

Case Report

The impact of globalization on the revival of innovative housing models in Doha, Qatar

Almaha Al-Malki*, Muhammed Madandola, Djamel Boussaa, Raffaello Furlan, Rashid Al-Matwi, Tarryn Paquet, Goze Bayram, Amina Al-Kandari

Department of Architecture and Urban Planning, College of Engineering, Qatar University, Doha 2713, Qatar

* **Corresponding author:** Almaha Al-Malki, almaha.almalki00@gmail.com

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Abstract: After the oil and economic boom of the 20th century, Doha experienced significant development in terms of the architectural scene, design, function, and sociocultural transformations. The advancements in global architecture have facilitated innovative and streamlined construction processes, while creating a paradigm shift in the overall architecture of dwellings and how people navigate around the house. In this context, this research aims to study the impact of globalization on housing typologies and the factors influencing their evolution, focusing on the city of Doha as a case study. This study is based on a qualitative research approach that centers its investigation on Doha while exploring strategies for preserving Arabic-Islamic identity. The research investigation used a content analysis methodology to analyze three additional case studies within the MENA region. The results indicate that new housing typologies have emerged in cities due to globalization and changes in physical and sociocultural dimensions. In addition, preserving older neighborhoods and housing typologies through a bottom-up approach is essential for design creativity and climatic and sociocultural sensitivity while exchanging knowledge and sharing experiences between generations. Furthermore, this article promotes heritage awareness and encourages local authorities to preserve Doha's surviving historic neighborhoods and architectural language to restore the city's urban identity. The findings of this research can provide helpful guidance to architects and urban planners on how Doha's housing has developed until the contemporary period.

Keywords: globalization; traditional houses; housing typologies; urban identity; Doha

1. Introduction

Over the past few decades, urbanization has greatly influenced the contemporary history of cities in the Gulf region in a multitude of ways. Several studies have partially attributed the current urbanization to the colonial paradigm, as most Gulf countries achieved political independence in the 1970s. Through the process of colonization, the British exerted substantial influence over cities in the Gulf region, resulting in various forms of acculturation (Hamouche, 2004). In addition, the oil revolution has led to significant changes in the conventional social structure of Arabian Gulf communities within a short period (Al-Malki et al., 2022; Al-Mohannadi et al., 2023). A substantial influx of migrant expatriate populations has travelled to Gulf cities to urbanize them since the 1930s oil discovery. Although oil was discovered in the 1930s, during the 1950s, industries were built and developed to process it in large amounts, which led to massive economic and infrastructure developments. By the end of the twentieth century, a new era of global openness began because of oil and gas income, heralding the start of a wave of rapid urbanization in the Gulf region.

The intersection of globalization and the built environment signifies dynamic complexities between the global and local. One notable manifestation is the amalgamation of diverse architectural styles and influences, creating international standards and best practices that combine the global exchange of ideas and cultural expression (Stanek, 2020). Globalization is responsible for the global supply chains of construction materials, petroleum, and energy resources, which has led to the integration of cutting-edge technologies and sustainable practices in the construction industry. In addition, globalization has intensified aspirations in tourism, which has driven economic growth in urban centers, attracting investments and fostering the construction of state-of-the-art facilities and infrastructure projects (Timothy, 2018).

While fostering connectivity and economic growth, globalization in the built environment also presents challenges, such as cultural homogenization and the displacement of local identities. The beginning of the twenty-first century was characterized by increasing globalization and the assertion of a global identity, which constantly conflicts with the local identities of Gulf cities (Patel et al., 2021). Large multinational corporations, economic liberalization, and integration with the global banking system directly affect the socioeconomic, cultural, and urban morphology of many Gulf cities. This trend has grown stronger as a result of the growth of globalization as the dominant worldview, which has accompanied the spread of international fashion (Mahgoub, 2007). A pervasive narrative in the Arab World proposes globalization as a new kind of colonialism and occupation that encourages social and cultural dominance. Mahgoub (2004) identifies one concern as the profound and endemic “impact of globalization on the culture of the ‘developing’ ‘post-colonial’ countries” (p. 507). Globalization is viewed as a synonym for capitalism and imperialism in the Arab world, and many Arabs view it as a potential threat to the region’s political, social, cultural, and economic stability (Elsheshtawy, 2008; Za’za, 2002). This perspective arises from the fact that most Arab and Muslim nations have experienced the effects of globalization more quickly and dramatically than other regions of the world. As a result, the phenomenon of expressing the local sociocultural identities of cities is seen in various areas of the Gulf region as a response to this widespread trend (Furlan et al., 2023; Tannous et al., 2021).

The outward appearance of new Gulf cities is akin to massive retail displays dominated by massive commercial structures, banks, five-star hotels, and tall residential complexes (Mahgoub, 2007). Qatar, Kuwait, and the United Arab Emirates have been dramatically urbanized in the last few decades, resulting in the highest urbanization rates in the world (Fadala et al., 2023; Furlan & Sinclair, 2021; Kharoufi, 1996). As observed in sophisticated city skylines and urban public realms, Gulf cities have recently developed into megacities where global urbanization is manifested, with both the rich and the poor experiencing demographic changes, sociocultural upheaval, and worldwide exploitation (Fox et al., 2006). The rise of island city projects in search of a global identity is a striking example of such developments. Due to their unique political and economic roles and their recent evolution, oil cities continue to traverse these unfavorable worldwide effects. Globalization and urbanization processes necessitate the consideration of the distinct characteristics of cities to comprehensively understand their influence on urban form.

Meanwhile, Doha’s evolving urban morphology over the past few years appears

to have followed patterns of urbanization. In this context, this study examines new housing typologies in various Gulf cities. In order to explore strategies for preserving Doha's Arabic-Islamic identity, this study focuses on the conditions and factors surrounding the evolution of housing typologies over the years. There is a need for more significant research that analyzes how housing typologies change based on a variety of case studies. In the context of globalization and urban identity, this study investigates the elements that caused the evolution of housing typologies in Doha. In addition to a review of the literature and the main case study of Doha, three cities within the MENA region were selected: Manama in Bahrain, and Dubai and Abu Dhabi in the UAE.

This research is divided into four parts: (1) a review of the literature on globalization and urban identity and their effects on housing typologies in Doha; (2) the methodological approach used for this research; (3) an analysis of housing typology of case studies in three cities; and (4) a discussion and conclusion of the findings, especially the significant factors that influenced the evolution of housing typologies within the cities due to globalization.

2. Globalization, glocalization, and urban identity

Adam (2008) defines globalization as the global standardization of daily living. The phenomenon of globalization comes with various debates, with proponents and anti-globalization forces clashing on the principles of the concept, which has influenced how architecture is becoming globalized. One aspect of globalization aims to sustain and advance well-established regional customs, forms, ornamental themes, and architectural innovations. It also promotes the maintenance of cultural variety, historical continuity, and individual identity, all of which are represented by a specific architectural vocabulary similar to the nature of spoken languages and regional dialects (Lewis, 2002). Another factor of globalization encourages the creation and adoption of novel shapes made from innovative materials and technology in response to shifting functional demands and sensibilities. While globalization is often perceived as conformity to and the canonization of Western approaches in everyday life, especially in terms of sense of place, another perspective perceives it as increased standardization in contrast to diversification (**Figure 1**).

Urban identity, which consists of various economic, sociocultural, and political layers, is continuously impacted by the network of international processes and forces amid the extensive changes brought about by globalization (Ghahremani et al., 2021; Valdeolmillos et al., 2023). The role of urban spaces in improving the quality of public interaction in multicultural settings, as well as the context of urban spaces in promoting a knowledge-based economy, has been extensively researched (Calderon & Chelleri, 2013; Esmaeilpoorarabi et al., 2016; Loukaitou-Sideris & Banerjee, 1998). These studies investigate the different issues faced by urban spaces due to globalization and their quality in attracting financial and human resources to increase competitiveness between cities. In navigating these complexities, studies have emphasized that professionals must balance the advantages of globalization while still safeguarding local identities and promoting inclusive, sustainable urban settings.

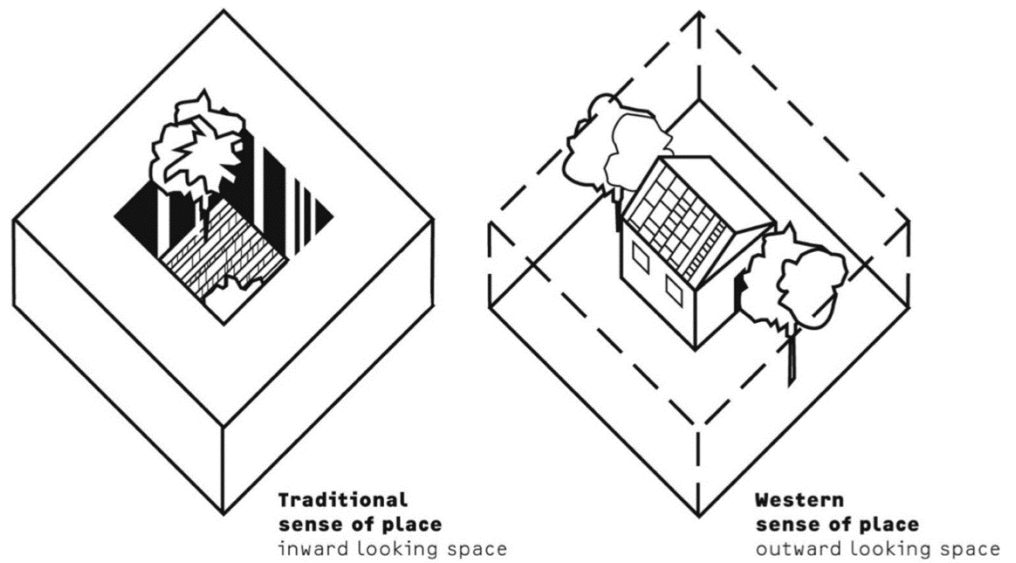


Figure 1. Traditional and Western houses' sense of place. Source: Pahl-Weber et al., 2013, p. 67.

Glocalization, a linguistic hybrid of 'globalization' and 'localization', highlights a dynamic process where global influences interact with and adapt to local contexts. This idea emphasizes the increasing significance of global scales along with local and regional scales. It also provides a "more culturally centered alternative to neo-institutionalism and structuralism" (Roudometof & Dessì, 2022, p. 2). Glocalization undermines conventional globalization perspectives by transcending linear territorial growth and integrating intricate synergies between global trends and local cultural, social, and environmental considerations. Studies have emphasized that glocalization creates urban spaces that are both globally informed and locally rooted in terms of sourcing materials, promoting sustainability and resilience (Blatter, 2022). The concept recognizes the importance of preserving local identity, incorporating contextual elements into the design process, and creating structures that resonate with specific cultural and historical characteristics.

2.1. Impact of globalization on functional requirements and heritage preservation

The majority of the remaining historic centers are in the heart of cities, creating ongoing tensions between the need to redevelop and conserve. Due to the soaring land process in the city center, owners are compelled to demolish their old homes and replace them with high-rise multi-use towers for rent and trade (Al-Mohannadi et al., 2023; Madandola & Boussaa, 2023). Furthermore, the desire to maximize returns from heritage sites through tourism and investment in real estate can pose a significant threat to historic areas. To prevent cultural amnesia in ancient cities, a bottom-up approach—as opposed to a top-down one—must be adopted to involve the local population in decisions concerning the future of their surroundings (Boussaa, 2021). Links to the past enable people to progress while feeling proud of their history and heritage during a period of rapid transformation. In other words, a historic city's place identity can be sustained while ensuring its resilience and sustainability in an expanding global environment through gradual change centered on integrating cultural and economic

factors.

Nevertheless, the literature provides crucial insights into the planning and development initiatives of historic centers, especially the relatively high level of land-use integration. Despite the unsophisticated nature of deteriorating neighborhoods, the high concentration of social engagement on weekends has facilitated the survival of numerous small enterprises and services catering to different cultures. Without significant public interventions to enhance interaction and safety, it is projected that when higher-income groups relocate to newly established projects, they will scarcely engage with neighboring areas (Salama et al., 2017).

Thus, recent waterfront projects along historic centers have sparked a rather complex situation between heritage preservation and globalization trends. This situation arises from the rapid creation of new spatial realities through a few megaprojects. Similarly, this can be attributed to the spatial outcomes of long-term urban development, which are influenced by the separation of residential areas for migrants and locals. Consequently, the historic centers of Gulf cities and the surrounding environs, which were previously populated by the local population, have been transformed into primary residential locations for migrant workers (Furlan et al., 2023). Some of the factors responsible for this paradigm shift were poor infrastructure, initial lack of accessibility due to small roads, and high demand for housing.

For example, the original identity was lost in Msheireb, where modern change was more pronounced due to the destruction of nearly 90% of the original ancient dwellings. Because of this problem, Msheireb Properties has developed a new brand that draws inspiration from the past (Tannous, 2020). Similar to the situations in Tunis, Damascus, Beirut, and Doha, the historic environment approaches the issue of cultural sustainability by prioritizing people, their needs, and their knowledge of the material characteristics of cultural properties (Boussaa, 2021). However, social inclusion and the ability of many social groups to interact are vital components of urban area variety. The surviving urban areas disappear when inner-city areas are replaced, transitioning into a collective memory rather than an actual physical environment. Therefore, aspirational transformation in Doha's historic center should be created through top-down choices and bottom-up efforts initiated by interest groups or the local population.

2.2. Sociocultural impacts

The literature analysis reveals a shortage of references that specifically, within the context of Qatar, compare and relate the spatial configuration of houses with specific sociocultural trends. One of the few available scholarly articles on the idea of home settings is titled 'Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review' (Othman et al., 2015). The demographic characteristics, functional and physical attributes of the house, and changes in the social context and lifestyles illustrate the factors for assessing housing evolution in developing nations. Similarly, Al-Mohannadi and Furlan (2022) identified three psychological patterns that are deeply ingrained in Qatari society's sociocultural character, which heavily influences how houses are built. These include (i) privacy, (ii) hospitality, and (iii) gender segregation. The extent of gender segregation differs across Muslim communities in the MENA area because of diverse interpretations of religious

standards, economic constraints, particular sociocultural contexts, and identity requirements. As a result of accepted cultural norms, majlis areas (a separate sitting room open to the entrance) have emerged in pre-oil tent communities, traditional courtyard homes, and modern homes in Qatar (Furlan et al., 2022).

2.3. Impacts on housing typologies

Dariush et al. (2021) identified three types of impact as a result of globalization's effects on housing architecture. These impacts are as follows: (1) changing cultural patterns due to the entry of culture through the media, (2) introducing new design and construction technologies, and (3) increasing metropolitan areas and cities. These globalization impacts on housing have resulted in changes in the housing concept, form, spatial structure, construction patterns, and practices. **Table 1** summarizes these changes.

Table 1. Types of housing changes as a result of globalization. Sources: Authors. Extracted from Al-Mohannadi & Furlan, 2022; Boussaa, 2014; Dariush et al., 2021.

Type of change	Globalization impacts
Concept design	The traditional houses have developed into more of an extroverted approach while focusing on the façade design and extravagant entry gates. In recent years, the development of townhouses in place of gated villas has become a popular accommodation choice for foreigners and new families. Using traditional ornaments in the façade is a prominent feature in residential villas.
Form	<ul style="list-style-type: none"> • Gated houses and expansive green lawns. • External outdoor orientation as opposed to the internal courtyard. • Smart home. • Reduction in the area of the house units, in contrast to the 1990s and early 2000s.
Spatial structure	The focus is on private rooms with ensuite toilets and fewer shared spaces.
Construction patterns	Standardization of building and mass production.
Construction practices	Computer modeling has increased in popularity in recent years. It is a renowned tool for detecting construction clashes and providing realistic internal and external visualizations.

The design and construction processes have improved immensely due to globalization, especially with regard to adopting international standards for health and safety and developing shared knowledge globally. In terms of aesthetics, some elements that work in one region may be ineffective in another, as they can undermine the functional and sociocultural aspects of that region. Additionally, globalization has resulted in a change in cultural patterns due to the increased entry of other cultures through the media and migration, leading to a diverse variety of lifestyles and increasing demand for varied housing solutions.

3. Research methodology

This study employed a qualitative research approach using relational content analysis methodology. The main case study focused on Doha, the capital city of Qatar, with three additional case studies exploring other regional contexts. These case studies were selected and utilized to understand the patterns and influences on the evolution

of housing architecture. **Figure 2** illustrates the research design of this study.

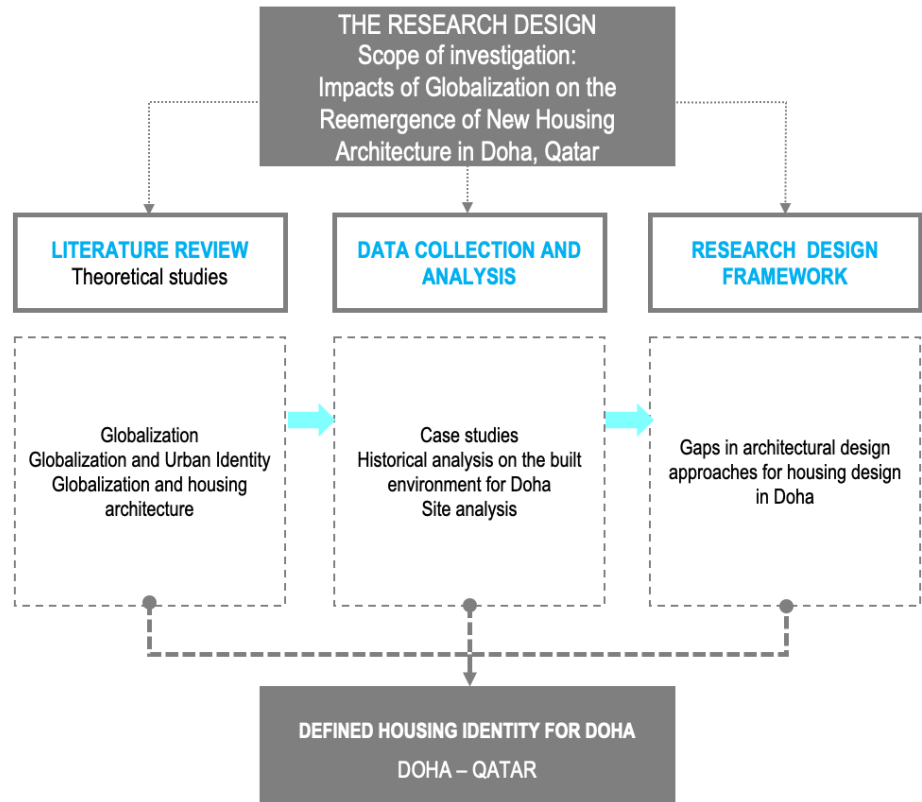


Figure 2. Research design. Source: Authors.

The study's methodology uses a qualitative approach to gather data involving theoretical studies through relational content analysis and fieldwork, which entails several site visits and subsequent observations. The literature review validates this approach by attesting to the suitability of these instruments for achieving the objectives of the study. According to the literature, most researchers investigating housing architecture-related subjects have used various data-gathering techniques, such as the following.

- Case studies are used to analyze the impacts of globalization on the evolution of housing architecture (Dariush et al., 2021).
- Field observations and photographic surveys (Mareeva et al., 2022).
- Site analysis approaches, such as space diagrams (Al-Mohannadi & Furlan, 2022; Remali et al., 2016).

The research methods used in this study were as follows:

- Site observations: Several site visits were conducted in the residential neighborhoods of Doha and Dubai to observe the existing conditions of housing architecture.
- Selected parameters to assess the impact of globalization on housing architecture were extracted from the literature reviewed.

Residential units encompass a wide variety of types, including low-rise to high-rise apartment buildings, waterfront units, compound houses, and detached villas. The scope of this study was limited to detached unit villas, whether in compound or detached suburban villas. The purpose of this limitation is to aid in the comparative

analysis between the different case studies presented in the subsequent sections of this research.

4. Analysis of case studies within the region

The primary mode of this research is relational content analysis. This research examines three case studies within the region to comprehend the theoretical underpinnings of the evolution of urban housing and its transformation due to globalization. Subsequently, the study compares and relates the findings to the context of Doha in the later part of this paper. These case studies include Manama in Bahrain, Dubai, and Abu Dhabi in the UAE. **Figure 3** shows the respective locations.



Figure 3. Location of selected case studies. Source: Google Maps, 2022.

Abu Dhabi, Dubai, and Manama were selected because of their regional contexts. These case studies are excellent resources for understanding the effects of globalization on different housing styles and analyzing how this trend has influenced Doha over the last few decades. The synthesis of the case studies provides the globalization impact parameters that shape the housing architecture in the region. In addition, the case studies exhibit geographic proximity to the primary research study and share similar contextual and sociocultural characteristics. This ensured that the data collected from the case studies were valid and relevant for the main research study because of the similar environment.

4.1. Abu Dhabi, UAE

Abu Dhabi is the capital city of the United Arab Emirates, with a metropolitan area of 972 km² and a population of 1.54 million based on the census for 2022. Approximately 79.6% of the city's total population are non-residents. In addition, more than 34% of the rural and urban population are female, which is higher than that of other cities in the Gulf region. Particularly in the Arab world, Abu Dhabi has one

of the most dynamic economies. These include the region’s vast oil wealth, Sheikh Zayed’s effective leadership, the creation of a federation following British departure, the liberal distribution of wealth to locals, and the repeal of all taxes (Davidson & Vanderwalle, 2009). Due to this dynamic economic development, housing architecture in Abu Dhabi has changed significantly since the 1960s. **Figure 4** summarizes the historical urban evolution of Abu Dhabi.

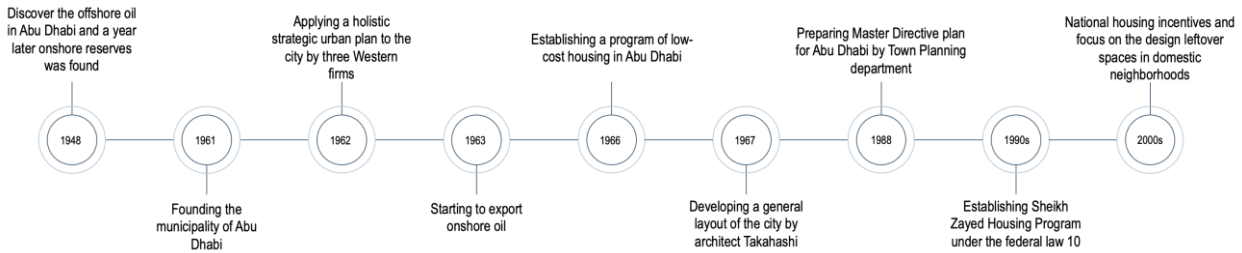


Figure 4. Abu Dhabi’s urban evolution timeline. Illustration by the authors.

4.1.1. Historical evolution of housing typologies

Since its inception, the Government of the United Arab Emirates (UAE) has aimed to improve people’s quality of life by relocating its coastal fishermen and Bedouin tribes to more globalized urban settings. The reliance on imported design models was partially ascribed to their rapid departure from cultural roots. Most of the buildings comprise cloned suburban villas that are still visible throughout the UAE. Previously, compact and pedestrian-friendly villages constructed with indigenous materials were transformed into sprawled housing strips defined by their reliance on mechanical cooling systems. These developments lack the necessary characteristics to enhance the regional identity. An illustrative diagram of the evolution of Abu Dhabi housing design is shown in **Figure 5**.

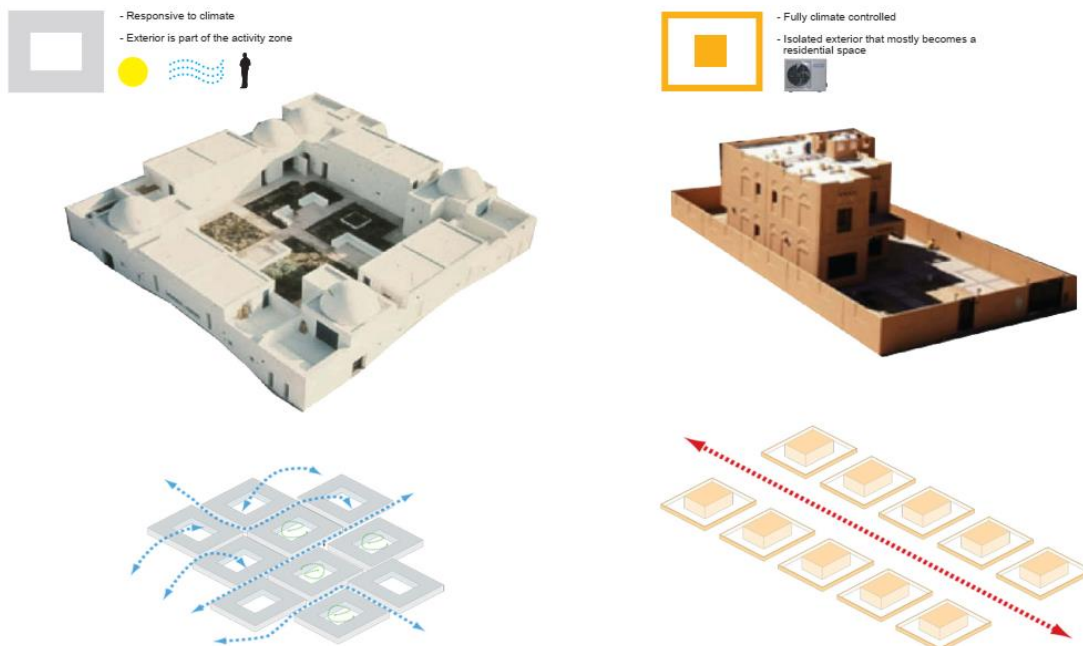


Figure 5. Evolution of housing in Abu Dhabi. Source: X-Architects, 2009.

4.1.2. Lessons learned

The national housing projects in Abu Dhabi are government initiatives to provide housing for the locals. Several strips of homogenous houses emphasize the area’s urban character and establish its reputation as a government housing neighborhood. Therefore, implementing such segregation in future projects is not recommended. While fostering a feeling of uniformity, it can also be argued that this approach has the potential to make a city less diverse and create an isolated community through the proliferation of similar housing projects. Consequently, it is imperative that housing projects are developed in an inclusive manner, where diverse styles and designs of homes are allowed. To achieve a harmonious balance between uniformity and diversity, city planners should mandate housing projects with various architectural styles and designs that suit different cultural tastes.

4.2. Dubai, UAE

Dubai is the most populated city in the United Arab Emirates, with a metropolitan area of 35 km² and a population of 3.5 million as per the 2019 census. The population consists of just 15% native inhabitants, while the remaining 85% comprises expats. Indians account for 51% of the Asian population, which comprises approximately 71% of the overall population. In addition, the gender distribution of Dubai is imbalanced, with men constituting almost 69% of the population (Dubai Statistics Center, 2021). The city has a wide range of architectural styles as represented by its extensive collection of buildings. Due to a boom in construction and architectural innovation throughout the Arab World in general, and in Dubai in particular, many modern interpretations of Islamic architecture can be found here (Karim, 2009). In addition to the support from Arab architectural and engineering design firms such as Al Hashemi and Aedas in Dubai, housing projects also benefit from collaborations with top international firms in New York and Chicago. The design of skyscrapers has advanced because of the surge in modern Islamic and global architecture. The Burj Khalifa (Khalifa Tower), the world’s tallest structure by a significant margin at 829.8 meters, was completed in 2010, marking the climax of the process. A summary of Dubai’s urban evolution is illustrated in **Figure 6**.

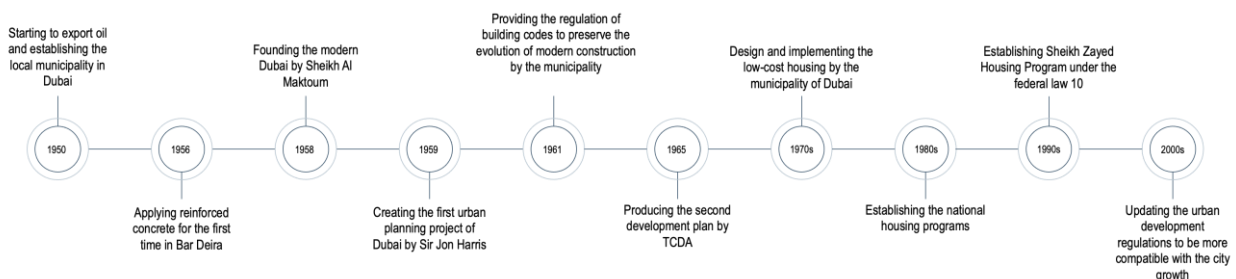


Figure 6. Dubai’s urban evolution timeline. Illustration by the authors.

4.2.1. Historical evolution of housing typologies

A survey of the early architecture of Dubai indicated that the typology dates back to the late 19th century and was influenced by Islamic, Iranian, and Indian styles. The hot and humid weather, local social and religious norms, and available construction

materials all significantly influenced architectural designs. In addition, local inhabitants prioritized fundamental characteristics such as ease of use, practicality, longevity, and climatic adaptability. Mud was used as mortar in early constructions, which were built of stone, palm leaves, and palm tree trunks. Subsequently, homes were constructed using the available durable materials: coral stone from the sea and gypsum from the creek's salt marshes. Islamic values of modesty and privacy were taken into consideration when designing courtyard dwellings. Many of these dwellings were linked to wind turbines to provide cooling during the heat (Elmasry, 2018). Buildings were densely constructed to provide pedestrian paths that were both shaded and airy.

After Dubai's oil discovery and wealth, various architectural styles were produced from unplanned construction surges. Traditional Islamic architecture and environment are frequently neglected during construction. This inspired a new planning policy that emphasizes harmonious growth by retaining some of the historic characteristics of architecture (Carter, 2015). An increasing number of architects are integrating historic styles into their work while utilizing the most effective heat-resistant materials in construction. In addition, building contractors have recently shown a slight increase in environmental awareness and respect for Arabic culture.

This resulted in the introduction of several architectural styles into the design, leading to a hybrid fusion (**Figure 7**). For example, it is possible to find several architectural styles for villas on one street, as illustrated in **Figure 7c–e**. Recent housing projects prioritize using the natural landscape to enhance privacy rather than relying on physical barriers such as walls or fences. Furthermore, these projects have promoted increased reliance on renewable energy sources in design and construction.

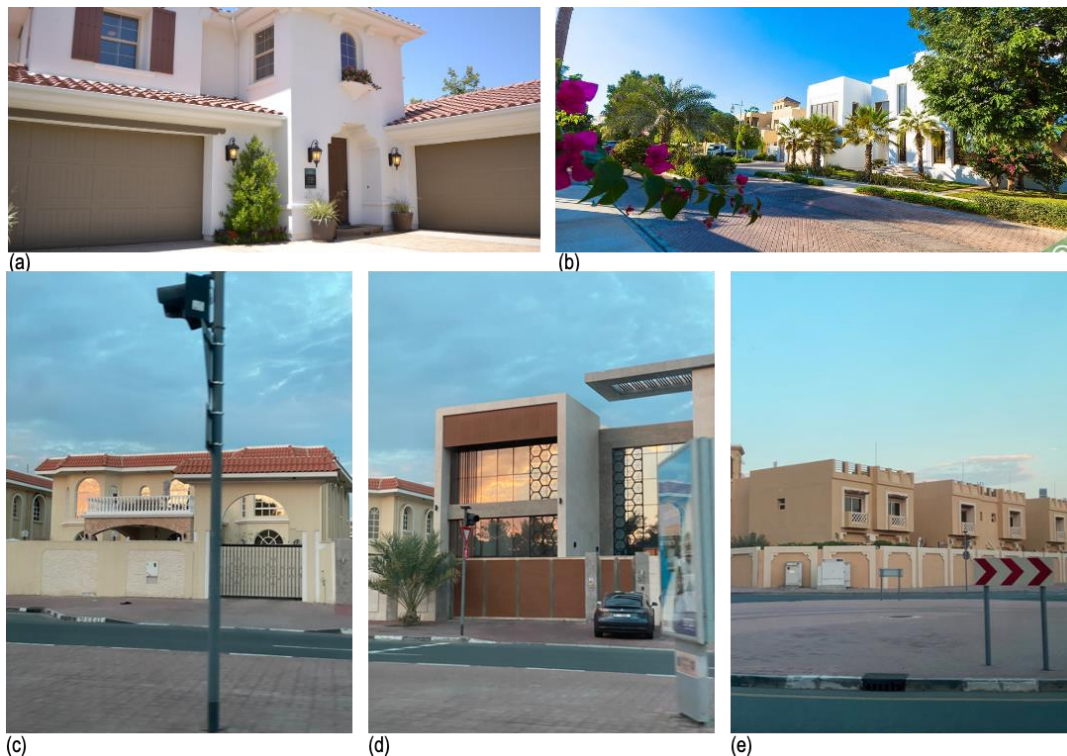


Figure 7. (a) Typical new contemporary villas in Dubai; (b) Houses in Al Brari, Dubai. Source: (HS, 2023); (c–e) Villas facing a main street in Dubai. Source: Authors.

4.2.2. Lessons learned

Dubai exhibited a greater degree of openness in terms of housing design and elements, showcasing a hybrid of various housing types and architectural styles in the city. The city has grown exponentially in recent decades due to a combination of factors, including a business-friendly environment and lenient immigration laws that have attracted people worldwide who have made the city their home. Over the years, this influx of immigrants has resulted in greater demand for housing, which has prompted the government to embrace more innovative and creative housing designs to accommodate all its citizens. This open-minded approach to housing design has resulted in unique and captivating buildings ranging from simple single-family dwellings to multistory apartment blocks and villas with private pools. These buildings are a testament to Dubai’s commitment to diversity, inclusivity, and innovation, allowing the city to remain at the forefront of modern architecture.

4.3. Manama, Bahrain

Manama, Bahrain’s capital and largest city, is located on the northern coast with a metropolitan area of 30 km². Based on the census of 2022, it has a population of 709,000. The gender breakdown of the population shows that women comprise 38% of the total and account for 49.4% of all citizens (Bahrain Ministry of Information, 2023). The Muslim population of Bahrain constitutes 70.2% of the entire population, while the remaining 29.8% follow other faiths and beliefs, including Christianity (10.2%) and Judaism (0.21%). Financial institutions and global corporations have recently become the dominant urban actors in the city (Hamouche, 2008, p. 184). Bahrain’s traditional buildings were created through the cross-fertilization of various civilizations and cultures. It was shaped by historical events, colored by traders and migrant workers, and developed in response to the local climate, physical and social needs, availability of building materials, and technological considerations (Dayaratne, 2008, p. 3). Bahrain shares similarities with other Gulf countries in many of the essential traits of architectural types and styles. The urban evolution of Manama is shown in **Figure 8**, which summarizes the municipal development of Manama until the development of housing projects in Issa and Hamad towns.

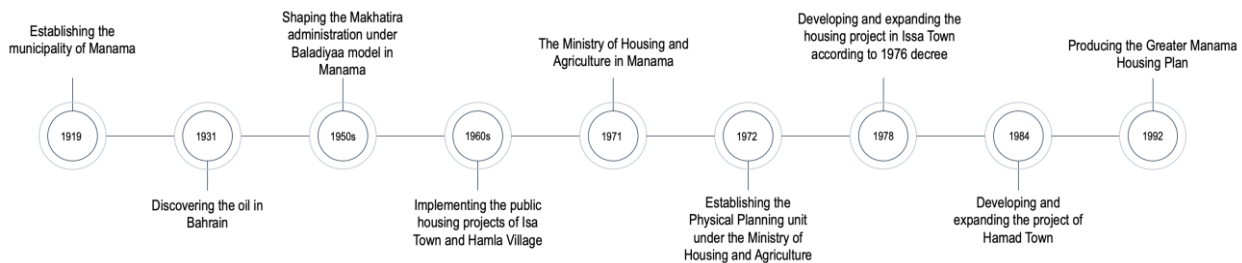


Figure 8. Manama’s urban evolution timeline. Illustration by the authors.

4.3.1. Historical evolution of housing typologies

As shown in **Figure 9b**, the villa configurations in Issa town were articulated outwardly, exhibiting the most evident hybridity. This amalgamation of forms is influenced by two factors: (1) people have been compelled to forsake the courtyard-type structures, which supported the badgirs as the primary methods of ventilation,

due to land constraints and the availability of mechanical ventilation devices, as seen in Badr Gulum House (**Figure 9a**); (2) the quest for new forms has been triggered by the impression of traditional as being “backward” and the inability of its image to reflect the recently obtained riches and success (Dayaratne, 2008, pp. 5–8).

Nevertheless, new architectural styles have emerged from various sources. Numerous local components, such as arches, wall panels, doors, wood, and metalworks, have been adapted from traditional typologies to harmonize with the local environment. Consequently, the new type is neither an original nor a traditional Bahraini typology. The majlis, a characteristic component of traditional Arab architecture, was incorporated into the house plans. This is an interesting continuation of the principle that men, women, and family areas should be separated from one another. The majlis also have European features, particularly those related to cooking and dining.

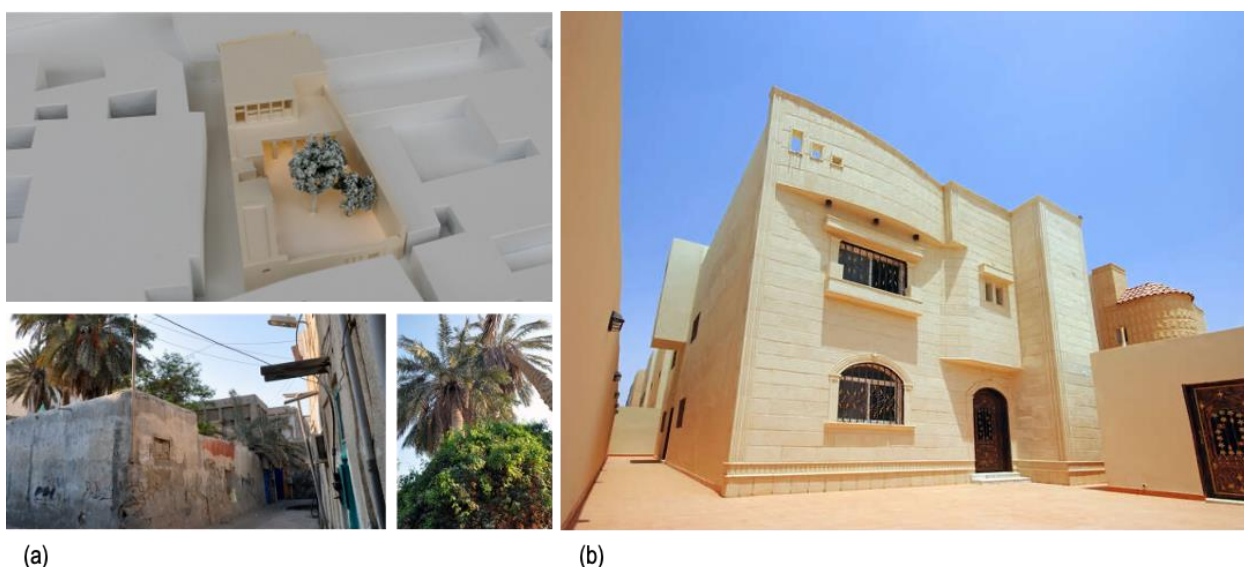


Figure 9. (a) Badr Gulum House, UNESCO heritage site (Chemali, 2009), (b) A house in Issa Town.

4.3.2. Lessons learned

Houses in Manama have created a unique combination of Eastern and Western architecture. The early 19th-century Bahraini builders demonstrated the ability to respond to the desires and needs of their customers in a creative way while preserving local architectural traditions and incorporating European influences. The majlis is a multifaceted response to the changing environment of the early 19th century, allowing builders and their clients to find a creative compromise between Eastern and Western features.

5. Findings: Globalization impacts on Doha’s housing

The research findings are categorized into five sections, with the first section providing an introduction to the study site. The second part examines the historical context of housing typologies in Doha, while the third part analyzes the current housing architecture status in Doha. The fourth section relates the analysis to the literature review and regional case studies to draw comparisons with Doha’s situation.

The fifth and final part of the findings delineates the research contributions to the current body of knowledge on the impact of globalization on housing architecture and the gaps in Doha’s housing design.

5.1. Study site: The city of Doha

Doha, the capital city of Qatar, is a metropolitan area spanning 132 km². Urban development in the city has proliferated since the 1970s with the migration of multicultural populations, especially from India, Nepal, and the Philippines. As of December 2023, Qatar’s population was approximately 2.97 million, with more than 72% representing the male population (Planning and Statistics Authority, 2023). Qatari residents account for less than 15% of the population, whereas non-Qatari inhabitants constitute the largest proportion. The religious composition of the people in Qatar is as follows: “Muslims make up around 67.7%, Christians account for 13.8%, Hindus represent 13.8%, Buddhists make up 3.1%, followers of folk religions are less than 0.1%, Jewish beliefs are less than 0.1%, other faiths constitute 0.7%, and the unaffiliated population is just 0.9%” (World Population Review, 2024). Most of Qatar’s population resides in Doha, the country’s major metropolitan city and financial hub (Furlan & Sinclair, 2021).

Since Qatar’s independence in the 1970s, the country has strived to reflect its modern image through its buildings, satellite cities, and infrastructure development. This stipulated the gradual disappearance of vernacular architecture as many historic buildings were demolished and replaced with international-style buildings (Boussaa, 2014, pp. 8–9). Many historical buildings in Doha were demolished to create space for newer buildings. Currently, there are very few buildings that predate the 1950s. The location of the Doha is shown in **Figure 10**.



Figure 10. The study site, Doha City. Source: Google Maps, 2022.

The real estate industry in Qatar has undergone substantial development in recent years, fueled by the country’s economic diversification efforts and preparations for major events such as the FIFA World Cup in 2022 and the Arab Cup in 2023. The commitment to hosting mega-events and becoming a global economic hub motivated

the government to invest significantly in infrastructure, the real estate sector, and residential and commercial construction, leading to a boom in the property market. While there are no property taxes in Qatar, the real estate index grew by almost 15% year-on-year on average (Al Refai et al., 2021; Qatar Central Bank, 2024). The real estate market increasingly focuses on providing affordable housing, decreasing dependence on speculative financing, and emphasizing domestic and long-term investments. Local companies and shareholders, such as the United Development Company (UDC), Ezdan Holding Group, Al Asmakh, and Barwa, have the most real estate properties.

A legislative framework governing the real estate market in Qatar was established using Law No. (5) of 1963. This law explicitly states that individuals who are not Qatari citizens are prohibited from acquiring freehold property. Recent changes to the law and regulatory framework have been implemented to incorporate more foreign involvement. Qatar's Cabinet Resolution No. 28 of 2020 has introduced the "Foreign Real Estate Ownership Law," allowing Gulf nationals and non-Qataris to buy commercial and residential projects in specific areas, especially investment in land for business and agriculture (Al Refai et al., 2021). Qatar offers a diverse range of housing alternatives for both rent and sale, with rent accounting for 59% of all residential units (Aliyar et al., 2023). In tandem with recent real estate development, the most expensive residential properties are located in Lusail, Msheireb Downtown Doha (MDD), Pearl-Qatar, and West Bay along the shoreline of the Arabian Gulf.

5.2. Historical analysis of housing typologies in Doha

Doha is generally considered to be a reactive typology of low-rise, high-density urban living. Traditional homes are primarily organized according to culture and beliefs. The courtyard house, one of the most popular sustainable housing typologies or archetypes, "is a suitable form of housing within contemporary mixed-use sustainable urban developments" (Edwards et al., 2006, p. xvii). The sociocultural aspect of housing, which draws on ideas of urban planning and regeneration, is connected to the social sustainability of architecture (Al-Mohannadi & Furlan, 2022, pp. 265–266). In reality, the design of a house is built on the concept of delineating public and private spheres, with architectural features such as gates, doors, walls, and windows to protect family or household privacy.

According to research conducted in the late 1990s, Qatari vernacular architecture used ingenious passive strategies to improve the thermal comfort inside the structure, especially during the hottest portion of the day (Sayigh & Marafia, 1998, p. 26). The Greco-Roman era gave rise to the courtyard home type, which Arab nomads later refined because they were accustomed to arranging tents around an open central space to offer shelter and security to their villages (Almahmoud, 2015, p. 44).

The primary change in the spatial form of housing in Qatar has been the conversion of the traditional courtyard home into a multistory villa, which represents a turning point in the development of the house form (Remali et al., 2016; Sayigh & Marafia, 1998; Talib, 1982). The modern villa provides an extroverted and box-like housing typology, delimited through an enclosed wall and erected without consideration for local settings.

Remali et al. (2016) classify the development of housing typologies in Doha into four periods: (1) the post-nomadic period until 1793, (2) the traditional period from 1793 to 1945, (3) the modern period from 1945 to 1990, and (4) the contemporary period (Figure 11). The periods are summarized as follows:

	Post-nomadic	Traditional	Modern		Contemporary	
Doha						
Dubai						
Abu Dhabi						
Manama						

Figure 11. Evolution of housing types in Doha, Dubai, Abu Dhabi, and Manama. Source: Remali et al., 2016, p. 3.

5.2.1. Post nomadic period (until 1793)

The Gulf region was once inhabited by the Bedouin tribes and a few oasis communities until British colonial influence began throughout the eighteenth century. Raising cattle, which depends on the availability of grazing ground and water, was the traditional Bedouin economy (Khaldun, 2004). The tribal system blended significant top-down decision-making, such as allocating land to different clans, with self-organization and accountability for land development and use (Salama & Wiedmann, 2016). These factors shaped the organization of houses around the allocated land.

5.2.2. The traditional period (1793–1945)

Major urban governance issues affecting housing development occurred in Doha during this period. The British East India Company interacted with local tribes primarily to stop growing piracy and to create ports exclusively dedicated to both ship repair and pearl trading. As a result, the initiation of the global pearl trade became the primary driver of settlement growth. This urbanization process was accelerated by the migration of interior tribes, Persian and Indian merchant families, as well as enslaved East Africans working as pearl divers (Al-Maani & Alsharari, 2014). Numerous

neighborhoods were built close to these business hubs. In addition, emerging neighborhood disputes were typically resolved by official assemblies of tribal chiefs, even in cases where an official urban administration had not yet been constituted (Hakim, 2007).

5.2.3. The Modern Period (1945–1990)

The creation of the initial networks for water, power, and sewage dominated the early stages of modern urbanization (Fuccaro, 2009). The establishment of modern housing connected to modern infrastructure was the most significant development in this period. Providing adequate housing for local people continued to rank among the most significant public sector tasks during the following decades. Public, free, and senior staff houses comprise a three-level classification system for dwellings established in 1984 by Qatar's Ministry of Municipal Affairs and Agriculture (MMAA). A new policy was adopted as part of this system, which permitted users to participate in the design of their own homes or villas (a two-story standalone dwelling) based on a catalog created by the municipality that featured a few possible ideas (Nagy, 2000).

5.2.4. The contemporary period

Due to its geopolitical location, the Gulf region assumed a new role as the primary trading and transit hub with the end of the Cold War and global trade growth (Khalaf, 2006). A notable transformation occurs in dwelling typology, with opulent flats becoming housing alternatives to suburban villas for upper-income groups, including local inhabitants. Significant factors influencing these changes are growing land prices and restricted property access to infrastructure grids (Furlan et al., 2022). During this period, local authorities implemented housing regulations and building permits to monitor the development and soundness of building structures. These regulations control the aesthetics of buildings, such as the glass-to-solid percentage in the façade, external paint, house volumes, roof design, shading, and architectural style. Similarly, a new phenomenon has emerged where projects are being initiated in downtown regions, such as Lusail Boulevard and Msheireb Downtown, to entice the younger generation of locals to move from suburban to inner-city districts in recent times.

5.3. Site analysis

Site analysis was conducted on several residential neighborhoods to assess housing architecture in terms of physical and sociocultural dimensions.

5.3.1. Physical dimension

Three primary types of housing structures are found in Doha's residential neighborhoods: traditional, modern, and contemporary. Qataris own and occupy all the analyzed villas. However, some villas are rented to foreigners, especially blue-collar expatriates. In addition, several older villas are being utilized as labor camps for employees because of their owners' departure. Many older homes constructed in the early 1980s continue to stand. The architectural styles of the villas are fairly diverse, with some exhibiting traditional characteristics and others more contemporary, depending on the owner's preferences. The majority of homes are made of concrete, while some of the higher-end villas are composed of limestone. Considering the arid

nature of Doha’s climate, tilted roofs have no practical function and are simply used for aesthetic purposes. As shown in **Figure 12b**, some extant examples blend Western house features such as a gabled roof with a pointed arch imbued from Islamic architecture.

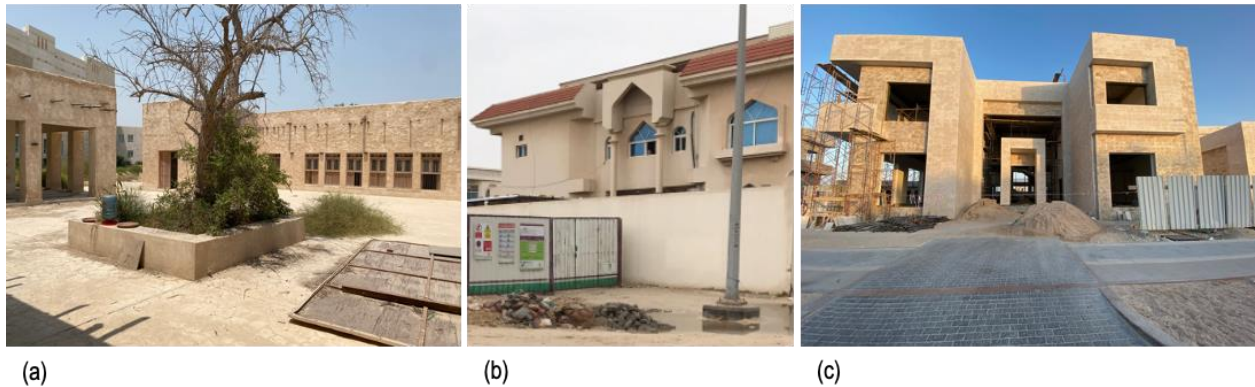


Figure 12. (a) Al Maedeed House in Education City; (b) Modern villa design in one of Doha’s neighborhoods; (c) Contemporary new house construction in Lusail. Source: authors.

The typical villa layout for detached villas is determined by the requirement imposed by local authorities, such as setbacks from the street or neighboring lands. Currently, land size is decreasing in central Doha because of increased land cost. Consequently, the typical house size decreased in contrast to the housing boom seen in the 1990s, when the emphasis was on the grandness of the property and the design intricacies displayed on the façade element. While the cost of land has increased, family size has marginally decreased. Previously, it was not uncommon to live with extended family members; however, nowadays, most families live in a single dwelling consisting of only parents and their children. **Table 2** summarizes the typical physical elements of houses in Doha.

Table 2. Typical physical elements of houses in Doha.

Physical elements	Description
Area	Average house plot size 900m ²
Entrance	One vehicle entrance is allowed, and typically, two pedestrian accesses.
Height	Basement + ground floor + first floor + penthouse
Architectural style and materials	Traditional, modern, and contemporary. Examples of such are shown in Figure 12 .

5.3.2. Socio-cultural dimension

Doha experienced urban expansion earlier than any other city in the Gulf region, leading to the development of several sociocultural characteristics in response to the economic boom and discovery of oil. Due to its Arab-Muslim identity, Doha shares several common features, traditions, and norms that originated in the Gulf region during that time. One of the significant traditions is the concept of extended family relationships, a local preference initiated during the city’s early beginnings.

Furthermore, housing development is greatly influenced by the sociocultural character of the city, particularly aspects such as the extraordinary attention to privacy,

gender segregation, and hospitality. This can be deduced from the spatial layout of villas and the clear distinction between public and private spaces. A typical house arrangement starts with visitor-oriented spaces such as the majlis and guest rooms in public zones, while more private rooms are located at the back of the house or on the first floor.

Most Qataris and larger families that relocated from the MENA region reside in villas, partially due to the similarities of cultural background and the emphasis on highlighted privacy, gender segregation, and hospitality. Most villas are enclosed by a gated perimeter, often with a fence of approximately 2.5 meters in height. There is usually only one vehicular access that is secured by a gate.

Due to globalization, many elements have come in and out of trends, as is evident in the realm of fashion. For instance, there has been an increased amount of glazing on buildings, while balconies, which are rarely used, have been neglected because they do not provide the required privacy.

5.4. Comparison and typologies matrix with the other case studies

Using the categorization of globalization impacts established in the study by Dariush et al. (2021), this section assesses the effects of globalization on housing architecture for selected case studies, particularly concerning Doha.

This comparison shows the similarities and differences between case studies regarding the impact of globalization and its effects on house design, spatial structure, form, construction processes, and practices (**Table 3**). A recent and shared phenomenon in housing design is the prominent role played by mega-corporations, such as Lusail in Doha and Emaar in Dubai, in creating residential neighborhoods. These large-scale developers have spearheaded these megaprojects by adopting a design template and method, enabling the rapid development of large-scale projects under tight timelines. These projects are typically distinguished by the standardization of construction processes and house designs. This type of design has been made possible through the use of technology that can speed up the design process, thus allowing for the mass production of residential neighborhoods. These large-scale developers have benefited from the advantages of globalization, such as access to technology and resources that facilitate the efficient mass production of housing designs.

Table 3. Types of housing changes as a result of globalization for regional case studies compared to the city of Doha.

Source: authors.

Types of change made in housing architecture	Globalization impacts			
	Abu Dhabi	Dubai	Manama	Doha
Concept design	<ul style="list-style-type: none"> The national housing projects influenced living spaces. 	<ul style="list-style-type: none"> The national housing projects influenced living spaces. 	<ul style="list-style-type: none"> The national housing projects influenced living spaces. 	<ul style="list-style-type: none"> Controlled conceptual development due to the regularization efforts introduced via the building permit

Table 3. (Continued).

Types of change made in housing architecture	Globalization impacts			
	Abu Dhabi	Dubai	Manama	Doha
Form	<ul style="list-style-type: none"> Decorative elements on the façade and outside of the buildings. Diversity of the forms and styles. 	<ul style="list-style-type: none"> Increased use of glass in the façade. Eclectic styles while maintaining the use of traditional ornaments. 	<ul style="list-style-type: none"> Eclectic styles while maintaining the use of traditional ornaments 	<ul style="list-style-type: none"> Increased use of glass in the façade. Occasional use of balconies in some projects. Penthouses and roof terraces
Spatial structure	<ul style="list-style-type: none"> The municipal spatial laws directly affected the design and physical configuration. The increase in the metropolitan area resulted in larger land plots. 	<ul style="list-style-type: none"> Reduction in the size of houses due to increased population density. Physical barriers such as fences are replaced with natural landscape solutions. 	<ul style="list-style-type: none"> Reduction in the size of houses due to increased population density. 	<ul style="list-style-type: none"> Driven by familial relations and private-to-public space interplay. Significant shift from courtyard houses to multistory villas.
Construction patterns	<ul style="list-style-type: none"> Imitation of global architecture. Increased glazing element on the façade 	<ul style="list-style-type: none"> Imitation of global architecture Increased glazing element of the façade Softscape elements instead of walls. 	<ul style="list-style-type: none"> Repetitive façade design Uniform plot size in the newer neighborhoods. 	<ul style="list-style-type: none"> Reduction of the area of houses. Introduction of smart building methodologies. Imported building materials. Imitation of global architecture Design of unusual forms that were previously unattainable. Construction of newer housing projects such as Lusail City and the Pearl utilize contemporary design.
Construction practices	<ul style="list-style-type: none"> Introduction of new construction technologies. 	<ul style="list-style-type: none"> The emergence of two dominant corporations, namely Emaar and Damac, influenced construction practices. Promoting the use of renewable energy. 	<ul style="list-style-type: none"> Establishing of Issa and Hamad housing towns 	<ul style="list-style-type: none"> The rehabilitation of MDD while demolishing heritage buildings. The relatively expensive cost of ‘globalized’ housing projects is higher than any other area in Doha.

5.5. Contribution to knowledge: Gaps in Doha’s housing design

There are several discussions on the effects of globalization on the built environment and its role in defining the urban identity of a city. For example, a city must exhibit a particular physiognomy to be considered well-developed. Similarly, the design of houses necessitated imitation of those found in more developed cities. In the past, the design of houses in Doha was dictated by their intended functions and their role in daily family dynamics. Recently, changes in lifestyle and individual aspirations have shaped houses, with a blend of several design elements from all over the world.

In recent years, there has been a noticeable shift in the architecture and urban design of residential neighborhoods, and the process has been closely monitored in the design control stages involved in building permit processes. The Building Permit Complex established the Qatar Construction Manual in 2020, which details each neighborhood’s footprint percentages, maximum glass percentage, roof treatment, building entry, and setback, among others. New urban regeneration projects for neighborhoods, such as Msheireb and Lusail, have adopted contemporary architectural schemes that encourage pedestrian movement and natural shading, as well as eclectic

design references from Qatar's vernacular architecture and the Gulf region. Whereas beautification initiatives are taking place in the older neighborhoods in Doha.

These old neighborhoods, built in the modern period, are incohesive in terms of architectural language and exhibit several architectural styles that are not necessarily indigenous or functional in relation to the region's climate. Due to this phenomenon, local authorities monitor these styles through the regularization of building permits. However, it is unclear whether such efforts help a strong sense of identity, as they have indirectly promoted an increase in the production of similar architectural styles because they simply work and are approved. Some design offices have house typologies that are readily available for selection, and are categorized as house types A, B, and C, among others. Such practices diminish creativity and limit the architecture of the residential villas, resulting in similar square boxes.

6. Conclusion and recommendations

This research examined housing evolution in Doha and the effects of globalization forces on shaping these typologies regarding the physical and sociocultural dimensions of houses. Globalization and assertions of local identities are in constant conflict in Gulf cities. New Gulf cities are dominated by massive commercial structures, towers, sophisticated theme parks, five-star hotels, and residential complexes because of their openness to the rest of the world. Gulf cities are now distinguished by their rapid urbanization and the effects of globalization. They have been significantly urbanized over the last few years because of their oil and gas income.

One aspect of globalization aims to sustain and advance well-established regional customs, forms, traditional themes, and architectural innovations. At the same time, the other promotes the creation and adoption of innovative shapes made from novel materials and technologies. Globalization is often perceived as conforming to Western approaches, especially regarding sense of place, place meaning, and place identity. However, globalization fosters a sense of place in urban environments through delicate negotiations between heritage preservation, local identities, and globalization trends. The place identity of a historic city can be maintained by implementing progressive changes that focus on a combination of cultural and economic variables, thereby contributing to the creation of vibrant, culturally rich, resilient, and sustainable urban landscapes in an ever-expanding global context.

The city's sociocultural character greatly influenced housing development. Because of globalization, certain aspects have been subject to fluctuating trends, such as the heightened prevalence of glazing in building exteriors or the infrequent utilization of balconies. Urban identity is constantly impacted by the network of worldwide processes and forces amid the extensive changes brought about by globalization. To avoid the loss of cultural memory in historical cities, it is imperative to employ a grassroots strategy that actively engages the local community in making decisions about the future of their environment. Historical connections enable individuals to progress while maintaining a sense of pride in their heritage amid swift transformation.

Recommendations for future housing design involve the use of a bottom-up

approach to establish building design codes. These codes should be transformed from strict regulations to more flexible design guidelines, allowing individuals to express their creativity while adhering to urban design criteria. Meanwhile, local authorities need to encourage the preservation of older neighborhoods in the city and traditional house structures built during the pre-oil era, as they present a clear example of how people responded to the climatic and sociocultural characteristics of the region with minimal or no external influence. By encouraging the preservation of traditional house structures, local authorities will not only help maintain the distinctiveness of their cities, but also provide insight into how past generations respond to regional challenges. Furthermore, local authorities must focus on promoting good urban design practices and creating an environment for the development of community spaces, which can act as a medium for exchanging knowledge and sharing experiences between generations.

As a suggestion for future research, it would be interesting to examine the effects of globalization on various types of dwellings, not just villas, and compare them with the findings of this study. Comparing the changes in villa dwellings with those of other dwelling types would provide insight into which elements globalization affects and how. Such research could also provide valuable insights into how certain dwelling types may be more resilient to the impacts of globalization. Understanding the effects of globalization on various dwelling types would benefit architects, urban planners, and other design professionals seeking to create resilient and dynamic housing solutions.

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