

Adaptive Reuse in Significant Restoration Projects in Qatar

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Abstract

In the recent years, many Gulf States have typically experienced accelerated and complicated problems of urbanisation, and despite their rather short history, they have resulted in significant urban growth and infrastructure provision to contemporary architecture. Affecting the direction of the rapid urbanization, there is a perpetual dispute, between the construction of a new, modern identity and the promotion of traditional architecture as a possible way to establish new relations with the local history and culture. In the struggle for the definition of a new architectural identity in the Arab emerging cities, this paper focuses on the action needed to preserve architectural heritage, with the aim of showing some significant examples of adaptive reuse projects, recently completed in Qatar. The growing number of conservation projects show that there exists a need to strengthen appreciation of the local architectural and building traditions, as a way of bringing to light and regenerate the historical memory of these local places. This paper provides a comparison between some recent conservation projects completed in Qatar, analysing a number of various proposals for reusing the restored urban fabric and architectural buildings. The data analysis made it possible to classify these proposals in ways that could be applied to other adaptive reuse projects in future. The aim is to define an approach that is consistent and will be able to give expression to the Arab culture in matters of conservation and re-use, whilst respecting shared international rules.

1. Introduction

In the Gulf Region, due to the recent discovery and exportation of oil (1960-1970), the urban development and growth of many cities, has generated enormous flows of wealth and investment.

Among the Arab Countries, Qatar is one the most influent protagonist of the scene that has been subjected to an unprecedented economic boom, and its capital, Doha, is becoming a new *global city*. As a consequence, the rapid urbanisation has produced a negative impact both on the natural process of growth of the urban centre, and on the local architecture preservation [1], [2].

In fact, in Doha the urgent need to provide homes and services for immigrants, definitively altered the city centre, damaging the remains of the urban fabric and some traditional buildings. Thus a permanent conflict afflicts the growth direction of Doha: on one side the construction of a postmodern global city, represented by advanced infrastructures, innovative materials and spectacular architectures; on the other side, the safeguarding of Qatari heritage reusing the neglected urban fabric, and the abandoned buildings, with the aim of establishing new relationship with the past and the local culture.

2. Overview of the current status of restoration

This research presents an analysis and description of some significant restoration projects recently completed in Qatar, comparing their deterioration, the conservative approaches used when carrying out works, and the various proposals for reuse [3]. All the data was compared, giving a complete overview of the current situation of architectural, archaeological and urban adaptive re-use interventions in Qatar. In the current debate between innovation and tradition, the paper describes how, under the pressure of the media impact

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that enhances the new image Doha as a *global city*, the value of the Qatari traditions and the historical roots, has gradually increased in the past decades [4], [5].

How can we avoid the total loss of cultural heritage and historical identity of Doha while nurturing the value of its new condition of a global city, strongly projected into the international growth?

3. Doha and the value of innovation:

A new global city

Due to the huge capital flows generated by the oil, in recent years Doha has emerged as a new *global city* [6] with a central position in the international finance. As a result of the globalization, some cities, such as New York, London, and Tokyo, have played the role of world financial leaders, but contemporarily new growing centers, like Doha or Dubai in the Gulf, have imposed their role on the global economy, influencing the international movements of finance.

Affected by the globalization mechanisms, the local and international finances have placed huge capital on world-wide investments in Doha, involving transportation companies, entertainment and media societies, as well as large urban and real estate projects, managed by international investors. The urban growth of Doha was mainly concentrated in the northern areas of the city, where new urban strategic projects have pursued a certain priority of implementation as foreseen by the Qatar National Vision 2030 (QNV), promoted by the Qatar General Secretariat of Development Planning (QSPD) [7].

3.1. West Bay the innovative business centre

To attract international capitals and investments, the image of Doha was therefore enhanced and promoted inside the ongoing competition between the capitals of the Gulf Regions. This process has generated evident socio-economic and political consequences into the Qatari territory. In Doha, the search for a strong media impact into the local and global competition has been pursued by constructing new prestigious projects, which included luxurious functions and technologies to attract global capital and new investors.

In particular, the contemporary core business of Doha, the West Bay area, has been recently developed into a modern specialized economic district, promoting the construction of "five starts" architects' project as elements of characterization and commercial interest (Figure 1).

4. Doha and the value of tradition:

Safeguarding the Qatari heritage

The rapid growth of Doha has consequently generated a massive construction of new spectacular architectures, ultra-modern and contemporary projects that, in most of the cases do not have any connections with the local tradition and the characteristics of the site. New conflicts of identity have arisen by the construction of the contemporary architectures, that have generated a deep sense of extraneousness to the place. The new construction process has also negatively affected the development of Doha city centre, damaging the existing



Figure 1. The West Bay business district in Doha

historical buildings and seriously threatening their survival, as the only remaining evidence of the local traditions [8].

Over recent decades the local administrations of many cities in the Gulf, have given very little relevance to their cultural heritage, due to the absence of any laws or regulations for their safeguard until as late as 1980. Since then the rapid demolition of many historic buildings has aroused interest in the conservation of national architectural and urban heritage.

In Qatar, the legislation to safeguard the heritage is defined by "Antiquities Law no. 2 of 1980, Law no. 23 of 2010, and two Emiri Decrees of 2009" declaring that "an antiquity is considered to be anything left by civilizations or left by previous generations, [...] which dates back more than forty years" (article 1 of Law no. 2, 1980). Thus every resource that brings evidence of past civilizations and is over 40 years old, comes under this prescription.

In 2005 the Qatari government set up the Qatar Museum Authority (QMA) with the mandate of promoting artistic, and protection activities that enhance appreciation of the national heritage. The QMA is divided into three departments (Archaeology, Architectural Conservation, and Cultural Tourism) each of them is responsible for a specific area of intervention in safeguarding the existing heritage. Since 2004, the State of Qatar government agency, Private Engineering Office (PEO), has been working alongside the QMA to develop and manage projects and properties of direct interest to the Qatar Emir. Both QMA and PEO are responsible for a wide projects' range including the architectural restoration and urban rehabilitation of historical sites, with the aim of integrating the preservation of heritage into new construction projects [9]. Although specific institutions and laws do exist for the restoration and conservation of historic buildings, there is still a need to improve the current processes and

raise standards, by promoting examples that show a good application of management strategies in compliance with international rules. [10].

4.1. Adaptive reuse for urban interventions: New entertainment places

Thanks to the restrictions imposed by the institutes and regulations, some urban rehabilitative interventions have recently been launched to control the rampant demolition phenomenon and revitalize the abandoned urban fabric by reusing the areas as new entertainment places.

This began with the launch of many restoration projects such as the refurbishment of the Souq Waqif (2004-2008) in the historic center of Doha and the adaptive reuse of the Al Wakrah fishermen village that was restored and is currently reused as the new "souq". The historic Souq Waqif was built about 100 years ago, in the city centre of Doha, not far from the port. In 2004 the government launched its conservative and typological restoration project which was carried out under the direction of the Private Engineering Office (PEO).

The restoration work was completed in 2008, with the intention of bringing to a halt the worsening deterioration of most of the existing buildings, conserving all of the oldest structures dating from before 1950, and recovering the traditional ones in the more recently built parts, following their architectural typology [11]. The Souq Waqif adaptive reuse intervention constitutes an urban upgrading project that affected a large part of the historic city (Figure 2). Many traditional uses were brought back, such as commercial areas for the sale of mixed goods (clothing, textiles, gold and jewels), foods (fish, spices, fruit, vegetables,) as well as hotels, restaurants, art galleries, artists' studios, temporary or permanent art exhibitions, calligraphy and photographic studios, and carpet exhibitions. Some



Figure 2. Souq Waqif. Restaurants and shops



Figure 3. Al Wakrah Souq. Public spaces for the new entertainment activities



Figure 4. Mohammed bin Jassim House

innovative uses have recently been introduced in the "souq", for example, new areas for celebrations of historic and contemporary events, music concerts, circus and theatre performances, and sporting events, open-air gardens with sports facilities and water features in the public square.

The adaptive reuse project of Al Wakrah was completed in 2015, under the direction of the Private Engineering Office (PEO) and was financed by the Emir. The intervention was about the urban regeneration of the

historical fabric of Al Wakrah fisherman village, located close to the ancient port, which was abandoned for many years. The area was then transformed into the new Souq of Wakrah, through an urban reuse project that involved the reconstruction of many collapsed buildings, the removal of disfiguring elements and materials, the adaptation of the premises, and the management of new commercial units (Figure 3). In Al Wakrah the strong identity of the place was maintained with the birth of a new citadel where currently are

located new activities and functions, and still the true cultural, and social values are tangible and well preserved.

4.2. Adaptive reuse for architectural interventions:

New cultural places

The increasing interest in safeguarding the architectural heritage of Qatar has also led to numerous restoration projects at the architectural scale in the historic center. The aim was to preserve the existing historic buildings, which were in an extremely deteriorated condition, close to the collapse as a result of the neglect and abandonment during the last decades.

The residential project of Msheireb Downtown Doha (2008-2017) currently nearing completion, is located in t Doha city center and includes the re-use project of the Heritage Houses (2006-2015) [12] completed in 2014. The intervention was carried out under the supervision of the Private Engineering Office PEO and the direction of Msheireb Properties real estate company, a subsidiary of the Qatar Foundation. The Heritage Houses are four historic residential buildings that date from the early 20th century: Bin Jelmoed House (1924), Company House, Radwani House and Mohammed Bin Jassim House (1913) (Figure 4).

Today Mohammed bin Jassim House is a museum of the old Msheireb Quarter history and includes an exhibition about the residential project, currently nearing completion. Bin Jelmoed House is a museum dedicated to the history of slavery in the region, and Company House hosts an audiovisual exhibition of the workers employed in the petroleum extraction industry in Qatar. The national institution of Msheireb Museums has been established with the aim to protect, preserve and

promote knowledge and appreciation of the architectural value of the restored buildings.

The adaptive reuse project of the Barzan Towers was completed in 2015 under the direction of Qatar Museum Authority. The towers are located in the northern area of Umm Salal Mohammed and were built at the turn of the 20th century as a protection for the "rawdat", the natural valley where the precious rainwater was collected in its natural downward flow. The completed restoration works included a structural consolidation of the towers, which had subsided and cracked because of the weight. The mosque and the "Majlis" located within the walled enclosure, were also restored including an external re-ordering with the creation of a pedestrian path (Figure 5). The traditional defensive function of the towers was changed, and they are currently used as a museum to exhibit the defensive systems of the towers.

With the aim of reusing the abandoned and neglected Al Dakhira Mosque, the conservative restoration and structural works were completed in 2015 under the direction of the Private Engineering Office and provided the ruse of the mosque as a new cultural and religious centre. Before the restoration works the ancient Al Dhakhira Mosque, which is well-known because of its position overlooking the seafront in the north-east coast of Al Khor, was showing the types of deterioration that typically occur in very damp saline environments, and which had led to serious problems of capillary rising damp in all of the perimeter walls. The external plasters were restored, particularly the parts at the base of the walls that had been affected by very serious exfoliation and detachment caused by the penetration of rising damp from the subsoil. To improve the usability of the spaces and to protect the interiors, new aluminium doors and windows with large openable glazed areas were fitted, along with new electrical and air conditioning systems. (Figure 6).



Figure 5. The Barzan Towers in Doha



Figure 6. Al Dhakhira Mosque, the new cultural and religious centre

4.3. Archaeological interventions in Al Zubarah

Al Zubarah archaeological site is located on the north coast of Qatar, about 100 km from the city of Doha in the locality of Madinat ash Shamal.

The restoration project and the campaign of archaeological excavations, were completed in 2014 under the direction of the Qatar Museum Authority (QMA) and Qatar Islamic Archaeology and Heritage Project (QIAH) (Figure 7) [13] with the aim of promoting collaboration between the local community and the various investors, ministries, and universities of Qatar. Al Zubarah was an ancient fortified commercial city, which grown in the 11th century AD during the Islamic medieval period, but was destroyed in 1811, and was finally abandoned at the beginning of the 20th century. The Archaeological excavations brought to light the remains of the ancient Al Zubarah city including the streets, the palace, mosques, houses, fishermen's huts, the harbour, and the defensive walls. During the campaign of archaeological excavations, the bases of the buildings were excavated, cleaned, and consolidated, bringing to light the materials used for construction. Because of the proximity of Al Zubarah to the sea, there is a high concentration of salts in the subsoil as well as in the construction materials (the binders, the blocks of stone, and the plaster) which had caused the deterioration of the structures. Al Zubarah is now used as an outdoor urban archaeological museum and has partly been provided with facilities and services for tourists and visitors.



Figure 7. Al Zubarah archaeological excavations in the outdoor museum. (Source: Authors)

5. Results:

The most significant approaches in the field

Analysis of these restoration works to the architectural and urban heritage made it possible to compare the methods used, providing an exhaustive and representative description of current adaptive reuse practice in Qatar.

The approach to restoration taken for each intervention was related to the government authorities responsible for the works. The adaptive reuse projects have often been in isolation, and that no general plan exists for coordinating all works. Analyses and comparisons were

Table 1: Schematic comparison of adaptive reuse projects recently completed in Qatar

Name	Date	Agency	Project	Old use	Adaptive Re use
Souq Waqif	2008	PEO	Urban regeneration	Souq	Commercial - Entertainment
Al Wakrah	2015	PEO	Urban regeneration	Fishermen Village	Commercial - Entertainment
Heritage Houses	2014	PEO	Architectural restoration	Residential Houses	Cultural Museum
Barzan Towers	2015	QMA	Architectural restoration	Defensive structure	Towers Museum
Al Dhakhira Mosque	2015	PEO	Architectural restoration	Mosque	Religious and Cultural Centre
Al Zubarah	2014	QMA	Archaeological conservation	Residential	Outdoor Museum

made in relation to the scale of each adaptive reuse project, the type of work carried out, the upgraded systems, the materials used, and how the interventions had been completed to enable the buildings and the urban fabric to be brought back into use.

The completed works clearly fell into two main categories: the urban and the architectural. The urban category includes urban regeneration and conservation works, which are few in number but on a large scale. The architectural category includes a large number of small buildings with different typologies and functions. It was also found that the same construction methods were fairly frequently used, such as the method of sun-dried bricks and mud mortars, traditionally compressed using a specific pestle for grinding mud; the irregular "danchal" wood poles form door and window lintels; and the traditional boxed wooden "marazim" gargoyles.

The types of restoration work were carried out in relation to the taken approach, which was more or less preservationist depended on the existing state of the building and how badly deteriorated it had become. In some case, the adaptive reuse projects preserved the existing structures only, in particular for the buildings that were to be given a new museum use (the Tower Museum, the Heritage Houses Museum, etc.) (Table 1). The intention was to preserve the existing materials as found, without alteration. In other adaptive reuse, particularly where the deterioration was very advanced, decisive structural consolidation was carried out combining traditional and innovative materials of more recent adoption, such as reinforced concrete, cement mortar, and concrete blocks. In the case of commercial and entertainment reuses, the restoration projects allowed for typological reproduction, for which upgraded services were provided as required by the new uses.

6. Conclusions

In Doha, new emergent *global city*, despite its fast urbanization and modernization, there is a growing need to safeguard the historical heritage.

In fact, the recent phenomenon of globalization, strongly characterized by the standardization of processes, brought to light some important issues related to the values of Qatari local tradition and the respect for architectural identity, which risk disappearing because of the latest massive demolitions.

The research presented some significant restoration projects, recently completed in Qatar showing how these adaptive reuse interventions can provide one valid alternative for the growth of the city, respecting and preserving the existing architectural culture and traditions. Describing and comparing the intervention made it possible to verify that in Qatar today there exist many different methods for the conservation of architectural, urban and archaeological heritage and that these are dictated by the different approaches taken by the governmental bodies responsible for the projects.

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