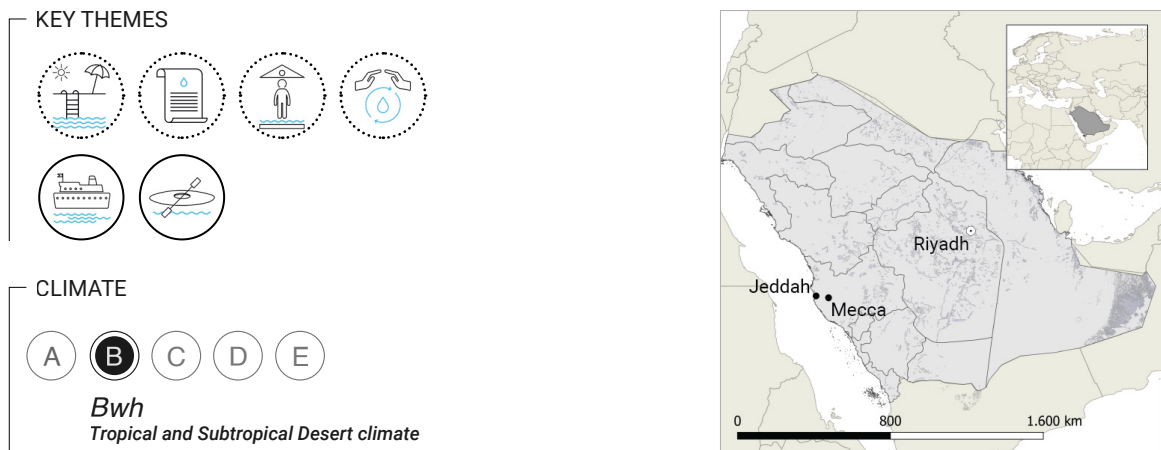




Rebuilding Port Infrastructure Heritage in Jeddah, Saudi Arabia

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Transforming port infrastructure to meet the increasing demands of urbanization and modernization has been a contentious topic for decades, with push and pull between preserving historic structures and addressing sustainability, economic feasibility and tourism (Babalís 2018). This article takes an interdisciplinary view of these debates by exploring how restoring port infrastructure heritage can align key pillars of sustainable development: a strong local economy, water and sanitation, and social and cultural identity. An ongoing restoration project in Jeddah, Saudi Arabia, serves as a case study of integrative approaches and strategic objectives implemented by project developers and government stakeholders. The project addresses the challenge of rebuilding sustainable and resilient port infrastructure while still preserving heritage and making room for modern urban developments. The approach presented potentially creates new arenas for water and heritage management in spaces that have experienced rapid urban change and commercial exploitation in ways that have affected historic port infrastructure and human well-being.



< Fig. 1 Jeddah Al Balad docks, Bab Al Bunt docks, 1930s (Source: Jeddah Historical District, 2022).

Introduction

Port infrastructures such as docks, wharfs, piers, lagoons and harbors are a distinct form of built space, one where the urban environment is encapsulated by maritime history, economy and cultural identity (Hein, Luning and van de Laar 2021). This is especially the case for Jeddah, given its location between the two holiest cities in Islam, Mecca and Medina, making Jeddah the gate of entry for millions of Muslim pilgrims since its declaration as the “Gateway to Mecca” by the Muslim Caliphate Uthman bin Affan in 647 AD (UNESCO 2014). Its position on the eastern coast of the Red Sea, one of the world’s oldest and most navigated waterways, has also made Jeddah an ancient coastal hub of mercantile trade and cultural interaction between East and West (Nyazi and Sağiroğlu 2018). This role has influenced the city’s design and livelihood – from the Red Sea coral stone used to build the distinctive architecture, to the ties between Red Sea port activity and the region’s market economy (UNESCO 2014; fig. 1). This led to the city’s recognition by UNESCO as a World Heritage Site in 2014. However, the tumultuous growth of the Saudi oil industry in the 1970s brought massive and unprecedented change to the urban environments of the Saudi Kingdom, where the role of Jeddah as a port city ushered the commercial expansion of its port beyond the historical coastline through landfill. This distanced the old town from the sea, bringing structural damage and poor water sanitation to the district and the adjacent Al Arbaeen Lagoon in a way that has negatively impacted the lives of district residents.

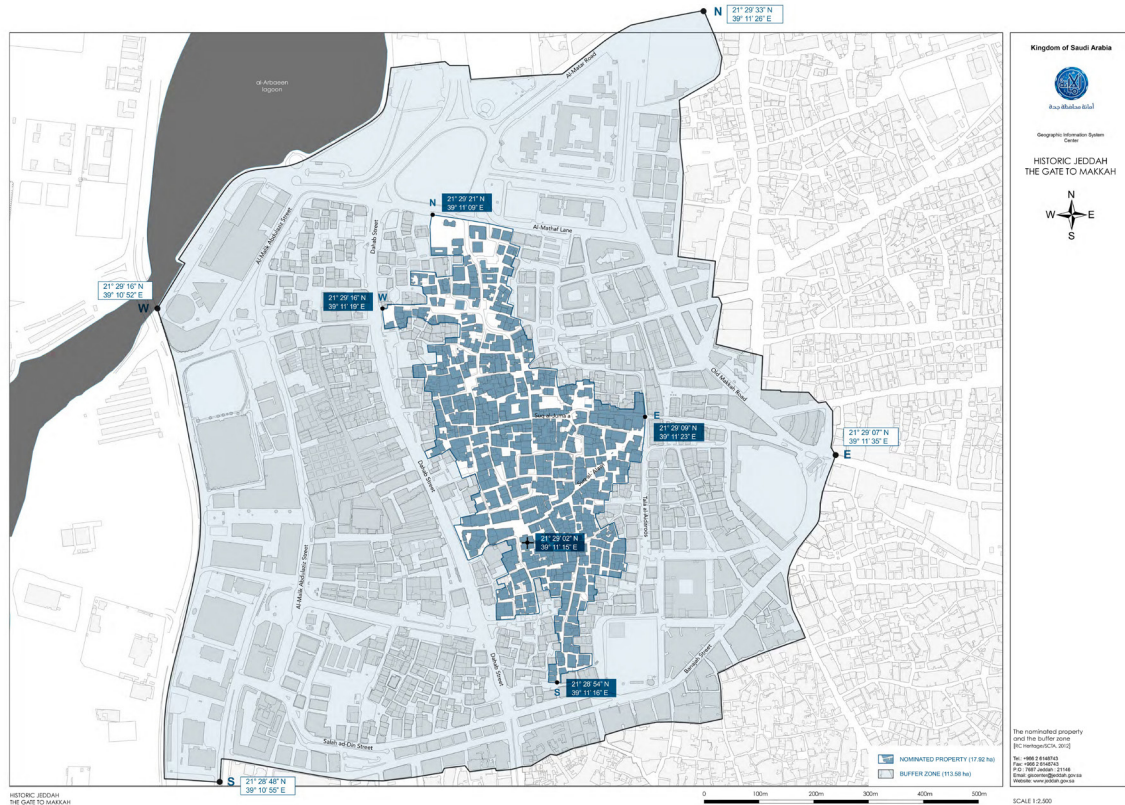
Current Approaches and Challenges in the Preservation and Management of the Jeddah Historical District

Over 30 years after the city’s expansion, the

Saudi Vision 2030 seeks to revitalize heritage sites and grow tourism sectors (Vision 2030 2016). The Ministry of Culture (2018) and Jeddah Historic District (JHD), which were both established in 2018, plan to remove 600,000 cubic meters of Jeddah’s landfill from the historic waterfront and lagoon of Al Balad, thus starting to revert the Al Balad coastline to its original historic state and reconnect it with the Red Sea. The master plan also includes the detoxification and restoration of the Al Arbaeen Lagoon, which remains a part of the Al Balad waterfront area (fig. 1). Concurrently, JHD has been leading the restoration and preservation of the Al Balad district, along with the zone and its buffer zone since its nomination as a heritage site. This includes 1 km² of the historic city core as existing urban fabric and over 450 heritage structures built in the traditional Red Sea architecture style, of which 60–70 had already been restored by JHD by 2022.

According to JHD’s strategy, development and design officials, the project will be implemented in two distinct stages, utilizing multidisciplinary strategies from urban planning, water management and heritage assessment to achieve their goals of sustainable development. The first stage involves dredging 600,000 m³ of landfill standing between Al Balad and the Red Sea. This area of land was added during the rapid urban growth of the city, at a time when the original port infrastructure had not been protected heritage space. This landfill area had never been used. The second stage will be to open up the Al Arbaeen Lagoon and seabed to water flow, which has been clogged due to being pushed further inland after the landfill, causing ad hoc sewage discharge and toxic buildup.

The priority is to minimize disruption to current residents of Al Balad during the restoration and regeneration; efforts to reduce traffic within the



^ Fig. 2 Map of the UNESCO Zone and Buffer Zone of Historic Jeddah, Al Balad (Source: UNESCO, 2014).

historic area are underway so that people who live and work in Al Balad continue to be able to do so. According to JHD, public engagement officials will maintain direct communication with residents throughout stages of development via “Quality of Life” outreach programs and by assessing resident needs for housing support during the construction and restoration of their homes and neighborhood.

To determine which areas of the historic coastline should be restored and rebuilt, the project team evaluated the cultural value of the site using heritagization assessment methods (Sjöholm 2016). Heritagization is the process in which objects, places and practices are labeled as cultural heritage with values affixed to them,

and thus are meant to be treated accordingly. JHD identified the significant historic infrastructures to restore as heritage after employing local historians, heritage scholars, and community leaders to assess the coastline and city infrastructure. The new coastline will start at the base of the Al Bunt building, which was built in the late nineteenth century as a waterside dock for incoming pilgrims, traders and travelers entering Jeddah (fig. 1). This dock building still stands and will be restored and memorialized as the Red Sea Museum: a museum of the history of Red Sea navigation, religion, trade and marine life (fig. 3).

The museum is set to open in 2024 and will feature ethnographic and contemporary works of



^ Fig. 3 Bab Al Bunt, Jeddah Al Balad in 2023 (Source: Danna Albanyan, 2023, CC BY-NC-ND 4.0).

art, archival and scientific collections, as well as audiovisual accounts of the Red Sea, its ports and Jeddah. JHD has defined the museum as an anchor project to begin reconnecting Al Balad residents with the sea once more. Al Bunt was the beginning of the East-West route from the sea to the holy cities of Mecca and Medina, and re-establishing this dock infrastructure will reinforce significant historic roads and ancient networks, including the Spice Route and the Silk Road. These networks hold significant cultural and religious importance to the country, and according to JHD, mending these historic networks reveals the story and timeline of human settlements and can be an important driver for area revitalization.

Some of the major challenges identified by JHD officials are socio-economic in nature, such as creating incentives to revive Al Balad economically and ensure that it remains commercially active, thus increasing population density and making it self-supporting after years of urban sprawl and construction. This effort also includes preserving and promoting heritage spaces for tourism purposes, developing commercial and hospitality sectors, and creating jobs within the area for locals. Another challenge is reducing environmental deterioration in the neighborhood. Building sewage treatment plants and water irrigation networks is difficult within and around the historic core of Al Balad given the limitations of preserving Al Balad's

historic core. JHD will be looking for ways to minimize car traffic around the historic center while still enabling access to work. Current strategies include a permit system that discourages traffic and encourages peripheral parking away from the center and conducting local surveys and opening communication channels between stakeholders and residents.

Conclusion and Future Prospects

The Jeddah Al Balad waterfront and lagoon project provides an ideal testing ground to study not only the impact of rapid and unmitigated urbanization on historic port infrastructure, but also the initiated multidisciplinary mitigation measures to avoid further damage to local heritage infrastructure, water quality, the local economy and well-being. The solution to the challenge of regenerating a port district involves reconnecting old water networks and heritage infrastructures. After acknowledging the importance and embeddedness of port infrastructure in the Al Balad district, the JHD and Ministry of Culture plan to focus primarily on pursuing sustainable development and urban revitalization in line with UNESCO's SDGs by 2030. This will, of course, necessitate the continuation of current management efforts, collaboration among government agencies and effective cooperation with stakeholders and community members.

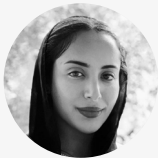
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