traditionally graves of local saints.[137] Following the onset of civil war in 2011, the targeting of historic monuments, namely Sufi shrines, skyrocketed. Al-Qaeda, along with other extremist groups, attacked the shrines as they deemed them heretical based on Salafist ideology.[138]

One of the major principles of the Foundation is maintaining the Hadhrami building traditions. It emphasizes the use of locally procurable materials like *madar* (sundried mud bricks), *qirf* (shale), and *nurah* (lime plaster). Not only does their use help maintain architectural integrity, but it also ensures that restoration work is resilient and sustainable. Through its activities, the Foundation is reviving Hadhramaut's architectural heritage while protecting it from natural disasters as well as extremists' destruction.

The Daw'an Architecture Foundation represents a model example of how heritage-based, localized development can be achieved when embedded in cultural authenticity and local participation. The single most characteristic aspect of the Foundation is its modus operandi: managing every facet of its projects in collaboration with *ustas*, local craftsmen, and outside experts in order to guarantee that restoration work is not only technically correct but also culturally relevant. This integrated strategy guarantees that Hadhrami building traditions are not simply conserved but also reactivated in a significant manner that enhances architectural coherence along with civic resilience.

In addition, the Foundation's financial and administrative autonomy allows it to operate with flexibility, free from the constraints often

137. See a list of destroyed Sufi shrines in the Introduction Chapter.

138. Salafism is a fundamentalist interpretation of Islam that advocates a strict return to what its followers consider the pure practices of the early Muslim community (the *salaf*). It often rejects practices like saint veneration and shrine-building as un-Islamic innovations (*bid'ah*), which is why Sufi shrines, viewed as promoting such traditions, have become targets of destruction.

inherent in government-led or donor-dependent programs. However, its collaboration within the context of Yemen's Ministry of Social Affairs and Labour illustrates a balanced paradigm that adds to the state's legitimacy and the promotion of private enterprise. Daw'an in this regard provides a very strong case for conservation success in Yemen: by placing emphasis on local knowledge systems, adhering to traditional materials and techniques, and considering both tangible and intangible heritage. Its ability to target vulnerable, war-ravaged sites such as Sufi shrines—yet involving local people and employing traditional construction techniques—positions the Foundation at the leading edge of how grassroots models can shape the future of cultural preservation in Yemen.

2.2.6 UNESCO Cash-for-Work Program

One of the impactful programs in Yemen after the war is the Cash-for-Work program by UNESCO. In collaboration with the European Union, UNESCO initiated a cash-for-work initiative that would help reduce youth unemployment while at the same time protect the country's cultural heritage. The program was initiated in 2018 and has been operated in two phases, each of which focused on job creation through the rehabilitation and conservation of the old urban areas.

The initial segment of the program, "Cash for Work: Promoting Livelihood Opportunities for Urban Youth in Yemen," ran between 2018 and 2021 under an EU allocation of 11 million U.S. dollars. The project involved the young Yemenis in reclaiming ancient cities like Sana'a, Shibam, Zabid, and Aden. The works entailed refurbishing city walls, the rehabilitation of deteriorated buildings, the laying of public infrastructure, and clearing out invasive plants such as Sisban

trees. Despite a myriad of setbacks and delays, the project managed to create employment for over 1,300 young people. It also restored approximately 130 heritage buildings and conducted extensive surveys of heritage sites to identify their restoration needs in the future.

In the wake of the success of the first phase, the second phase, "Youth Employment through Culture and Heritage in Yemen," was initiated in 2022 with a higher financial contribution of 22.55 million U.S. dollars from the European Union. Its role at this stage is to support rehabilitation and generate more employment opportunities for Yemen's youth. Perhaps the most striking feature of this project is the restoration of 100 historic buildings, 26 of which were completed by May 2024. Selection of these structures was based on socio-economic evaluations and extensive technical studies, hence ensuring that the works of restoration remained in conformity with both cultural heritage preservation and community standards. The project was accomplished with direction from the Social Fund for Development and the Public Works Project, which are key players in Yemen's development process. Apart from the direct benefits of employment, the activities have contributed to long-term protection of Yemen's cultural heritage while enhancing social unity and economic stability in a country greatly affected by protracted conflict. By empowering youth and involving local communities, the project has provided much-needed economic assistance while strengthening the cultural heritage and management of Yemen's urban fabric.

2.3 Key Actors in Yemeni Heritage Preservation

Looking back at all these case studies, a pattern begins to appear of key actors involved in any conservation campaign in Yemen. Ultimately, every campaign needs four essential players. First is a policy setter, upholding both international and local heritage laws, establishing rules, standards and the overarching vision. Second is a funder, which can be an international body, public or private donor, providing financial means to carry out the work. An operator, a critical link between funding and action, coordinates between stakeholders and, most importantly, builds local trust. Lastly, there are the builders; they are the architects, engineers, *ustas* and craftsmen who carry out the work on-site. Often undervalued, they are effectively accountable for a project's success being realized. In the case of Yemen, *ustas* and craftsmen are an even more underlooked sub-group(more on that in Chapter 3). Historically, conservation campaigns in Yemen have taken on countless configurations of these four roles. In some cases, sometimes one actor plays multiple roles. UNESCO, for instance, often acts as both policy setter and operator (especially in emergency projects). Traditionally, however, the *usta* embodied all three roles: policy setter, operator, and builder. Today, having been relegated to the bottom of bureaucratic hierarchies as mere laborers, *ustas* are gradually losing their voice, their specialized skills, and the trust that once made them indispensable to heritage preservation.

Fig. 2.9 A diagram of key players in a typical conservation project in Yemen.



2.9

03 What's Next for Yemen's Heritage Efforts

As Yemen continues to endure political instability, economic decline, and armed conflict, international conservation models based on stability and central governance need to be reconsidered. Yemen's heritage has survived not by being preserved by institutions, but through the resilience of its people—especially through the *ustas*—whose expertise contain centuries of accumulated knowledge and local ingenuity. As different global institutions, state agencies, and local communities continue to navigate through a country marked fragmentation and instability, future conservation efforts must broaden their scope from preserving buildings to safeguarding the protection of the systems and individuals that enable the survival of such heritage. What follows are informed projections regarding the future of heritage conservation in Yemen, grounded on the prominent themes from case studies as well as a candid acknowledgment on the country's situation.

3.1 Yemen May Not Reach the Stability Foreign Organizations Desire

Foreign Hostility

Foreign conservation experts who have worked in Yemen have often been met with suspicion and, on occasion, lethal hostility. During the implementation of the 1972 Master Plan in Sana'a, Fernando Varanda's survey team was subjected to repeated threats, including one incident in which a machine gun was fired at a surveyor.[139] These were not political as much as they were spawned from local suspicion against land development, doubt on the agendas of foreigners, and frustration with unclear systems of land ownership. Therefore, even the simple act of constructing roads was perceived as a potential threat to individual and communal sovereignty.

139. Lamprakos, *Building,* 52.

Such suspicion of foreign participation continued for several decades. Recalling a project done on al-Qasimi Street, widow of one of the architects who was a moving force behind the conservation effort, Amal al-Shaiba, tells Lamprakos that he public only grew more suspicious and hostile along the way despite her husband's efforts to be transparent with residents. People accused them of ruining the streets, and things were so tense that shots were fired after word circulated that concrete and steel were being banned in the old city. During the early 2000s, operations at Old Sana'a by conservation organizations continued to encounter armed resistance. In one particular case in 2002, on-site restoration of a *maqshama* (a traditional garden enclosure) was interrupted by gunfire.[140]

These confrontations were further inflamed by a pervasive belief that foreign teams were not just untrustworthy but actively exploitative, with rumors going around alleging theft of valuables from restoration sites. For instance, during the restoration of a house in Old Sana'a by an Italian team, whispers circulated that they had stolen gold hidden beneath the stone stair piers— customary locations for stashing family fortunes. As brought up earlier, Similar rumors plagued a Swiss team. The team's restoration initiative undertaken at Bayt al-'Anbasa escalated into a significant controversy during the early 1990s, as media reports accused the team of illicitly removing valuable artifacts unearthed within the structure's foundations.[141] In the case study site of Bayt Baws, a legend circulates a story of a German ambassador's "super dog" uncovering ancient jewelry hidden in a wall at Bayt Baws during an unofficial excavation, fueling resentment at what is perceived as foreign exploitation and unbridled power.[142]

140. Lamprakos, *Building,* 196.

141. Lamprakos, *Building,* 199.

142. To be discussed further in the next chapter.

Conflict is Not New in Yemen and May Never Leave

Tribal and Territorial Landscape

Current Yemeni instability cannot be comprehensively accounted for without its deep-rooted tribal nature and entrenched regional divides. The country has not operated as a single political entity; instead, it has historically been shaped by a complex mosaic of tribal coalitions and religious affiliations. In northern Yemen, the Hashid and Bakil tribes remain predominant, with a tendency to identify themselves more with their tribal structures than with any central state. These groups follow Zaydi Shi'ism, the doctrine of the historical imamate.[143] The Lower Yemen, meanwhile, has its fertile soil and predominantly Sunni Shafi'i population, structured around village and kinship ties. These divisions persisted even under Yemen's brief unity and now fuel current wars. Currently, even the internationally recognized government in the south is also divided, with a fluid alliance between the presidential government and the Southern Transitional Council, a banned secessionist movement opposed to central control.

'Terrorist' Organizations are Likely There to Stay

Adding another layer to this instability is the persistence of extremist groups. Al-Qaeda in the Arabian Peninsula (AQAP) has maintained a foothold in Yemen since 1998 and has proven remarkably resilient, exploiting moments of state weakness to expand its operations. The group's estimated 3,000 to 4,000 fighters have grown more active in the wake of clashes between Houthi and government-backed forces.[144] Meanwhile, the Houthi movement—which controls 60 to 70 percent of Yemen's population[145]—was reclassified in January 2025 as a Foreign Terrorist Organization by the U.S. State Department,

143. Zaydi Shi'ism is a branch of Shi'a Islam primarily followed in northern Yemen. Unlike Twelver or Isma'ili Shi'ism, Zaydis recognize only the first five Imams and believe leadership should belong to a qualified descendant of the Prophet who actively upholds justice. Historically, Zaydis established several dynasties in Yemen and shaped its religious, legal, and political traditions for over a millennium.

144. Vanessa Frazier and Justin Hutswitt, "Letter Dated 24 July 2023 from the Chair of the Security Council Committee pursuant to Resolutions 1267 (1999), 1989 (2011) and 2253 (2015) Concerning Islamic State in Iraq and the Levant (Da'esh), Al-Qaida and Associated Individuals, Groups, Undertakings and Entities Addressed to the President of the Security Council " (Paris: United Nations Security Council, July 24, 2023).

145. Michael Knights, "Assessing the Houthi War Effort since October 2023," CTC SENTINEL 17, no. 4 (April 2024), ctc.westpoint.edu. (accessed April 4, 2014).

reversing a prior decision under the Biden administration. The designation underlines the geopolitical complexity of Yemen's war, where no end appears in sight.[146]

146. The White House, "Designation of Ansar Allah as a Foreign Terrorist Organization ," January 22, 2025, https://www.whitehouse.gov/presidential-actions/2025/01/designation-of-ansar-allah-as-a-foreign-terrorist-organization/ (accessed April 11, 2025).

3.2 Conservation, When Omitting Local Context and Desires, Can Cause Further Harm

Permanency is Not the Ultimate End Goal

Conservation efforts in Yemen operate on the assumption of permanence that is not in harmony with either local culture or lived experience. Contrary to the preservationist thinking that prevails in international heritage discourses—one where the notion of repairing buildings and preserving them dominates—Yemeni architecture embodies a different rationale, one that anticipates and embraces actively cycles of destruction and renewal. Throughout the nation, from the tall mudbrick structures of Shibam to the fortified villages in Saa'da, architecture was conceived with impermanence in mind. Watchtowers, fortified houses, thick walls, and a lack of windows on the ground floor were not matters of style but functional reactions to centuries of conflict, tribal incursion, and natural events. These structures anticipated war. Even the materials employed—earth and stone—have this temporality within them: they require constant upkeep and are meant to erode, be dismantled, and be reconstructed as required. In Shibam, a tower's lifespan is approximated at 300 years with proper care; however, this cycle of replacement is not regarded as a catastrophe but rather part of a natural architectural cycle.

In Sana'a, this cyclical philosophy is apparent in the manner in which families modify their dwellings through generations. As

a family expands, they construct additional stories atop their ancestral house. This is not viewed as a breach of architectural integrity but as a support of continuity by way of adaptation. It is such localized architectural philosophies that cause the model favored by international conservation agencies to lose "authenticity" in its pristine form. To Yemenis, authenticity is not about keeping buildings unchanged but about ensuring that their purpose, function, and meaning are preserved—even if their physical form evolves. Foreign organizations, by pausing projects indefinitely until the "right conditions" return, often overlook the reality that waiting may result not in preservation, but in irrelevance. Conflict is not a temporary aberration in Yemen—it is the historical and architectural context. Waiting for stability ignores the fact that heritage in Yemen has survived precisely because it has never depended on it.

Exposure and Awareness Have Led to Harm

Targeted Airstrikes by the Saudi-Led Coalition

In addition, well-intentioned international interventions can directly put heritage sites and local populations at risk. One unfortunate example is that of UNESCO attempting to shield monuments by submitting their geographic coordinates to the Saudi-led coalition to avert airstrikes. Rather than sparing these sites, many were targeted—including the great Marib Dam, Taiz's Cairo Castle, and three UNESCO Heritage Sites. This paradox demonstrated a disturbing deficiency in the realm of international heritage diplomacy: official recognition of a site's significance can, unwittingly, turn it into a target. This is particularly risky in a political climate where symbolism and psychological warfare are included in military planning.

Looting by Locals

With growing awareness on the part of Yemenis regarding the international value placed on their cultural heritage, there has been a growing phenomenon of looting and illegal trade in antiquities. In an environment where widespread poverty and food shortages prevail, ancient inscriptions, pottery, and architectural remains are seen not as mere artifacts to be exhibited but as valuable resources for sustenance. A quick search on e-commerce platforms such as eBay yields dozens of South Arabian artifacts for sale. More disturbingly, the aftermath of looting is often visible within Yemen itself; recently, a 2,000-year-old mummy was discovered in a trash bin in Sana'a with his abdomen gutted—likely from looters' attempt to extract treasure.[147]

147. Marianne Guenot and Sam Tabahriti, "A 200-Year-Old Mummy Found in Trash in Yemen with Its Insides Ripped Out," Business Insider, www.businessinsider.com/2000-year-old-mummy-found-trash-yemen-ripped-out-smugglers-2023-3. (accessed April 12, 2025).

Prioritizing Aesthetics over Authenticity

Attempts at gaining global regard frequently collides with local priorities and traditions. An example in point is the campaign of whitewashing the Old City of Sana'a. Though apparently benign and intended to offer a consistent appearance for the city, this project obliterated centuries-old ornamental custom, disregarded local materials and methods, and minimized conservation work to superficial gestures. Moreover, the importance of *ustas* was downplayed, the traditional rhythm of house maintenance was broken, and a negative precedent was set: the idea that heritage is more about appearances than social continuity.

When Conservation Becomes a Burden

In Sana'a as well as Shibam, residents are faced with everyday challenges caused by heritage rules that overlook their practical needs. In Shibam, residents are not allowed to use cheaper and newer materials, despite the fact that their homes are in danger of collapsing. In Sana'a, low ceilings and living rooms at floor level are maintained in the name of heritage, even though they cannot satisfy modern-day families' comfort requirements. These restrictions have effectively made heritage an unsaid economic burden on impoverished populations, who find it hard to live safely or comfortably in their own homes. By not providing compromising assistance with modernization or including them constructively in the decision-making process, the residents can find heritage a hindrance rather than an asset. Conservation that restricts without facilitating adaptation disempowers the very population it seeks to preserve.

3.3 Safeguarding *Ustas* Should Be the Next Campaign

The Divide Between Architects and Builders

For Yemen, conservation and architecture is not a technical but a deeply social and cultural process. At the heart of this process are the *ustas*. These essential figures, however, have been gradually excluded from modern conservation discussion. A professional and cultural divide separates *ustas* from university educated architects and conservators. The latter will seek to superimpose technical regimes on the site and abstract systems that fail to connect with situational, bodily knowledge of local craftsmen. While professional architects try to globalize conservation work through codified practices and historically informed categorizations, *ustas* practice through oral tradition, one-to-one mentoring, and hyper-sensitivities to material, climatic, and social requirements.

One of the sources of tension is not only in implementation but also in authority. Builders tend to now be at the fringes of decision-making, regarded more as temporary workers than as essential guardians of heritage. Even though some local and foreign conservationists do acknowledge the skills needed by *ustas*, there are others who consider their contributions to be outdated or insufficient for preserving sensitive historic monuments. Not only does this line of argument belittle the traditional craftsmen's attributes but also bends the character of heritage. Architectural heritage in Yemen is not fixed; it evolves, adapts, and by nature is based on usage. Numerous *ustas*, in paying homage to their ancestors' legacy, attempt to enhance and modernize buildings in restrained and sensitive cultural terms. Their reasoning tends to conflict with preservationist principles based on stasis, forging a contradiction in which the side most qualified to preserve the old city are excluded from forging its destiny.

The "Cultural Gap" and the Limits of Translation

Ustas possess a form of knowledge that remains both up-to-date and irreplaceable, acquiring it through apprenticeship and routine practice, rather than formal training. Scholars like Trevor Marchand and Sultan Sallam have tried to document this tacit knowledge—how builders make decisions, resolve design issues, and improvise according to changing conditions—but these remain isolated attempts. A builder lamented that "the *usta* cannot describe what he knows," not owing to lack of intelligence, but because his trade cannot be put into scholarly language. Their vocabulary is one of their own: learned from gestures, narratives, material experimentation, and common stories. This tradition is rendered obsolete by policy-driven paradigms that validate reports against lived experience and drawings against material know-how.

Preserving the Usta to Preserve the Past

Sustaining the *ustas*' expertise should therefore a priority for Yemen's preservation movement. Lamprakos remarked the absurdity of the millions spent toward Yemen's heritage but not its custodians. She urges for more studies on *ustas*' practices. Furthermore, there has been discussion of establishing a *jam'iyya* (builders' association) to professionalize standards, share knowledge, and secure representation at the policy table. A *jam'iyya* would be in a position to serve as a local substitute for foreign aid organizations, both technically competent and culturally sensitive. There are calls for developing classification systems through *ustas*' own experience, similar to Sallam's past work, that recognizes indigenous epistemologies.

148. Lamprakos, *Building,* 90.

3.4 Inter-Organizational Projects is the Future for Sustainable Conservation

Institutional Weakness and Bureaucratic Overload

Every foreign consultant's mission report highlights Yemeni government organizations' "weak institutional capacity."[148] There are several factors to their ineptitude. Starting with an overlooked factor, Lamprakos blames the government for not imposing conditions on foreign aid—such as more on-site ground training and lengthier missions as opposed to "token" trips—to strengthen their workforce. Moreover, Yemen's governmental conservation bodies, namely GOPHCY, were never designed to function with full autonomy. Though nominally placed under the Ministry of Culture and Tourism and designated as administratively independent, in practice, GOPHCY remained deeply beholden to the Ministry of Finance. This compromised GOPHCY's functionality and discredited its ability to

undertake worthwhile projects of heritage; as a result, international agencies became frustrated with ineffectiveness and began to bypass governmental institutions entirely.[149] They ultimately directed funds through more agile actors, the prime example of which is the Social Fund for Development (SFD), which had been established with World Bank support and operated outside the ministerial framework.

149. Lamprakos, *Building,* 136.

The Social Fund for Development: Workaround or Model?

The rise of the SFD offered a workaround for structural stagnation. Since the early 2000s, it became the central development actor in Yemen, taking the lead in heritage conservation projects ranging from garden restorations to mosque rehabilitations. While some professionals praised the SFD's operational flexibility and its ability to secure donor confidence, others saw its success as a damning indictment of state incapacity. Over time, the rise of SFD's success attracted those with prestigious degrees and good knowledge of English joined the organizations, leaving locally educated Yemenis with less experience in dealing with foreign organizations and individuals in charge of government posts. In response to this imbalance, institutions such as ALIPH have made a great effort in dispersing different projects to different local organizations, giving each an opportunity to refine their skills and mark their territory in the conservation profession.

Challenges of Heritage Governance

Donor interest in Yemeni cultural heritage increased during the late 1990s and early 2000s, but even lavishly financed initiatives could not result in sustainable reform. UNESCO-mobilized grand initiatives, while being symbolic, rarely carried the institutional traction required to persist. EOPOCS, to name one organization, was hindered by a lack of legal capacity, internal class-based hierarchy, and vagueness about its mission. Untrained and ill-equipped, the office professionals could not enforce regulations or gain public confidence. Meanwhile, donor countries continued to send foreign architects and engineers who seemed to implement projects without integrating local knowledge or cultivating Yemeni leadership.

150. Lamprakos, *Building,* 74.

151. Paul Dresch is a British anthropologist and expert on Yemeni society, law, and tribal systems. His fieldwork, primarily in Yemen, has focused on history, politics, and law, with particular attention to tribal governance and informal legal systems. See Dresch, *A History of Modern Yemen* (Cambridge: Cambridge University Press, 2005).

3.5 Concluding Remark: The Conservation Dilemma is Yemen's Ultimate Democracy Experiment

The biggest lesson from the last four decades is that conservation cannot be executed by a single actor. Rather, the path forward must involve deep and deliberate collaboration. Yemen's institutional conservation landscape—comprising multiple generations, disciplines, educational background, and political leanings—has reached the point of open conflict and stalling projects.[150] This fragmentation steered the conservation discourse from collaboration to competition. Yet within this very fragmentation lay the seeds of something new. Rather than suppressing these differences, heritage efforts should use them as an advantage for dialogue, creating cross-organizational teams inclusive of local actors and international partners.

As anthropologist Paul Dresch noted, truly addressing Yemen's foundational issues would require dismantling the very state structures that international aid often sought to preserve.[151] Although Yemen's conservation community may be divided, but it is also

vibrant and diverse. Professionals, *ustas*, local organizations, and foreign partners each bring unique perspectives and capacities to the table. Thus, if Yemen's heritage institutions are to survive and grow, they must embrace this plurality (Figure 3.3). The responsibility is not just between professions, but also between the older and upcoming generations. Donor funds should support mechanisms that foster collaboration across generational, educational, and political divides. This includes investing in training, facilitating inter-organizational dialogue, and empowering local actors with real decision-making authority. The "relative freedom to debate," as Professor Sarah Phillips puts it, "has remained one of the most conspicuous aspects of the Yemeni political experiment."[152] In time, this pluralistic approach could yield a new model of heritage governance—one rooted not in hierarchy, but in mutual recognition and shared responsibility.

152. Sarah Phillips, Yemen's Democracy Experiment in Regional Perspective Patronage and Pluralized Authoritarianism (Editorial: Basingstoke,: Palgrave Macmillan, 2008), 49. cited in Lamprakos, *Building,* 91.

Fig. 3.1 Key differences between government agencies and independent NGOs in Yemen.

Fig. 3.2 Key differences between univerity-educated professionals and ustas.

	Govt. Agencies	NGOs
Decision-making	Centralized, top-down, vulnerable to bottle-necks	Decentralized, participatory
Capacity-building	Historically weak in training, few formal programs	Invests in training
Transparency	Generally higher due to donor requirements and monotiring	Often lacking, opaque process and overlapping mandates
Sustainability	Inconsistent due to structural stability and government priority	Dependent on external funding and its leadership
Background	Employees with local degrees, political appointment and less foreign interaction	Employees with prestigious degrees and better English
Strengths	- National legitimacy and jurisdiction - Institutional memory - Access to legal framework - Formal authority over heritage policy	- Flexible and adaptive - Better access to donor funds - Operational autonomy - Engage local actors and rapid response
Weaknesses	- Bureaucratic delays - Politicized leadership - Poor inter-agency coordination - Low funding and training investment	- Often dependent on donor cycles - May lack long-time mandates - Risk of bypassing state structures
Similarities	Both eager to protect heritage, have technical expertise, and reliant on foreign donors	

3.1

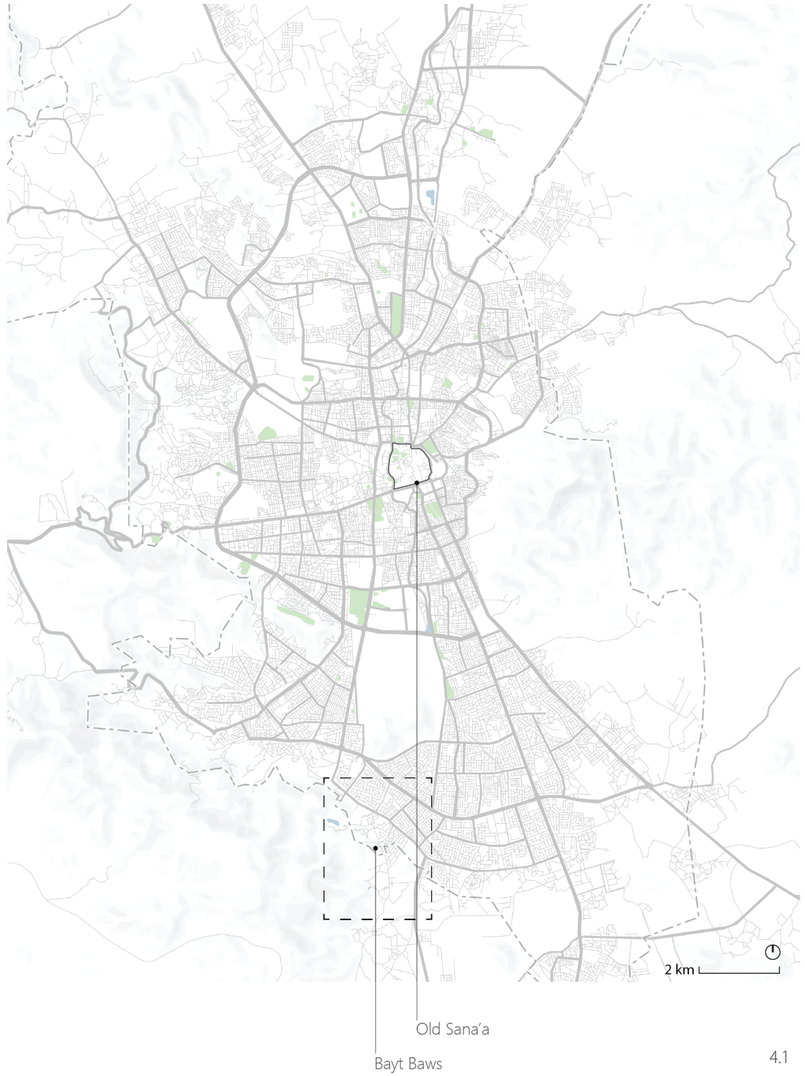
	Professionals	Ustas
Knowledge Base	Codified, institutional, often Eurocentric	Oral, embodied
Heritage Approach	Often emphasize material authenticity and fixed conservation principles	Emphasize functional use and adaptation over generations
Innovation	Follows updated international practices, technology and adaptive reuse models	Innovates within tradition through subtle variations and reuse
Authority	Institutional, technical, classist	Social, reputable, practical
Background	College-educated, lack of on ground experience	Years and even decades of apprenticehip experience
Strengths	- Theoretical and technical knowledge - Trained in international standards - Familiar with modern conservation tools - Skilled in documentation and reporting	- Deep tacit knowledge of materials and techniques - Mastery of vernacular forms - Strong ties to local and culture
Weaknesses	- May lack practical experience with local materials - Often detached from comminty needs - Risk of imposing external models	- Limited literacy and formal documentation - Vulnerable to marginalization - Rarely involved in high-level planning - Low to no experience in contracting
Similarities	Both are essential (yet overlooked) to sustainable conservation, having most on-hand experience and local awareness	

3.2

Fig. 3.3 Proposals of inter-organizational/ disciplinary as well as inter-generational transmission of knowledge. Better dialogue and collaboration is the key for self-sustaining heritage practices.



Fig. 4.1 Plan of Sana'a.



04 Case Study: Bayt Baws Village, Sana'a

Its Contradictory Tales

Directly by the southern border of the city of Sana'a lies the largely abandoned mountaintop village of Bayt Baws, one of four mountaintop villages marking a rocky circumference in the southern edge of the capital. The approach to the village means a tiresome climb, with only one entry gate to the fortified community. It is believed to date back to the Sabaean Kingdom, and there are some inscriptions on the side of the mountain along the track to the top. Despite its historical significance, Bayt Baws is in much need of historical examination as it is shrouded in conflicting myths and stories, beginning with the etymology of its name. Two popular legends circulate: one which states it was named after its first resident, a Jewish man called Baws, and another which states it was named after a Himyarite king, Baws ibn Sharhabil, documented by a 12th-century Himyarite historian.[153] Most Yemenis and tourists favor the former legend, but government officials and state media endorse the latter.

Bayt Baws has long been associated with Yemenite Jews, having served as a home for both Muslim and Jewish populations. It has even been cited as the real location of Jerusalem that is stated in the Tenach by one historian.[154] The village serves as a testament to the coexistence between the Muslim and Jewish villagers. According to a popular story, a local Jewish resident was believed to be murdered by a Muslim villager. However, both sides reconciled, and it was stipulated that the Jewish residents would be treated the same way as the rest of the village. Thus, a popular quote came out of this legend that says, "*Al yahudi bawsi wal bawsi yahudi.*" ("A Jew is a Bawsi and a Bawsi is a Jew.") Although they 'coexisted in peace,' their residential conditions varied. Muslim citizens dwelled within the walled village, whereas Jews lived outside of the village's fortified walls. Legend has it that they shared responsibilities of communal living and coexisted

153. Himyar, originally, an important tribe in the ancient Sabaean kingdom of southwestern Arabia; later, the powerful rulers of much of southern Arabia from about 115 BCE to about 525 CE. See Britannica https://www.britannica.com/topic/Himyar (accessed January 29, 2025).

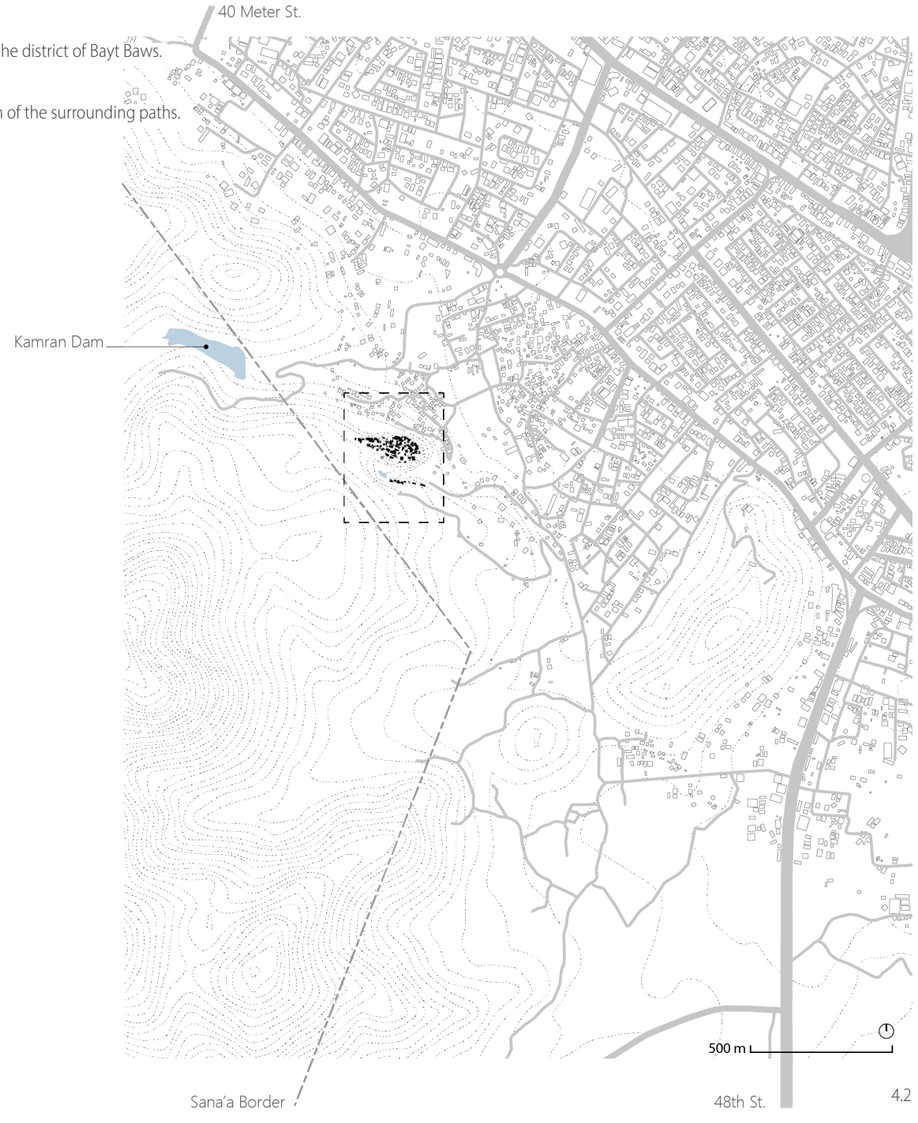
154. This controversial claim was done by famed Iraqi anthropologist Fadel al-Rubaie, who stated it in his book The Imagined Palestine: Land of the Torah in Old Yemen. The book asserts that the Jewish connection to Palestine is an "imposed orientalist narrative," and that the historical links to the land described in the Tenach are in fact located in Yemen.

The Tenach refers to the complete Hebrew Bible, which includes the Torah (Law), the Nevi'im (Prophets), and the Ketuvim (Writings).

Fig. 4.1 Plan of the City of Sana'a, Yemen.

Fig. 4.2 Plan of the district of Bayt Baws.

Fig. 4.3 Diagram of the surrounding paths.



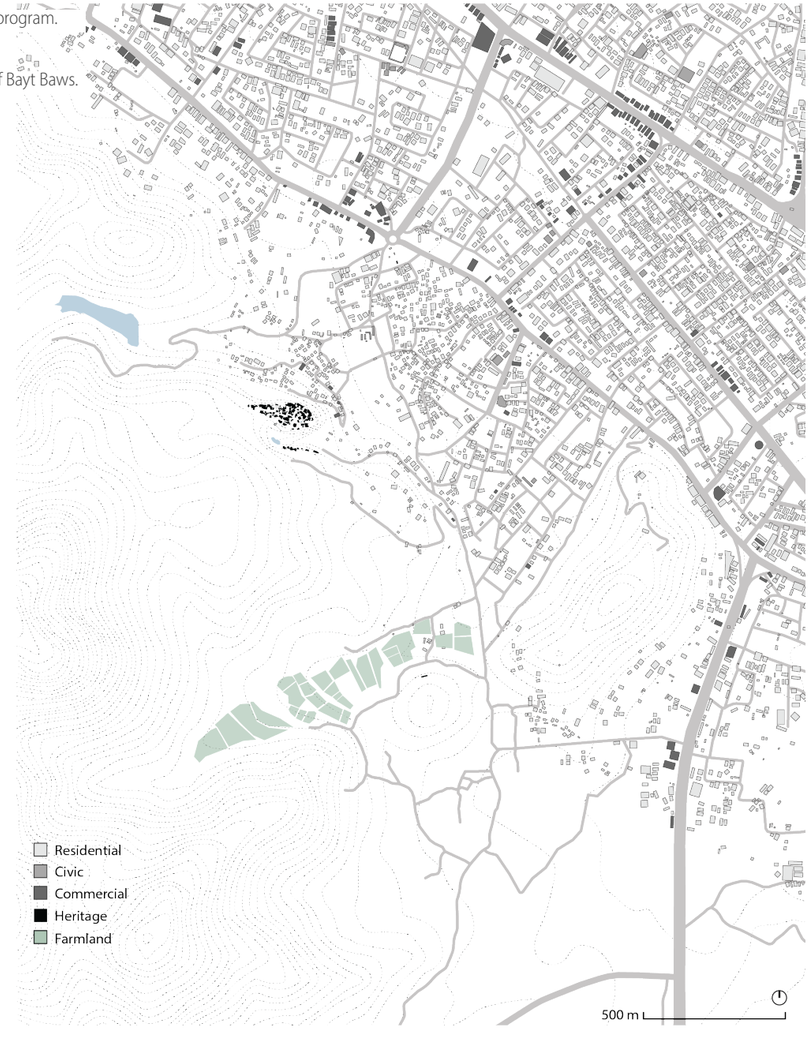
4.2



4.3

Fig. 4.4 Diagram of the district program.

Fig. 4.5 Plan of clifftop village of Bayt Baws.



4.4



4.5

Fig. 4.6 Inhabitable residences.

Fig. 4.7 Ruins.

Fig. 4.8 Previously Jewish residences.

Fig. 4.9 Mosque (filled) and Synagogue (outlined).



4.6



4.7



4.8



4.9

Fig. 4.10 Circulation.
Highlighting different paths: paved, dirt, and desired pedestrian lines.

Fig. 4.11 Gateway entrance.

Fig. 4.12 Remaining fortification walls.

Fig. 4.13 Water access.
Highlighting cisterns, water channels, and residents' water tanks.



4.10



4.12



4.11



4.13

peacefully. The chronology of the Jewish exodus from Bayt Baws is uncertain, with contradictory reports in its history. Some reports point to their exodus dating back to the era of Imam Al-Hadi, where he advised the dwindling Jewish community to surrender their land in return for migrating to the larger Jewish community in Saa'da.[155] It is said that Imam Al-Hadi tried to bring the Jewish population together to allow them to observe their religious customs, including prayer, holidays, and Shabbat. The Jewish community of Bayt Baws accepted this invitation and migrated to Saa'da. Other sources indicate that the Jewish community gradually dwindled over the centuries, reaching its climax in the mass emigration of 1948. In spite of these uncertainties, there is definite evidence of a Jewish presence in Bayt Baws, which includes the ruins of a deteriorating synagogue and school.

155. A prominent 9th century Imam who founded the Zaydi school of thought.

The Abandonment of Bayt Baws

By the early 1990s, the village was completely deserted by its original residents. It had become unsuitable to modern ways of living, and its harsh, mountainous landscape rendered access to necessary services extremely difficult. The majority of the people were farmers who engaged in farming activities on the land located at the base of the mountain. The unification of North and South Yemen in 1990 spurred urbanization in Sana'a, which later extended to the Bayt Baws area. Thus, the market value of the farms in the village rose considerably, leading citizens to sell their properties and move to locations with better accessibility.

Refugee Haven

The village currently shelters about 33 displaced families from neighboring provinces affected by the conflict happening in Yemen. As of March 2024, over 4.5 million individuals in Yemen, which is around 14 percent of the population, are internally displaced by the constant conflict and insecurity. Of the 4.5 million internally displaced people in Yemen, around 80 percent are women and children, and at least 26 percent of displaced households are female-headed—20 percent of whom are under the age of 18.[156] Repeated displacements have further exacerbated the vulnerability of many over the years. The Internal Displacement Monitoring Centre noted that in 2023, internal displacements caused by conflict and violence reached their ten-year low at 80,000.[157] Regardless of this reduction, the overall number of internally displaced persons (IDPs) is still alarmingly high, many of which reside in peri-urban slums or makeshift tents.

Most of these families reside on the first corner by the gateway entrance of Bayt Baws. They had to restore the most basic components of the homes themselves. Even then, conditions are barely livable, but for the residents—it is better than being homeless. A journalist interviewed a local seven-year-old child in 2020 who provided a grim glimpse inside one of these homes:

> We're seven individuals, and we only have three duvets which are not enough for us and never protect us from cold. …
> …The night there is freezing, the wind is always howling, and mom is lying in one of the unequipped rooms.[158]

156. UNHCR, "Yemen Crisis Explained," www.unrefugees.org, March 21, 2024, https://www.unrefugees.org/news/yemen-crisis-explained/ (accessed April 1, 2025).

157. Internal Displacement Development Centre, "Country Profile: Yemen," Internal-displacement.org, 2024, https://www.internal-displacement.org/countries/yemen/.

158. Abeer Mohsen, "The Tale of 'Bayt Baws' or Yemen's Jerusalem ," Daraj Media, March 29, 2020, https://daraj.media/en/the-tale-of-bayt-baws-or-yemens-jerusalem (accessed Janruary 24, 2025).

Recent Events

Aside from displacement, residents had to endure further traumatic events. On October 7th, 2016, a drone from the Saudi Coalition hit the village, reportedly causing damage to around a fifth of the site.[159] Thankfully, no casualties have been reported from the attack. Moreover, the village residents have set up a makeshift market on Wednesdays, where they would buy and sell necessities to their fellow residents. One displaced resident recounted its sudden crash one day back in 2018.[160] It is unclear what caused the collapse, but the market hasn't been back since.

Current Initiatives

According to a 2023 documentary on Bayt Baws, local district officials have recently acknowledged the village's degradation and started to work with the residents toward a more livable environment.[161] The head of the project, Haseeb Abdullah al-Da'eri, said that they are currently looking into two phases. The first phase would be revamping the public spaces, such as the gateway, fences and water springs; to receive the residents' confidence and boost their enthusiasm, whom al-Da'eri mentions gave their support. The second phase is to restore the residents' homes. He made a note that the funds would need to come from the residents themselves—each homeowner is responsible for his own home. However, no mention of when, or if, they would tackle the rest of the village and other delicate ruins.

159. This was taken from a documented list of destroyed sites given by Muhannad al-Sayani, who was the director of GOAM at the time.

160. Abeer Mohsen, "The Tale of 'Bayt Baws' or Yemen's Jerusalem ," Daraj Media, March 29, 2020, https://daraj.media/en/the-tale-of-bayt-baws-or-yemens-jerusalem (accessed Janruary 24, 2025).

161. Al-Hawyah Media Network | شبكة الهوية الإعلامية, "Hathi Alyemen | Hosn Bayt Baws Altarikhi | Qanat Alhawiyah هذي اليمن | حصن بيت بوس التاريخي | قناة الهوية [This Is Yemen| the Historic Bayt Baws Fort | AlHawiyah Channel]," YouTube, July 20, 2023, https://www.youtube.com/watch?v=n4lgHjp6Noo.

Fig. 4.14 Drone footage of the village. Video by Mohammed Alemad, "من أعالي حصن بيت بوس," Youtube, September 17, 2024, 11:25, https://www.youtube.com/watch?v=QKt-oemBLdE.

Fig. 4.15 Aerial photo of the mosque and surrounding homes. Video by Al-Hawyah Media Network | شبكة الهوية الإعلامية, "Hathi Alyemen," Youtube, July 20, 3:57, 2023, https://www.youtube.com/watch?v=n4lgHjp6Noo.

Fig. 4.16 Photo of a destroyed home. Video by Al-Hawyah Media Network | شبكة الهوية الإعلامية, "Hathi Alyemen," Youtube, July 20, 2023, 12:55, https://www.youtube.com/watch?v=n4lgHjp6Noo.



4.14



4.15



4.16



Fig. 4.17 An alley in Bayt Baws. Photograph by Rod Waddington, *Crumbling, Yemen*, August 13, 2013, Flickr, https://www.flickr.com/photos/rod_waddington/14200926869/in/album-72157635314684116/.

4.1 Repurposing Abandoned Jewish Settlements for Displaced Yemenis

The Jews of Yemen

The history of the Yemenite Jews, as that of their urban settlements, is full of conflicting narratives and unanswered mysteries. From their obscure beginnings in Yemen, the way to their treatment over the centuries, and their eventual mass exodus, nearly every aspect remains a subject of debate. Still, one thing that is undeniable is that Yemenite Jews, like the broader Yemeni society and its architectural heritage, embody a continual and enduring way of life, often described in Jewish literature as "biblical" in its steadfast determination to uphold tradition. These portrayals often extend into Orientalist framings, casting Yemenite Jews, much like Yemen's architectural heritage, as relics of a timeless, exotic past. Professor of Biblical Studies Reuben Ahroni describes Yemenite Jews in his book:

> Nevertheless, the uniqueness of the Yemenite immigrants was the most pronounced and the most fascinating. For hundreds of years, the Jews of Yemen had remained relatively intact and had existed with unbroken continuity in that same region, almost totally secluded from the rest of the world, veiled in mystery and myth. As a result of this isolation, it had developed specific cultural traits and peculiarities distinct from other Jewish communities.[162]

Obscure Ancient Roots

The knowledge of the beginnings of Jewish settlement in the Arabian Peninsula, and that specifically in Yemen, is largely obscure due to the lack of credible written records during the earliest times. The

162. Reuben Ahroni, *Yemenite Jewry: Origins, Culture, and Literature* (Bloomington: Indiana University Press, 1986), 1.

absence of reliable, written documentation on the early period of the history of Yemenite Jews leaves the subject open to speculation. Current knowledge is based on oral traditions, local lore, linguistic traces, and occasional archaeological discoveries.

According to Ahroni, there are several oral accounts describing their move to this region. Some trace their origins back to the time of Moses, when a group of Israelite soldiers, banished for having spared an Amalekite prince, arrived to settle in Yathrib (Jewish oasis north of modern Medina). Others propose links to the era of King Solomon following the fabled visit of the Queen of Sheba to Jerusalem. The common belief among the Yemenite Jews is a story of their ancestors migrated from Jerusalem prior to the destruction of the First Temple at the command of the prophet Jeremiah and ultimately came to settle in the region of Mount Nuqūm, east of contemporary Sana'a, and there allegedly established a kingdom.[163] Although such accounts are largely speculative, Professor of Comparative Literature and History Yosef Tobi noted that certain linguistic and liturgical characteristics of Yemenite Jewish practice—such as their distinctive pronunciation of particular Hebrew vowels and their custom of dating years from the destructions of the First and Second Temples—lend a measure of cultural coherence to such assertions. [164]

The most ancient testimony of the presence of Jews in Yemen is from grave sites that have been unearthed close to present-day Haifa in Israel with burial customs and inscriptions from the Himyarite era, daiting back the 3rd century CE. There has been scholarly disagreement over whether these individuals were from Yemen or a northern Arabian colony, but the burial traditions assume their origins from southern Arabia. The Himyarite Kingdom, embraced Judaism when the royal house adopted it as the religion of the state in the 5th century CE—elevating the position of Jews in the nation

163. Ahroni, *Yemenite Jewry,* 24-6.

164. Yosef Tobi, *The Jews of Yemen: Studies in Their History and Culture* (Leiden: Brill, 1999), 3.

and relegating Christianity to the margins. Yusuf Dhu Nuwas, the Jewish Himyarite king, launched attacks on Christians in Najran (now Saudia Arabia), prompting a counter-invasion by the Christian Kingdom of Abyssinia with the help of the Byzantine Empire. Dhu Nuwas was ultimately defeated in 525 CE, which led to a Christian system of rule in Yemen and the downfall of the Jewish community's status. This era is not documented in Jewish sources and is known mainly from Christian and Islamic sources.[165]

Life as Dhimmis Under Islam

Following the rise of Islam in 629 CE, Yemeni Christians and Jews became *dhimmis*.[166] Although some adopted Islam to avoid the responsibilities that came with dhimmi status, many Jewish communities maintained their traditions and communal organizations. It was not until the 10th century that first documented contact emerged between Yemenite Jews and the larger Jewish world. Letters from the Babylonian *geonim* (meaning leader) were discovered in the Cairo *Genizah* (a designated text storage area in a Jewish storage or cemetery), revealing Yemenite Jews having contact with the scholarly centers of Babylon and Cairo and giving financial support to these centers.

Until the middle of the 13th century, especially under the Rasulid dynasty, Yemenite Jews experienced a period of relative prosperity and literary flourishing.[167] The port city of Aden became a vital link in international trade routes, and Jewish scholars produced a rich body of religious and philosophical works infused with Maimonidean rationalism.[168] As Tobi notes, this period marked a golden age for Jewish intellectual life in Yemen. However, this flourishing came to a tragic halt with the rise of the Banu Tahir dynasty in the 15th

165. Tobi, *The Jews of Yemen,* 4.

166. Dhimmi means "protected person" and refers to a non-Muslim (must be of part of Abrahamic religion i.e. Jewish or Chirstian) residing in an Islamic state who is granted legal protection in exchange for loyalty and a special tax (*jizya*).

167. The Rasulids was a Sunni dynasty who ruled Yemen from the 13th century until the 15th century.

168. Referring to the renowned Jewish philosopher and physician, Moses ben Maimonor Maimonides, based in Cairo, whose letters to the Yemenite community during times of persecution offered both moral support and *halakhic* (Jewish law) guidance. This relationship deepened the religious and political ties between Yemen and the Jewish diaspora, and his influence on Yemenite Jewish customs persisted for generations.

century.[169] Under religious pretexts, Jews were expelled from several areas. The early 16th century brought further instability with the arrival of the Ottomans and the resurgence of Zaydi opposition; however, a slow cultural revival began in the 18th century under the leadership of figures like Shalom 'Iraqi, a Jewish treasurer to the Imams, and Rabbi Yihye Sālih, a renowned *halakhic* (Jewish law) authority whose influence extended into the modern period. Yet, the revival was halted once again in the early 19th century due to instability caused by tribal warfare and the decline of central authority. The Ottoman reoccupation of Yemen in 1872 ushered in reforms that temporarily improved Jewish conditions. Discriminatory taxes were lifted, emigration restrictions eased, and Jews began gradually migrating to Palestine, settling mostly in Jerusalem and Jaffa.

The collapse of Ottoman rule in 1918 brought Yemen under the autocratic control of Imam Yahya, who reinstated the traditional *dhimma* system. The controversial Orphans' Decree, which required Jewish orphans to be converted to Islam, was enforced. Jews were forbidden to emigrate, and the construction of new synagogues were prohibited. However, as Tobi points out, Imam Yahya paradoxically acted as a protector against mob violence, and his rule maintained a precarious balance between repression and stability.[170] The situation changed dramatically with his assassination in 1948, which coincided with the founding of the State of Israel. Fearing a resurgence of persecution, the Jewish community sought avenues for escape.

Final Decades in Yemen

The Jewish population of Yemen was small and highly dispersed. With the gradual dissolution of the once-strong Christian tribes of Southern Arabia, the Jews became the only non-Muslim community

169. Also referred as the Tahirid dynasty who ruled over Yemen for a brief 63 years from 1454 to 1517.

170. Tobi, *The Jews of Yemen,* 7.

in Yemen for centuries, and thus, they were the only minority with the *dhimmi* status. By the 1940s, Yemenite Jews were estimated to be numbered no more than 60,000, with some 80 percent residing in villages or small towns.[171] Reports reflect those who resided in urban communities experienced harsher treatment. Ahroni claims that it has to do with notion of *sharaf* (honor). Within Yemeni tribal communities, *sharaf* was instrumental in safeguarding the Jewish populace. As a result, Jews frequently felt more secure under tribal protection than around their city folks.[172] Ahroni suggests that folktales reflect Yemenite Jews' ability to come to terms with their status as *dhimmis*. While relations with Muslims were generally good, their protection depended on the whims of local rulers and tribal chiefs. In times of peace, they could live and work in security, with Jewish artisans moving freely from one tribal area to another. Yet their subject legal status gave them a peculiar sort of security; if they steered clear of political controversy and conducted themselves humbly, they tended to be safe.[173]

Operation Majic Carpet

One of the most dramatic incidents in recent history was the mass immigration of Yemenite Jews to Israel. In 1949, Operation Magic Carpet (also known as On Eagles' Wings) airlifted about 50,000 Yemenite Jews from Yemen to newly formed Israel. This occurred during the wake of the Arab-Israel war of 1948 and following the *Nakba* (forced displacement of Palestinians). The war provoked a backlash against the Jewish population in the Middle East, spurring their emigration at the same time as the creation Isreal's Law of Return—granting any Jew the right to immigrate to Israel and receive citizenship. While Yemenite Jews had lived in relative isolation from the European-led Zionist project, they found themselves swept up in

171. Ahroni, *Yemenite Jewry,* 15.

172. Ahroni, *Yemenite Jewry,* 13.

173. Ahroni, *Yemenite Jewry,* 18.

its consequences.

Regarded as one of the most ancient Jewish communities, Yemenite Jews had preserved unique cultural and religious customs distinct from other Jewish groups due to centuries of isolation. In their migration, Yemenite Jews were seen by fellow Jews as figures of an ancient past. Shlomo Barer, an organizer in their migration, expressed that they belonged "for all practical purposes to biblical times." Their traditional clothing, long earlocks, and deep religious devotion left a strong impression. One American airlift captain particularly described them as "prophets stepping out of the Bible."[174]

Jewish Decline under President Saleh and the Houthis

While the majority of Yemenite Jews left during Operation Majic Carpet, a few remained. Between 2007-2009, multiple attacks by Islamic radicals on Jewish residents led then President Saleh to relocate the willing remaining Yemenite Jews to Sana'a, near the U.S. embassy.[175] Throughout these years, dozens would be evacuated out of the country by Israel, the United Sates, and several Jewish organizations.

After the Houthis' takeover of Sana'a in late 2014 and the eventual closure of the U.S. embassy in 2015, many Jews reported an increase in hostility and oppression. While some were secretly airlifted out to Israel, a community of 100 Jewish residents refused to immigrate to Israel and later accepted to relocate to Abu Dhabi following the normalization of diplomatic ties between the UAE and Israel in 2020.[176] The resistance from the last members to leave Yemen is due to their fear of not integrating in an Israeli or another Western society, as they prefer to reside in a more conservative Arab country.

174. For both quotes see Ahroni, *Yemenite Jewry,* 1-2.

175. "Jews in Islamic Country: Yemen," Jewish Virtual Library, 2025, https://www.jewishvirtuallibrary.org/jews-of-yemen#11 (accessed February 1, 2025).

175. Tzvi Joffre, "Yemen's Remaining Jews to Be Transferred to UAE - Report," The Jerusalem Post, August 16, 2020, www.jpost.com/diaspora/yemens-remaining-jews-to-be-transferred-to-uae-report-638831 (accessed February 1, 2025).

Officially, only one Yemenite Jew, Levi Marhabi, remains in Yemen.[177] He has been incarcerated for smuggling an ancient Torah out of the country, which the Houthi government deemed as national heritage. While one Yemenite Jew left is the official count, many believe there are a selective few residing covertly in Yemen. That became evident when the deceased Yahya ben Yousef, who lived alone, was laid to rest by his fellow Muslim neighbors in the village Madar in 2024.[178]

Jewish Heritage Remains in Yemen

Jewish settlements in Yemen spanned across the entire country. However, the majority lived in what was then North Yemen, with over half of the Jewish population living in and around the cities of Sana'a, Taiz and Ibb alone.[179] These cities have the most preserved Jewish heritage, as they were mainly residential quarters embedded within the cities' fabric. Once the Jewish residents left, Muslim residents took over their homes. On the other hand, another type of settlement was villages (Figure 4.16). Seldom were these villages Jewish-only; instead, Jewish residences were either situated along Muslim homes or on the edge or the outskirt of the village.



4.18

177. Gabby Deutch, "Only One Jew Remains in Yemen, U.N. Says," Jewish Insider, March 14, 2022, https://jewishinsider.com/2022/03/only-one-jew-remains-in-yemen-u-n-says/ (accessed April 15, 2025).

178. Jerusalem Post Staff, "One of Yemen's Last Jews Laid to Rest by His Muslim Neighbors - Report," The Jerusalem Post, June 16, 2024, https://www.jpost.com/middle-east/article-806506 (accessed April 15, 2025).

179. Statistics taken from a map by Moshe Gabra, Map of the Jewish Community in Yemen, Institute of Yemeni Studies (Laliv G., October 5, 2018), https://commons.wikimedia.org/wiki/File:Museum_of_Jewish_Heritage_Yemen_3.jpg.

Fig. 4.18 An abandoned Jewish village. Photograph by Rod Waddington, *Village Decay, Haraz Mountains, Yemen*, August 28, 2013, Flickr, https://www.flickr.com/photos/rod_waddington/14456962359/in/album-72157635314684116.

A Potential Humanitarian Model? Or Cultural Erasure?

The project on Bayt Baws addresses two critical yet delicate issues in Yemen: the preservation of the remaining Jewish heritage and a solution for displaced Yemenis. However, this symbiosis raises complicated questions. Should the cultural heritage of Yemenite Jews be preserved as untouched artifacts, safeguarding the last remaining Jewish heritage against historical erasure? Or should they be reintegrated to residences for Muslim Yemenis, reflecting the ancient tradition of continuous acclimatization? Furthermore, the rehabilitation of the urban fabric in these sites, through making them habitable again for Muslim Yemenis, poses a deeper dilemma. Does this strategy pay tribute to the legacy of Yemenite Jews through the preservation of their buildings, or might it instead work to cement their exodus to no return, further alienating them from their land? It is crucial that the project thoughtfully navigates these complexities, so that rehabilitation efforts respect its historical significance while simultaneously confronting the pressing demands of the current society.

A Look at Occupied Palestine, Iraq and Morocco

Different countries in the Middle East and North Africa (MENA) region have approached the preservation of an exiled group's heritage in varying ways. Before comparing the approaches, it is essential to consider the prevailing attitudes and narratives upheld by the political powers that safeguard that heritage. The following section examines three MENA countries in the. Two of these countries, Morrocco and Iraq, present starkly different approaches to handling their Jewish heritage. In contrast, Israel's treatment of Palestinian ghost towns provides an inverse case, where the Arabs are the exiled group.

Palestinian Ghost Towns in Israel

Empty Palestinian villages have been carefully framed within Israeli discourse, whether through their complete eradication to remove them from public consciousness, the restriction of their structural narrative, or by changing conservation laws. Author Rober Bevan mentions this practice as "patriotic archeology," where sites would be appropriated, whether they were linked to Jewish heritage or not, to erase centuries of Arab civilization.[180] A prominent theme in early Israeli Literature was the juxtaposition of Jewish settlers as "civil" and Palestinians as "backward." While the complete erasure of these towns further pushes the Jewish state's agenda, so does the ruination of what remains. In his book *Sacred Landscapes*, political scientist and former Deputy Mayor of Jerusalem Meron Benvenisti notes this juxtaposition, saying, "The sight of the filthy, crumbling villages reinforced the stereotype of the Arab as a primitive son of the desert, in contrast to the civilized Jew who made the desert bloom."[181] Ironically, Benvenisti later remarked how the reverse instead occurred: "the Arabs are the one who made the hills bloom, whereas the Jews are about to turn them into desert." Israeli officials, including Prime Minister Ben-Gurion, explicitly called for the destruction of the physical reminders of the displaced population.[182] Moreover, the Israeli Antiquities Law of 1978 classified only structures built before 1700 as antiquities, excluding Palestinian villages from legal protection.[183]

Aside from the physical erasure, Israel managed the ways the remnants of the Palestinian towns appeared in public spaces. Most were integrated within national parks and tourist areas, and so they came to be in settings where Israelis encountered them in de-politicized or re-contextualized frameworks. In many cases, the Palestinian roots of the towns went unmentioned, not mentioning

180. Robert Bevan, T*he Destruction of Memory: Architecture at War* (2005; repr., London: Reaktion Books, 2016), 148.

181. Meron Benvenisti and Maxine Kaufman-Lacusta, *Sacred Landscape: The Buried History of the Holy Land since 1948* (Berkeley: University of California Press, 2000), 235.

182. Noga Kadman, "Roots Tourism–Whose Roots?," *Téoros* 29, no. 1 (May 2, 2010): 55–66 (56), https://doi.org/10.7202/1024755ar (accessed April 8, 2025).

183. Kadman, "Roots Tourism–Whose Roots?," 57.

even their names. Instead, they were contextualized within non-political discourse.[184]

Synagogues and Tombs in Iraq

The history of Jewish communities in Iraq stretches back thousands of years, inextricably linked to the nation's cultural and historical heritage. Yet, following the mid-20th-century mass emigration of Iraqi Jews, much of their architectural heritage has been left to face abandonment, alteration, or complete eradication.

In the north of Iraq, particularly in the Kurdish area, Jewish heritage still exists in the local memory, although there were no Jews residing for over seven decades. The old Jewish quarter in Sulaymaniyah, which used to be occupied by a large community of Iraqi Jews, is presently occupied mainly by local Kurds. After the founding of Israel in 1948, Jews in Iraq came under increasing hostility and persecution; but oral tradition within the Kurdish community preserves a generally positive memory of their former Jewish neighbors. This collective memory, while sentimental, does not necessarily translate into active efforts to preserve Jewish heritage. Rather, the physical structures are lifeless artifacts—symbols of a once flourishing community whose legacies are recorded but not actively conserved.[185]

A more focused approach in the preservation of Jewish heritage is evident in the restoration efforts on the Tomb of Nahum in Alqosh. In contrast to the abandoned Jewish quarters in cities, this tomb has been the focus of interest through a collaborative effort between the U.S. government, the Kurdistan Regional Government, non-governmental organizations, and private donors. The significance of this project is highlighted by the fact that almost 90 percent of Jewish

184. Kadman, "Roots Tourism–Whose Roots?," 63.

185. AP Archive, "Abandoned Jewish Homes Still Stand in Sulyamaniyah," YouTube, February 7, 2020, https://www.youtube.com/watch?v=mAQwfvPq8T4.

cultural sites in Iraq are either badly deteriorating or irreparable.[186] However, there is a gradual shift in public consciousness taking place. Individuals such as Omar Mohammed, the historian who is best known for the Mosul Eye blog, documenting Iraq under ISIS rule, have been instrumental in reviving interest in the historical narratives surrounding Iraq's Jewish past.[187] His research on Mosul's Jewish history has prompted local initiatives to restore synagogues and other Jewish monuments. These grassroots initiatives represent a new recognition that Iraq's Jewish heritage is a component of Iraq's cultural heritage and not some far-off or tangential past.

Mellahs and Cemeteries in Morocco

Contrary to numerous surrounding nations in which the Jewish heritage has been neglected or erased, Morocco has actively worked to commemorate and preserve the legacy of its formerly large Jewish populace. This is largely attributable to state-funded restoration initiatives, academic partnerships, and constitutional acknowledgment instigated by Morocco's kings, who pursued more normalized ties with Israel than most of their regional counterparts.

Since King Mohammed VI's ascension to the throne, a variety of efforts have been made to refurbish Jewish historic sites and advance the narrative of peaceful coexistence. These efforts have included reopening a restored synagogue in Casablanca and restoring traditional Jewish street names in the *mellahs* (Jewish quarters) of Fez and Marrakech. Included in these efforts have been the restoration of more than 170 Jewish cemeteries throughout Morocco, including those in remote and rural locations. These acts of preservation serve not only as physical restorations but as public acknowledgments of a shared, complex past that links Jewish and Muslim histories

186. Darren P. Ashby and Susan Penacho, "Final Report of the Jewish Cultural Heritage Initiative," American Society of Overseas Resarch, May 3, 2020, https://www.asor.org/wp-content/uploads/2019/06/JCHI-Final-Report-for-Public-Release_CIRCULATION-DRAFT-FINAL.pdf (accessed April 12, 2025).

187. Ido Levy, "Reclaiming Iraq's Jewish Heritage," The Washington Institute, October 19, 2021, https://www.washingtoninstitute.org/policy-analysis/reclaiming-iraqs-jewish-heritage. (accessed April 12, 2025).

in Morocco. Another notable project that exemplifies cultural reclamation is the joint Israeli-Moroccan research project that studied the Jewish communities that inhabited the Atlas Mountains. Among the researchers involved are Ashkelon Academic College Professor Yossi Ziv of Israel and Ben-Gurion University's Dr. Aviva Ouaknine-Yekutieli, who are studying the histories and traditions of Jewish villagers who inhabited these isolated areas prior to their en masse migration during the mid-20th century.[188] Through archaeological fieldwork and oral history, the research aims to restore lost narratives and highlight the enduring legacy of Moroccan Jews and its continuous part of the country's national story. Thus, the country's engagement with its Jewish history paves a hopeful future, even in a post-migration reality, where the past can still be remembered and honored.

188. Ofer Aderet, "Synagogue Ruins Tell Secrets of Jewish Community in Morocco's Atlas Mountains," Haaretz, December 27, 2021, sec. Archaeology, https://www.haaretz.com/archaeology/2021-12-27/ty-article-magazine/israeli-and-moroccan-research-team-discovers-lost-jewish-lives-in-atlas-mountains/0000017f-dbee-d3a5-af7f-fbeea3660000. (accessed April 12, 2025).

Bayt Baws' Challenges

Though rich in cultural and historical heritage, Bayt Baws is confronted with numerous challenges. Among these challenges is the absence of a settled community. Approximately thirty economically disadvantaged and displaced families reside in the village today since the exodus of its original residents in the 1990s. The remoteness of the village is also a significant challenge. The road to Bayt Baws is a treacherous and steep ascent. The rugged and steep path to reach Bayt Baws is a major obstacle, as it prevents the locals who travel on foot from reaching and leaving the village safely. This further isolates the village and limits access to essentials. In addition, footage shows that the residents use an unpaved desire path, likely to avoid the winding roads along the cliff.

On reaching the village, one is confronted with extensive degradation

of structures. Occupied homes are in a state of severe disrepair and may be structurally unsound, with open walls and collapsed roofs. While families have made some makeshift repairs, residents are still exposed to the elements and a sudden collapse. In addition, the site lacks essential infrastructure, such as sewage, running water, stormwater drainage, electricity, or telephone service. The neglect is not confined to inhabited homes. Most of the buildings in the village have been unoccupied for decades, slowly disintegrating through erosion, collapse, and neglect. If left alone, the buildings will continue to disintegrate.

Compounding the problem is the absence of a viable, stable local economy. The fact that the villagers were conducting a marketplace on a weekly basis shows that they require local essentials. A permanent or semi-permanent market should be considered to support the local economy, providing displaced families with a way to exchange goods and support themselves. There is also the problem of environmental degradation. The two large cisterns at Bayt Baws, one in front of the mosque and one adjacent to the once Jewish homes, are littered with garbage and algae—making then unviable for domestic use.

Moreover, the uninhabitable archaeological remnants discovered in Bayt Baws need professional attention. These include the ruins of a synagogue and a Jewish school as well as the 11th century Crown Prince Al-Mukarram Ahmad's tomb.[189] These places must be handled differently from the clifftop houses, with an emphasis on preservation and conservation over restoration. Finally, Bayt Baws is vulnerable to numerous threats from conflict and exporsure. The 2016 Saudi-led airstrike that damaged a section of Bayt Baws highlights the village's vulnerability to military conflict. Additionally, increasing focus from a safeguarding project could draw unwanted attention from vandals, looters, political groups to the site.

189. He was the husband of Queen Arwa al-Sulayhi (1048-1138 CE), an infamous sovereign that ruled Yemen from 1067 to 1138 CE. During his final, bed-ridden years, he moved to Bayt Baws for its fortified protection, where he was ultimately laid to rest.

Fig. 4.19 The village's entrance. Video by Al-Hawyah Media Network | شبكة الهوية الإعلامية, "Hathi Alyemen," Youtube, July 20, 2023, 7:31, https://www.youtube.com/watch?v=n4lgHjp6Noo.



4.19

What Bayt Baws Could Be: Thula Fort Restoration (2004)

Bayt Baws is an exemplary model of Yemen's highland architecture, with dwellings built with rough-hewn stone dating back to the Sabaen civilization. The village is one of countless many found on top or on the edge of cliffs, taking advantage of the steep topography as a defense mechanism. Notable villages of similar landscape are Jabal Razih, Kawkaban, Shibam al-Mawhit,[190] and Thula. All feature similar characteristics such as heavy fortification, safeguarded entries, water cisterns and irrigation channels.

One of these villages' community, Thula's, partnered up with the Social Fund for Development and took it upon themselves to protect cultural assets, including rebuilding the walls of burial grounds and walls of agricultural terraces, restoring the Bab al Mayah gate, watch towers, paths and waterways, and repairing the cistern that remains in use to this day.[191] Moreover, an archaeological site was discovered with gates and walls that provided further insights into the Sabaeans

190. Not to be confused with Shibam-Hadhramaut.

191. "Thula Fort Restoration," Aga Khan Development Network, November 30, 2024, https://the.akdn/en/how-we-work/our-agencies/aga-khan-trust-culture/akaa/thula-fort-restoration (accessed March 27, 2025).



4.20



4.21



4.22

Fig. 4.20 Home previously housed by Jewsish residents. Photograph by Abeer Mohsen, *Jewish Residences*, Daraj Media, March 29, 2020. https://daraj.media/en/the-tale-of-bayt-baws-or-yemens-jerusalem/.

Fig. 4.21 The remains of the Synagogue, Video by Al-Hawyah Media Network | شبكة الهوية الإعلامية, "Hathi Alyemen," Youtube, July 20, 2023, 9:42, https://www.youtube.com/watch?v=n4lgHjp6Noo.

Fig. 4.22 The remains of the Jewish school. Video by Al-Hawyah Media Network | شبكة الهوية الإعلامية, "Hathi Alyemen," Youtube, July 20, 2023, 10:09, https://www.youtube.com/watch?v=n4lgHjp6Noo.

and their civilization. This project is considered a successful local initiative that sought no outside aid, eventually shortlisted for the 2013 Aga Khan Award for Architecture. There are several reasons as to why Bayt Baws presents challenges. Mainly, it is because Bayt Baws' community lack in populace, stability and wealth.



4.23 Fig. 4.23 The village of Thula. Photograph by Rod Waddington, *Thula Village*, n.d., Flickr, https://www.flickr.com/photos/rod_waddington/32848243298.

Toward Reviving Bayt Baws

Drawing from past efforts studied in Chapter 2 in Sana'a and Shibam, this proposal lays out a phased conservation and revitalization strategy. Instead of prioritizing infrastructure or monuments first, this framework begins with the most pressing human needs, stabilizing residents' homes while gradually addressing infrastructure, archaeological preservation, and economic revitalization. It is critical to follow a phased approach to avoid the pitfalls seen in past projects like the restoration of the 'Amiriya Madrasa, where sporadic "dribs and drabs" of funding led to prolonged delays, inefficiencies, and rising costs. Similarly, Bayt Baws offers not only a chance for physical rehabilitation but also for participatory governance—a grassroots, hands-on experiment in democratic collaboration. As the previous chapter explored, Yemen's conservation world is extremely fragmented yet abundantly diverse, offering fertile soil for pluralistic and inclusive heritage management. Bayt Baws might turn into both a humanitarian response and a replicable model of heritage-driven development in post-conflict Yemen with the right combination of local mobilization, technical expertise, and tactful diplomacy.

Phase 1: Residents' Homes and Archaeological Sites

We saw the prioritization of infrastructure before homes in UNESCO's campaign in Sana'a and of infrastructure and archeological sites before homes in UNESCO's campaign in Shibam. That approach was to uphold citizens' needs over the museumification of a city. However, for this project, I suggest to put homes before infrastructure and archaeological sites. Residents' primary concern is the structural stability of their homes as well as their exposure to harsh elements. Therefore, surveying the homes for structural stability should be the initial step of the project. The following steps should be dictated

according to the survey findings. Buildings in immediate need of structural stability should then be quickly supported by temporary reinforcement braces. On the other hand, buildings that are deemed structurally stable can move on with plastering the enclosures to insulate and limit exposure.

Following the footsteps of Shibam, uninhabited archaeological sites, such as the synagogue and school as well as the historic tomb of Crown Prince Ahmad, should immediately be addressed to halt further weathering and vandalism. Moreover, as significant as the synagogue and school are, Jewish cemeteries are also valuable Jewish heritage that need to be sought after and safeguarded (Figure 4.24). However, extra traffic to the sites as well as installing fences and signage may bring reverse effects and attract unwanted attention. Thus, operating lightly and placing discrete structures should be advised.

As previously stated, district officials have already initiated efforts and claimed that the residents are eager to cooperate. Thus, Phase 1 has technically been initiated. However, the operation could use further assistance: not only for the welfare of Bayt Baws residents, but also to use the village as a blueprint for similar case studies. Since local government is involved, reaching out to either government organizations or independent local organizations, especially SFD with its experience in Thula, can be beneficial here.

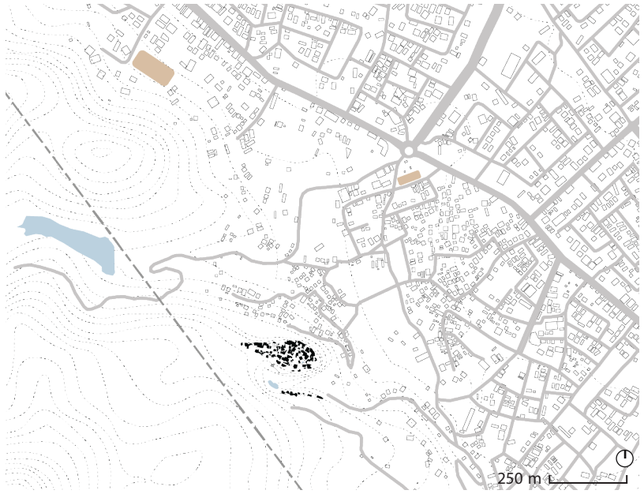


Fig. 4.24 Potential sites for Jewish graves.

Phase 2: Infrastructure and a Market

The village lacks basic necessities like electricity and running water. Satellite images show around a dozen water tanks near the village entrance, depicting how residents receive their water. This isn't uncommon in Yemen. As one of the most water-scarce countries in the world, Yemen's current water network reaches less than 30 percent of its population.[192] Referring back to the latest initiatives on Bayt Baws, head of the project al-Da'eri mentioned revamping the *birkas* (cisterns). There are two within Bayt Baws, one in front of the village's mosque and another larger one right outside neighboring the Jewish residences. *Birkas* are popularly used for domestic use like washing oneself, clothes and hydrating animals. The one by the mosque has turned green, assuming its being overrun with algae and aquatic plants. Clearing the water would make the *birka* safe again

192. ICRC, "The Water Situation in Yemen," International Committee of the Red Cross, June 5, 2022, https://www.icrc.org/en/document/water-situation-yemen (accessed March 25, 2025).

193. Abeer Mohsen, "The Tale of 'Bayt Baws' or Yemen's Jerusalem ," Daraj Media, March 29, 2020, https://daraj.media/en/the-tale-of-bayt-baws-or-yemens-jerusalem (accessed Janruary 24, 2025).

Fig. 4.25 Phase 1.

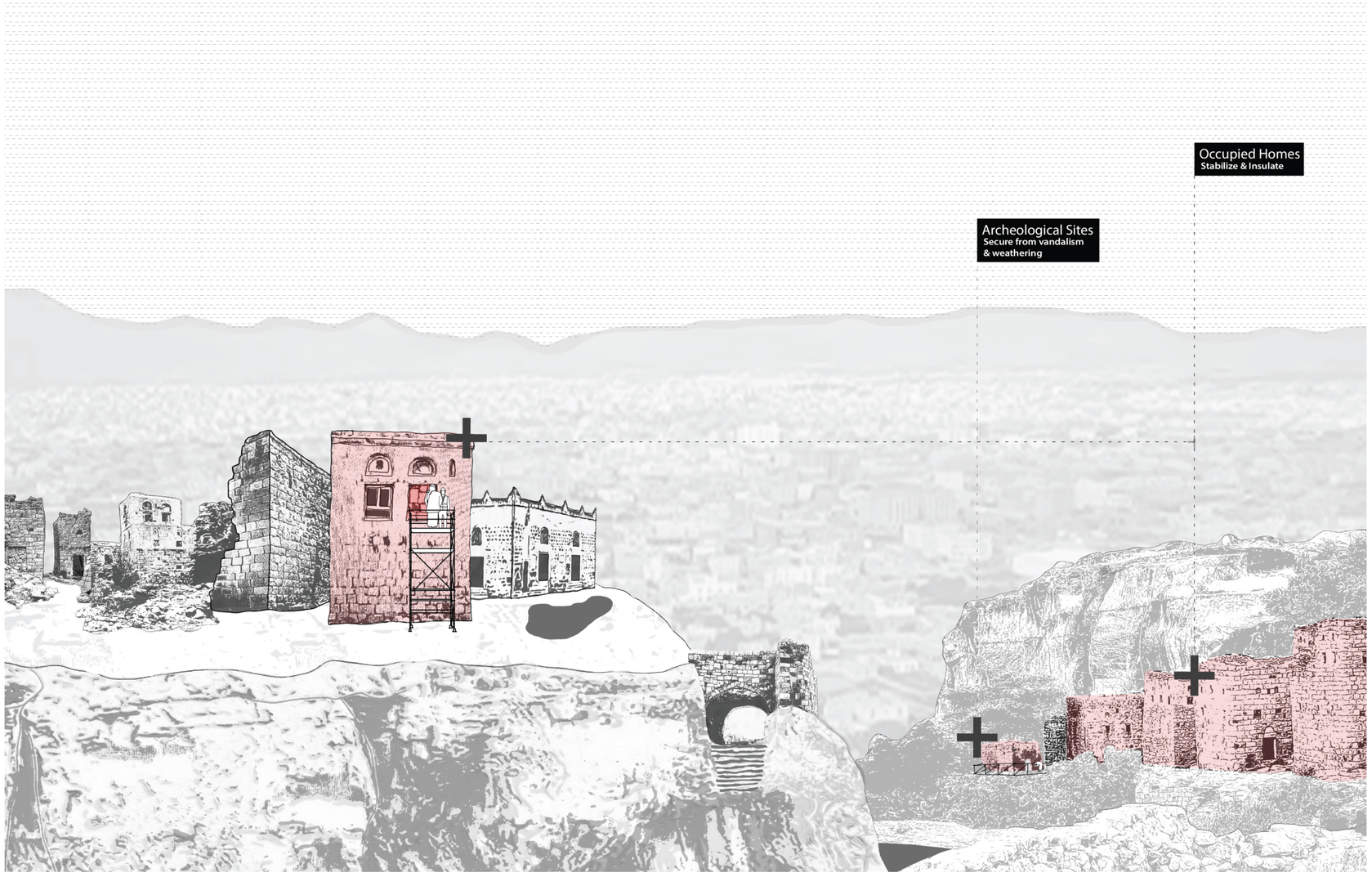


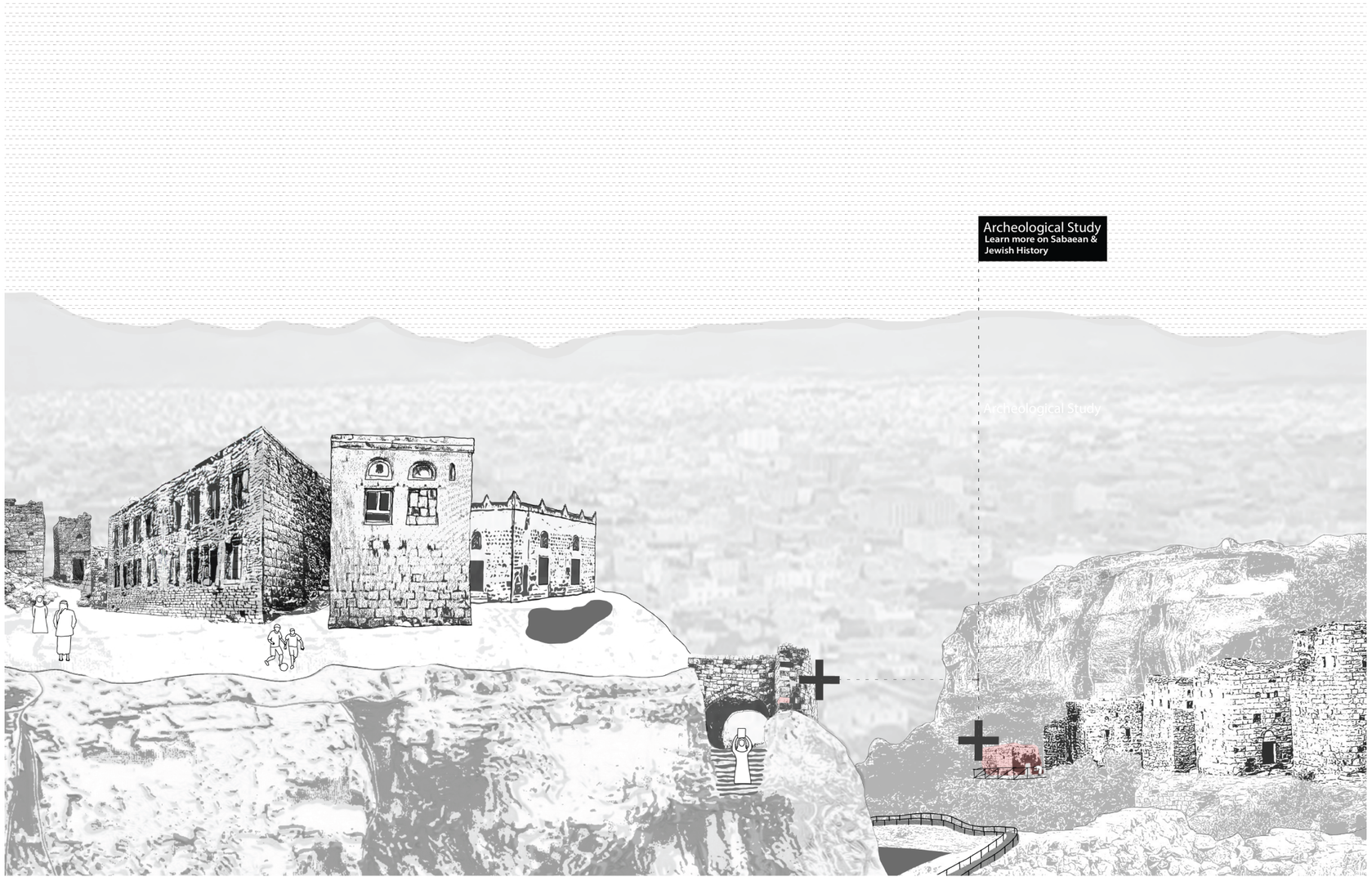
Fig. 4.26 Phase 2.



Fig. 4.27 Phase 3.



Fig. 4.28 Phase 4.



for domestic use. Due to their large, open nature, they aren't typically used for drinking water. Instead, smaller, covered cisterns called *majils* are safer to guard the drinkable water from contamination. However, there is no evidence of *majils* in Bayt Baws.

An outsider's perspective would struggle to imagine a project such as this without the realization of electricity and running water. However, in reality that may be the case for the near future. Even al-Da'eri failed to mention any suggestion of adding infrastructure because, as of Yemen's current state, it is more of a luxury. What can be done, however, is ease the hardship of residents by cleaning their *birkas*. Learning from Thula's project, the larger *birka* can be plastered with *qudad* to better insulate the water and make it better viable for household chores.

Looking at drone footage from the documentary, it shows residents using a desire path to ease the treacherous climb to the village. Paving a lane throughout the desire path ensures a safe alternative for pedestrians. Moreover, another way to reduce unnecessary tiresome trips is to bring back the weekly market that the residents had set up. According to one article, the makeshift market suddenly collapsed overnight.[193] A simple, one-time donation of market stands is a small gesture that can heavily impact on the village's economy and autonomy.

Phase 3: Remaining Buildings

The largest, most extensive segment of the site that needs restoration is the decaying, uninhabitable dwellings. Forming much of the clifftop, the erosion of these structures may not affect the current residents greatly but restoring them brings in several advantages.

The main one would be providing much needed housing to take in some of the millions of unhoused Yemenis. The second reason is to restore a testament of Sabaean civilization and interfaith coexistence, both narratives being essential to restore collective identity and unity during the country's dire circumstances.

The task is no small feat, and it would need the organization of several parties outside of the district local council. A project of this magnitude would need the consent and monitoring of the current government, likely under the supervision of GOAM or GOPHCY or both. Since foreign donors have recently leaned more toward independent organizations like SFD, it is recommended to include them as director of this project—not only for the sake of the foreign donors' trust, but also to loop in both public and private parties in a cooperative opportunity.

As for builders, it is imperative to hire *ustas* of all levels of experience to encourage a generational transfer of knowledge. Many different skills are needed for this project, including the art of *tarmim* (reconstruction) and *fals* (replacement), which only a handful of older *ustas* are renowned for. Secrets of the techniques were closely safeguarded as told by older reports from past projects.[194] However, with the passing of decades and the aging of the reputable *ustas*, the project presents a great opportunity to document whether the techniques have been preserved and passed to a newer generation or if this project can be a potential prospect.

In terms of financing, the project encompasses different themes and thus, it can approach different donors. Donors across fields of heritage, refugees, Islam, and endangered Jewish memory can be potentially influenced. While preserving Jewish heritage is an integral part of this project, approaching donor organizations with prominent Jewish ties

194. Lamprakos, *Building,* 155.

is not an option—even if these ties are apolitical. With the current state of Sana'a, its control by the Houthi forces, and the aftermath of the October 7th events, antisemitic and antizionist sentiments are at an all-time high. Regardless of whether this project had been initiated a few decades earlier or later, Yemen has never established and is unlikely to establish ties with prominent Jewish organizations anytime soon. The Yemenite Jewish diaspora, while theoretically can anonymously contribute through third-party organizations, would require extreme discretion and careful management to avoid triggering backlash or heightening the vulnerability of the site. If their involvement in funding were to become public, it could inadvertently endanger the very heritage sites they aim to protect by drawing unwanted local attention or politicizing the project. Nevertheless, other foundations can be approached. Foundations such as the Aga Khan Agency check the box of several fields, with subagencies in microfinance and habitat that the project can fall under. The ALIPH foundation, with thirteen preservation projects in Yemen under their belt, can be another source for funding. Approaching donors with past or current efforts in refugee housing in Yemen is another option. Jeel Albeena Association for Humanitarian Development (JAAHD) is a prominent Yemeni NGO that provided around 18,000 emergency shelters for IDPs that were living in informal sites.[195]

A project of this scale would likely need multiple donors. However, considering the initiative focuses on housing, securing enough funding for the entire property is not needed. Instead, a gradual approach can be implemented. This would enable project directors to seek other donors as well as allow donors to contribute incrementally, with funding allocated to a select number of homes at a time.

195. "Jeel Albena Association for Humanitarian Development," Jaahd, 2025, https://www.jaahd.org/ (accessed March 29, 2025).

Phase 4: Archaeological Study

The prioritization of the archaeological sites in Phase 1 was to mitigate further damage from weathering and vandalism through protective measures such as fencing and signages. However, when dealing with archaeological sites, especially ones linked to a controversial group, overt archaeological excavations and protective structures can inadvertently attract unwanted attention. Thus, discretion is key moving forward. The goal here is not to restore the sites, but to preserve the remains, as well as research and document. Yemen has a number of respected archeologists capable of leading such efforts, and given the modest scale of these sites, a reasonable budget should suffice. Over the past decade, local archeologists had to step up since most foreign personnel evacuated Yemen in 2014.[196]

The Italian Archaeological Mission in Yemen, established by Alessandro de Maigret in 1980, has one of the longest-running foreign archaeological efforts in Yemen. It has been instrumental in tracing the origins of the Sabaeans and their predecessors while establishing a chronology of pre-Islamic Yemen. After years of inactivity due to conflict, the Mission resumed in 2020 with the funding from the ALIPH Foundation, enabling Yemeni archeologists to assess and document the condition of numerous damaged monuments with the cooperation of Italians abroad. Given Bayt Baws' strong Sabaean past, the Italian Archaeological Mission may aid in guiding the excavation. However, they may be reluctant to handle the Jewish sites. Nevertheless, they could still help connect the project with other relevant experts or resources.

196. Istituto Italiano di Cultura, "South Arabia Revisited: The Work of the Italian Archaeological Mission in Yemen" (Monumenta Orientalia, May 18, 2016), www.monumentaorientalia.org/wp-content/uploads/2020/04/Washington-2_report.pdf (accessed March 29, 2025).

4.2 Tapping the Yemeni Diaspora for Sustainable Heritage and Development Funding

Amid chronic instability, weak institutions, and declining foreign patronage, Yemeni initiatives in culture preservation and development need to think outside the box to achieve sustainability. Possibly one of the most rich-in-potential but as yet under-utilized resources under such conditions is Yemen's diaspora. Comprising nearly 7 million individuals globally and remitting more than 8 billion U.S. dollars every year,[197] the diaspora represents a significant pillar for sustaining Yemen's economy while simultaneously being an effective and long-term source of finance for small- to medium-sized heritage and reconstruction projects. An effective outreach to this community is a three-way benefit: capital investment, transfer of knowledge, and enhanced sentiments of national unity.

A Proven Financial Force

Remittances from the Yemeni diaspora have long served as a cornerstone of Yemen's economy. According to a 2017 World Bank estimate, Yemenis in Saudi Arabia alone (as the largest Yemeni population outside of Yemen) sent 2.3 billion U.S. dollars annually.[198] Despite the COVID-19 pandemic temporarily reducing this flow, diaspora contributions remained Yemen's largest source of foreign exchange. These funds have consistently outpaced both humanitarian aid and foreign investment, providing essential income for millions of families.

The role of remittances as a source of economic sustenance is long established. The early phase of modernization of Yemen—especially of its northern highlands and the capital city of Sana'a—was triggered by the large out-migration of labor to the Gulf states during the oil boom of the 1970s. The ensuing inflow of remittances not only increased private consumption but also speculative development of the land and housing markets. By the mid-1970s, vast swaths of tribal and religious endowment (*waqf*) land had been transformed by private construction, often using new materials like concrete and iron. While this rapid change led to urban sprawl and cultural tension over aesthetics, it also marked one of the most dynamic periods of economic transformation in Yemen's modern history. The key takeaway is that remittances, while decentralized and locally managed, can remake Yemen's physical and economic terrain. This financial strength, when redirected through targeted campaigns, could also help fund cultural preservation and urban revitalization. Unlike large-scale, bureaucratically-entangled international efforts, the diaspora is particularly well suited for smaller-scale, community-based projects. Smaller scopes allow for more agile, transparent, and locally anchored funding mechanisms—an approach already proven in similar post-conflict societies.

Strategic Targeting: Identity, Ideology, and Place

Tapping the diaspora effectively demands a nuanced understanding of its ideological and geographic composition. Yemenis in the diaspora are not a monolith. Past migrations have forged unique demographic clusters. For instance, Sunni-majority southern Yemenis predominantly live in the UK, particularly in Sheffield and Birmingham; northern Zaydi-majority Yemenis cluster around Washington D.C. due to past diplomatic engagement; and Hadhrami Yemenis, a significant number of whom are Sunni or Sufi, are scattered throughout Saudi Arabia, India and Malaysia, remnants of

197. Doctor Adil: "Yemeni Expatriates' Annual Remittance Amount to Eight Billion Dollars," The Socotra Post, February 11, 2020, https://socotrapost.com/economic/1967. (accessed March 29, 2025).

198. Ali Al-Dailami , "Yemenis in Saudi Arabia: Less Money to Send Home, More Pressure to Leave ," Sana'a Center For Strategic Studies, September 3, 2020, https://sanaacenter.org/publications/analysis/11448. (accessed March 29, 2025).

merchant diasporas. These ideological affiliations and geographical patterns present an opportunity for tailored heritage outreach. Cities along the historic North-South Yemen divide, like Zabid, present neutral territory that mixes ideological diversity. Selecting along this region can prevent polarizing the diaspora while still engaging communal pride (Figure 4.30). Other ideologically or religiously focused heritage initiatives, like Sufi shrines or Zaydi sites, should be promoted within like-minded diaspora groups, where they will find a more receptive audience. This strategy converts ideological diversity into an asset.Ultimately, to prevent adding fuel to sectarian divides, initiatives that engage pan-national identity—instead of sect-specific heritage—must be prioritized.

Strengthening National Unity Through Engagement

Beyond funding, diaspora engagement can also foster a sense of belonging and shared responsibility. Many Yemenis abroad live in generational communities with limited means to engage directly in Yemen's future; moreover, many haven't had the chance to visit their country in years, if not ever, due to heightened conflicts. Thus, heritage projects provide an avenue for meaningful involvement, allowing the diaspora to shape the narrative of Yemeni identity and legacy. In doing so, these projects become more than acts of restoration; they are acts of participation: of belonging to a Yemen still in the making. Involving diaspora members in national reconstruction efforts also enhances psychological and emotional ties between expatriates and the homeland. In a context where national identity has been eroded by conflict, displacement, and sectarian division, the redevelopment of heritage—particularly in conjunction with Yemenis outside the country—can be a unique, nonpolitical form of solidarity. Regardless of whether it is a school, mosque, or a public square, these are the spaces through which collective memory is preserved and futures imagined.

Bayt Baws: A Scalable and Sustainable Approach

The viability of diaspora-funded projects is increased by their scalability. A project such as Bayt Baws would not require the same capital intensity as other projects that can't afford segmented phases. Projects can start modestly, with a single home, a small marketplace, or the gathering of oral histories, and they can expand over time. The site merges ancient Sabaean remnants, Islamic royal history, and endangered Jewish memory and is a manageable size and proximity to Sana'a—making it an ideal pilot project to a multi-stakeholder model.

The project is well-positioned to garner support from Yemen's polarized social and political environment. Though the diaspora communities are diverse, individuals of northern Yemeni descent—many of whom have familial connections to the region—are more situated to engage and invest. However, the project's emphasis on cultural heritage preservation and aid for displaced individuals, rather than its geographic or political implications, can potentially cut across ideological lines. The pluralistic nature of Bayt Baws' history is one that will resonate with a diverse set of Yemeni stakeholders, such as Sunni individuals from the southern regions and affluent Yemeni patrons residing overseas.

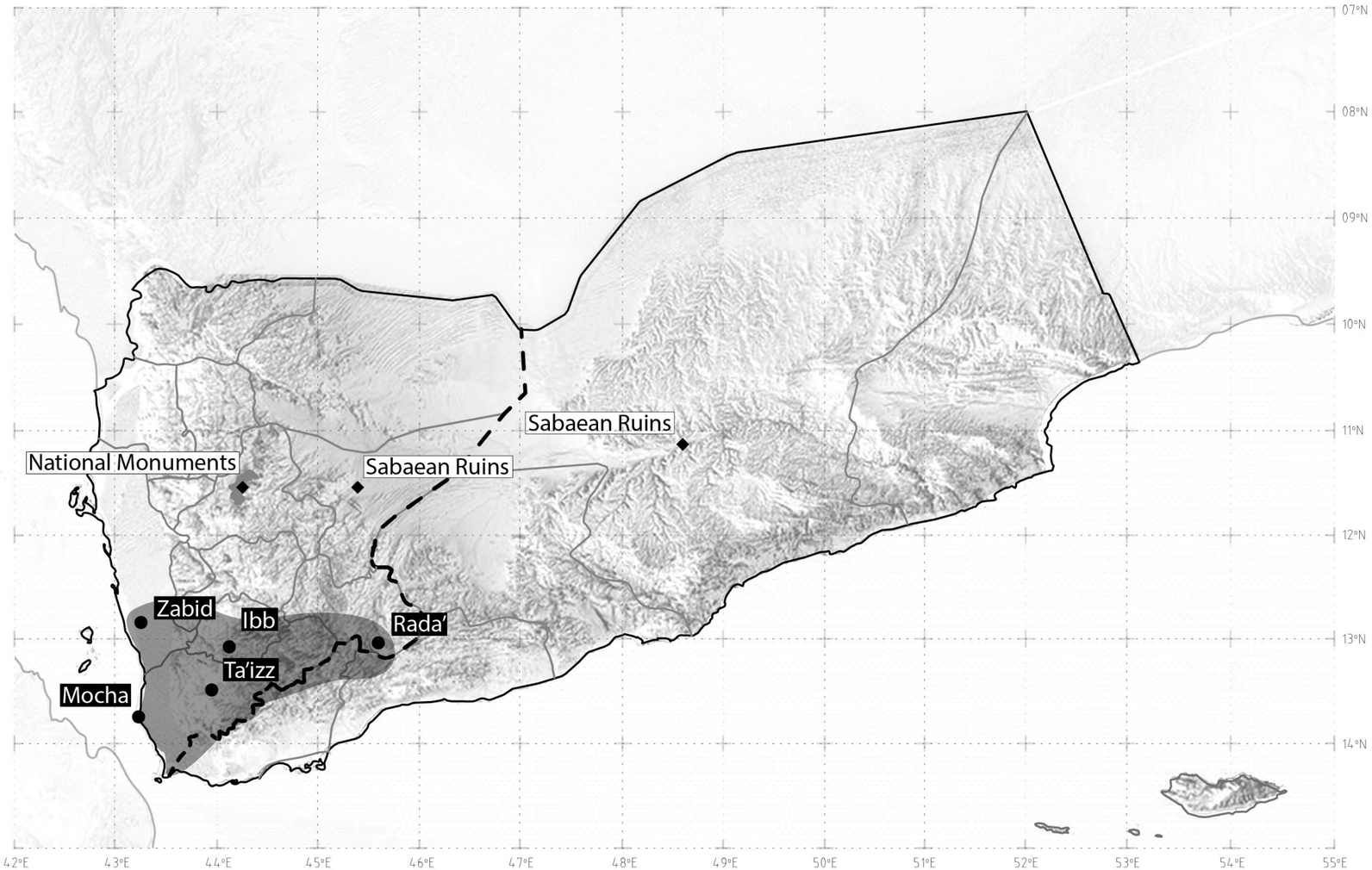
To successfully mobilize financial support from the diaspora, crowdfunding platforms must be grounded in trusted, familiar channels. This objective can be attained by three principal channels: first, by engaging the local mosques which are often the social and organizational heart for Yemeni diaspora communities; second, by

Fig. 4.29 Diagram of the Yemeni Diaspora.



4. 22

Fig. 4.30 Map highlighting neutral territory that mixes ideological diversity.



collaborating with well-established relief agencies which have an established history of operations in Yemen and to which patrons have already contributed; and third, by collaborating with reputable Yemeni non-governmental organizations—most notably the Social Fund for Development (SFD), who has established success in community-based initiatives and transparency and is thus the most suitable to administer such a campaign. These trusted organizations will be used to ensure credibility, transparency, and donor support going forward.

Ultimately, Bayt Baws offers not only a practical model for site-sensitive restoration but also a platform for solidarity, collective memory, and post-conflict reconciliation. Building trust will be critical; partnerships with established community leaders, local non-governmental organizations, and technical experts can help provide assurance of accountability and project success.

4.3 Reviving Inalienability: Waqf as a Model for Sustainable Heritage Management in Yemen

The institution of *waqf*, or Islamic charitable endowment, has historically determined the urban development, social welfare, and religious infrastructure throughout the Islamic world. Essentially, *waqf* renders a property or asset inalienable—secured by law safe from sale, inheritance, or division—with its use and income irrevocably committed to the public welfare. In many Muslim societies, *waqf* has surpassed the life of states and dynasties, serving as a durable institution of social welfare and cultural continuity. In Yemen, where much of its land is under *waqf*, the concept of a "*waqf*-inspired trust" presents an opportunity to revive the spirit of the system while ensuring inclusivity for sites that also hold Jewish and other minority heritage significance. This would maintain the protective framework that *waqf* offers while reinterpreting its governance to include all communities associated with the site.

A Deep-rooted Heritage Infrastructure

An estimated two-thirds to ninety percent of Sana'a's Old City is under *waqf*, encompassing the mosques, markets, bathhouses, gardens, and water supply systems. A recent estimate by the Ministry of Endowments (MoE) official puts more than 240,000 square kilometers of Yemeni land as *waqf*—about half the land area of the country. In addition, over 75,000 mosques and various public institutions, such as schools and hospitals, are supported by *waqf*.[199] Although administrative abuses and corruption have undermined the system's integrity, its deeply ingrained place in social life and

199. Abdo Yousef Qaid Saad, Mustafa Omar Mohammed, and Ibrahim Al-Jubari, "An Overview of Waqf Assets in Yemen: Importance and Challenges," Humanities & Social Sciences Reviews 7, no. 5 (November 5, 2019): 1065–72, https://doi.org/10.18510/hssr.2019.75142 (accessed Janruary, 2025).

religious culture continues unshaken.

While critics argue that *waqf* resists modernization, Ottoman-era documents show an adaptability which was only lost under colonial regulation and post-independence nationalization.[200] Testimony to its enduring usefulness can be noted in the recent revival of *waqf* across the Islamic world, whatever their origin—from NGOs, development agencies, or grassroot movements. Rather than viewing *waqf* as a relic, it can be reimagined as a locally based, legitimate system of sustainable development.

Though Bayt Baws' water systems and mosque are still tied to *waqf*, its larger historical fabric has roots beyond Islamic heritage. Jewish homes, royal ruins, are among the shared community spaces that are part of the village's layered identity. A *waqf*-inspired trust would keep the principle of inalienability but apply it across the entire site—Muslim and Jewish heritage alike—ensuring equal protection for all elements of its history. In contrast to an Islamically-exclusive *waqf*, such trust would embed plural representation in governance, with board seats for heritage professionals, community leaders, and members of pertinent diasporas.

Appealing to the Diaspora and Donors

In Yemen today, where remittances from the diaspora exceed all types of foreign aid, engaging the ethical and theological attraction of *waqf* provides a compelling mechanism for heritage conservation. One of the main advantages of *waqf* is its appeal to donors seeking to contribute to long-term, self-sustaining projects. Thus, a *waqf*-inspired trust uses the same logic of permanence and public benefit but frames it in a way that resonates with a broader donor base—

200. Siraj Sait and Hilary Lim, "Paper 7: Waqf (Endowment) and Islamic Philanthropy 2005," in UN-HABITAT Islam, Land & Property Research Series, ed. Roman Rollnick and Tom Osanjo, 12. London: UN-HABITAT, 2005.

emphasizing cultural stewardship and community empowerment rather than a strictly religious endowment. Diaspora donors can contribute through trusted intermediaries such as international NGOs, established humanitarian organizations, or heritage funds, allowing them to support tangible restoration projects without being deterred by political or administrative complications.

In Bayt Baws, the land in which the mosque and associated water systems is designated as a *waqf*, which ties this historically significant heritage site not just to Islamic ritual practice but also to a centuries-old sustainable mechanism. A *waqf*-inspired trust would operate under an agreement where the MoE recognizes the site's protected status but delegates daily management to a pluralistic board. In the past, the MoE has been criticized for prioritizing revenue over preservation, as in the controversial case of Samsarat al-Baw'ani. Bayt Baws, however, is not a high-rent district and thus is less vulnerable to such aggressive intervention. This presents a unique opportunity to test shared custodianship, where the MoE is a partner but not the sole authority. The board could include local Muslim leaders, heritage conservation experts, municipal representatives, and members of the diaspora, ensuring decisions reflect both local realities and international heritage best practices.

Cash for Heritage: A Model Community-led Growth

To shield Bayt Baws from bureaucratic monopolization and promote long-term autonomy, a *Cash for Heritage* (CfH) approach—based on the *Cash for Waqf* (CfW) model—would fund the site in small, manageable phases. CfW is attached to tangible investments, such as the refurbishment of a mosque, a housing complex, or community infrastructure.[201] Each phase could focus on a specific cluster, such

201. Anton Bawono, Yudi Saputra, and Imam Indrawan Wahyudi, "Intention to Use Crowdfunding-Waqf Model (CWM) among Muslim Gen-Z in Indonesia: Role of Religious Orientation Using Extended UTAUT2." *Journal of Economic Cooperation & Development* 44, no. 1 (2023):1-19(5).

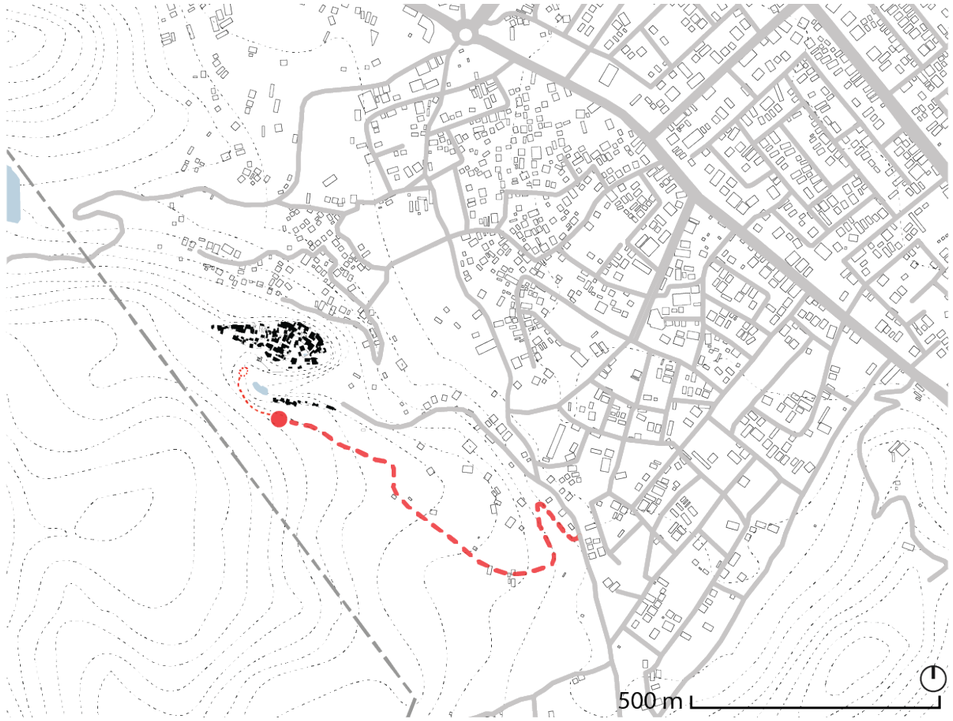
as restoring a few homes, rehabilitating public gathering areas, or repairing water systems Rather than waiting for large injections of capital, small projects—a single house remediated, a marketplace built, a well rehabilitated—can be started independently and in succession. This approach enables assessment of each phase as an independent case study prior to moving further.

Moreover, it ensures that donor confidence is gradually built and sustained. Conservative interventions are not only easier to complete but can also be managed with greater transparency and are less susceptible to prompt political interference. Thus, this model prevents the risk of project abandonment due to bureaucratic entanglements or evolving political circumstances. Restored properties could be rented at below-market rates to approved tenants, with the income invested back into the maintenance of the site. Cultural events, i.e., wedding receptions or guided tours, would provide further income without compromising the space to purely commercial use. Thus, the project integrates incremental restoration, financial sustainability, and community-based management.

The CfH model also maintains decentralized control of heritage sites. In Yemen, where government institutions, including the MoE, have regularly been faulted for putting commercial agendas ahead of conservation, CfH enables communities and trusted third parties to take the lead. Although the Ministry can continue to be a stakeholder—especially in the recognition of the already recognized *waqf* status on a portion of the land—it does not dominate decision-making or resource allocation. By channeling contributions through reputed partners such as the Social Fund for Development, and involving local NGOs, architects, and community members, this model renders governance contextual and inclusive.

In terms of sustainability, CfH establishes a foundation for long-term stewardship. A few of the restored properties can be included in the *waqf* portfolio and thus provide small rental incomes. The reduced rental fees would serve to sustain the site, benefit local caretakers, and finance ongoing restoration. Small user fees for some activities can be established in the short term, founded on the site's present popularity for cultural events such as male wedding parties and communal celebrations (Figures 4.32 and 4.33). In time, the site could also begin to earn income from access for cultural tourism in the form of admission by ticket or educational programs—if those activities remain community-driven and culturally sensitive.

By building in phased rollout, pluralistic governance, and modest revenue generation, the Cash for Heritage model provides benefits that extend beyond mere financial utility. It is a resilience strategy—grounded in local values, aligned with governance realities, and adaptable for broader application throughout Yemen's fragile but living heritage landscape.



4.31



4.32



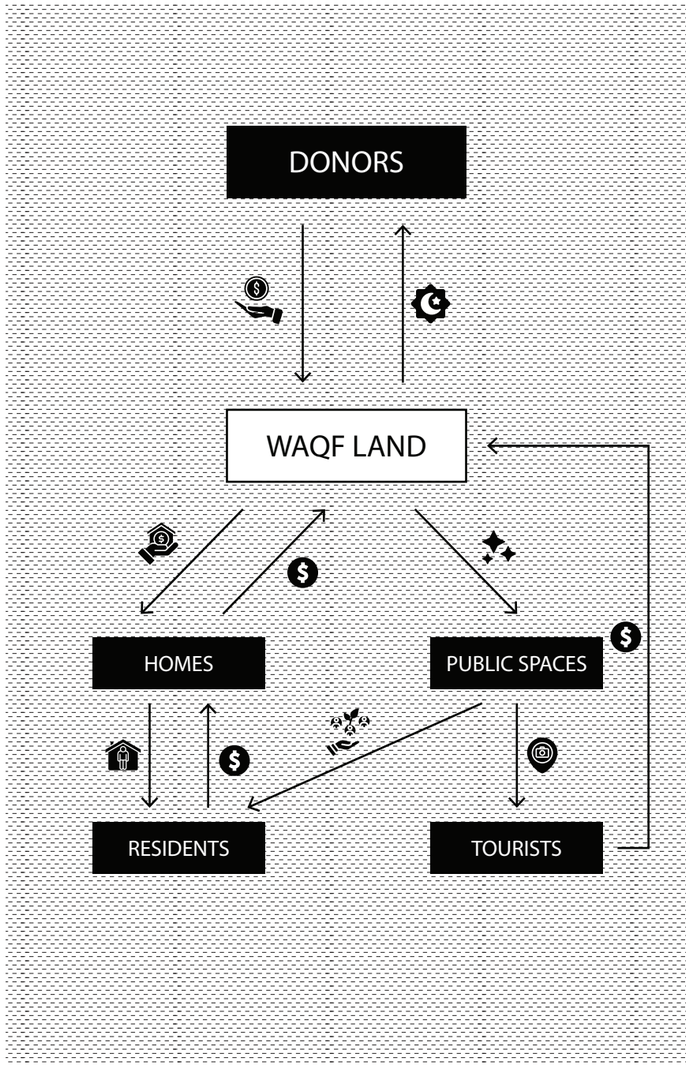
4.33

Fig. 4.31 Path of ceremonies: beginning with ascension, vehicle parking, walking path and gathering circle.

Fig. 4.32 Footage of a wedding dance. Video by Mohammed Alemad, "من أعالي حصن بيت بوس" Youtube, September 17, 2024, 9:40, https://www.youtube.com/watch?v=QKt-oemBLdE.

Fig. 4.32 Footage of a wedding circle. Video by Mohammed Alemad, "من أعالي حصن بيت بوس" Youtube, September 17, 2024, 13:14, https://www.youtube.com/watch?v=QKt-oemBLdE.

Fig. 4.34 Diagram of the proposed *waqf*-inspired Model in Bayt Baws.



4.33

05 Conclusion

Why Bayt Baws? A Site of Strategic Relevance

Choosing Bayt Baws as the site of this thesis underscores the village's unique potential to embody the intersecting themes that signify the heritage landscape in Yemen. Situated just kilometers from the city center within the administrative borders of the Sana'a, Bayt Baws is well-placed geographically and institutionally to garner attention and resources from central authorities. Its proximity allows for higher levels of coordination between stakeholders—governmental agencies, NGOs, and local professionals and *ustas*. Furthermore, the scale of the project is particularly important: in contrast to the unmanageable scale of city-wide UNESCO campaigns, Bayt Baws is a bounded and manageable setting, neither too small nor so enormous that it cannot be effectively managed.

Historical Pluralism and Cultural Memory

The historical layers embedded within Bayt Baws are all valuable. Encapsulating the legacy of Sabaean ingenuity, Islamic dynasties' histories, and Jewish cultural memory— with each factor of the village enhancing the integral understanding of Yemeni diversity and historic coexistence. Thus, restoration of the site goes beyond mere architectural conservation, being an important move toward promoting collective identity and reconciliation. In a country often fracturing along sectarian, regional, and political fissures, the rebuilding of Bayt Baws offers a microcosmic vision of cohesion wherein heritage is less a creation of the past than a means towards social cohesion in the present.

A Living Classroom for Builders and Professionals

Moreover, the village offers a vital platform for technical revival. For ustas, it presents a chance to relearn endangered and rare skills such as *tarmim, fals*, and *qudad*. These skills are of the utmost significance for the integrity of the local architecture and are fundamental to its cultural identity. For architects and engineers, it opens up critical discussions on structural enhancement, adaptive reuse, and interprofessional dialogue. It further calls for both parties to accept a collaborative framework in which *ustas*' experiential knowledge complements the formal training of professionals, a synthesis too often overlooked in past heritage projects.

Toward a Model of Institutional Reform

Finally, Bayt Baws provides a testing field for addressing the structural and institutional shortcomings that have long plagued heritage projects in Yemen. The complexity of the site demands multigenerational knowledge transfer and inter-organizational collaboration. Where past projects were harmed by overlapping mandates, political fragmentation, and donor disinterest, Bayt Baws solicits a model premised on transparency, scale-appropriateness, and shared responsibility. It is a site where Yemeni institutions might begin to rehabilitate not only the physical fabric of their history but also the fractured infrastructures of governance, funding, and community trust.

Final Remarks

Bayt Baws is more than a restoration project; it is an opportunity to reflect on Yemen's fraught past and future possibilities. In its layered narratives, modest size, and strategic setting, the village presents a unique combination of symbolic potential and practical function. It is an opportunity not just to safeguard threatened craftsmanship and foster interdisciplinary cooperation but also to implement a model of inclusive and sustainable heritage management. As this thesis has argued, the future of conservation of Yemen must transcend monumentalism and adopt socially embedded, technically adaptive, and institutionally reformative approaches. Bayt Baws, for all its inherent value, could very possibly be the start of that future.

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Glossary

birka	open cistern
dhimmi	non-Muslim living in a Muslim-majority state who was granted legal protection in exchange for paying a special tax, the jizya
fals	replacement
ilm	knowledge
jam'iyya	[builder] association
madar	sundried mud bricks
majil	closed cistern
maqshama	garden enclosure
nurah	lime plaster used in Southern Yemen
qamariyyah	traditional stained-glass window
qirf	shale
qudad	lime plaster used in Northern Yemen
sadiqah jariyah	Islamic continuous charity
samsara	caravansary
sharaf	honor
souq	market
tarmim	reconstruction
usta	master builder
waqf	Islamic charitable endowment