

An Analytical Approach to Persian Gulf Architecture

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ABSTRACT: Rehabilitating Bushehr historic fabric and paying to it as an important urban fabric through increasing capabilities and facilities is main concern. Bushehr historical fabric can be the consequence of several factors the most important of which is the Persian Gulf and its past history as a national one. This fabric, is organic, dense, compact, having its own characteristics. One of its main priorities is reaction to weather, cultural, and social conditions. Most of the fabrics in our country are either endogenous or exogenous. Bushehr historical fabric proves to be a dualistic architecture, being both endogenous and exogenous; thus, it is unique among the existing fabrics. Past architecture of southern Iran has influenced the culture and architecture of the Persian Gulf countries. It has caused Arabs to progress in different fields including architecture. Historical fabric architecture of Albastakiyeh in Dubai is a prominent example Iranian architecture. Bedouin Arabs are trying to introduce our artist ancestors' experiences, transferred into their lands, into their own culture and art, as Arab architecture. It is our duty to protect, reconstruct, maintain, and develop this great national heritage.

Keywords: *Persian Gulf Architecture, Bushehr , Historical Fabric.*

INTRODUCTION

Since ancient times, the Persian Gulf has been one of the world's most important marine ways in economic and cultural exchanges. Also due to its location between the east and west trading activities, its strategic position, and as a place with one of the world's most important civilizations, it has always been targeted by the powerful colonizing countries.

Culture, customs, and traditions of a region have a great impact on its fabrics and monuments. Historical monuments in different parts of the Persian Gulf suggest that a modern architecture has always been existing in this region, the best example of which is Bushehr historical fabric. Bushehr, having a port fabric in the south of Iran and the center of the Persian Gulf, is very important in the world. This cultural and historical value is related to its stable and naturalistic urban planning and architecture, presenting it as a work of art. Therefore, understanding Bushehr fabric is essential to reinforce its cultural and recreational usages and to maintain the existing identified types. In this paper, first the historical role of the Persian Gulf in creating coastal cities has been investigated. Then, the effective factors in forming Bushehr old fabric and the role of Isfahan School have been explained. The values of the architectural fabric, and its impact on the Persian Gulf countries, especially on Dubai, are dealt with in the other parts of the paper.

MATERIALS AND METHODS

In this paper, quality and history methods have been employed. Quality method is based on analysis; while history method studies social, cultural and artistic phenomena. It attempts to clarify the phenomena, changability, unchangability and the way they affect each other.

The above-mentioned methods have been used to explain Bushehr old fabric:

Effective factors in the formation of Bushehr old fabric;

The role of the Persian Gulf, as a national element, in the formation of the coastal cities;

The influence of Bushehr old fabric on the architecture of Al-Bastakiyeh neighborhood in Dubai

RESULTS AND DISCUSSION

Historical Role of the Persian Gulf in Developing Trade and the Creation of Coastal Cities

The Persian Gulf has always been an important marine way in the world. Historians and archeologists believe that human civilization has emerged around this sea. Its importance in economic and political events owes not just to its natural reservoirs but to its geographical location as well.

During the second and the third millennia BC, the most important coastal villages of the Persian Gulf were located in the northern parts and the entrance strait. Achaemenid policies led to the expansion of urban life on the shores of the Persian Gulf; many coastal villages were formed and a

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considerable population settled near the ports and islands of the Persian Gulf (Vosooghi,2005,42).

The importance of the Persian Gulf and its maritime trade during Qajar era made the Iranian government establish an independent administrative office called “the governorship of the Persian Gulf ports”. This office, founded in the middle of Qajar era, was located in Bushehr. During Qajar era, most of the world’s powerful countries had consulates and agencies in Bushehr. Well-known traders did business there. This southern city was a gateway to exchange ideas and expand cultural relationships (Dashti,2001,113).

According to the studies carried out, it is also important for us to accept that the Persian Gulf, as a national and historical element, has always had a major role in trade and shaping valuable buildings in this area (Fig.1).

Factors Influencing the Formation of Bushehr Architectural Fabric

Understanding any phenomenon depends on our understanding of the historical processes of that phenomenon. One needs to discover the formation and its effective factors and then analyze it over the course of time. What is important in this process is understanding the general and specific conditions that are useful on the evolution of a phenomenon. Studying the texts that have already survived, whether in the national or global scales—and field studies in the country about the formation of residential centers—in general and in the city in particular, clarify several main factors. These factors can be generally categorized in three groups:

Worldview issues or how to view the world: this factor, including religion, style, different social and religious sects, shows its influence in shaping the residential centers and cities.

Economic element with a materialistic definition of the world: Numerous studies, on a global scale, in the present century and previous ones, have emphasized the role of business in the formation of the cities.

Environment or climate factor: this factor includes weather, smooth and rough environments, and, on the whole,



Fig.1: The Persian Gulf and business had an important role in creating these beautiful buildings (source: jabbarnia et al.)

natural elements of the environment. What is important about these factors is their decisive influence on shaping the physical and spatial manifestations of the residential centers and cities. This is the effective factor in the appearance and disappearance of past powerful cities, and it is still decisive (Fig. 2 and 3).

Role of Isfahan School in the Architecture of the Fabric

In Bushehr old fabric, two designing methods, organic and rational, are combined together, and in agreement, harmony, and conformity with each other, they provide a new concept of space designing and planning.

As in Isfahan School, Bushehr old fabric tries to bring into being a principle on which the world is based on: principle of balance and equilibrium and balance of space and physical equilibrium. All elements are employed as an artistic and verbal combination to express this principle. Harmony, repetition, discontinuity, continuity, similarity, getting back to the harmony, returning to contrast and so on, introduction, ascending, descending, etc, are revealed in their most skillful combination and physical expression (Ahari and Habibi, 2001, 11). Avoiding dominant and domineering buildings, the unknown architects of this fabric managed to construct magnificent buildings that are favored by the people and are identified by them and give them identity.

Values of Bushehr Old-Fabric Architecture (Rasaie Kashuk,2005)

- Adherence to climate
- Frame of a unified city
- Correct orientation in order to use the dominant wind
- Use of indigenous materials
- Correct use of terrain

Features of Bushehr Old-Fabric Architecture

The general appearance of Bushehr old fabric reveals a certain consistency and integrity. Despite their differences, various buildings in this area present a beautiful harmonically unified view. Repetition of the same aspects

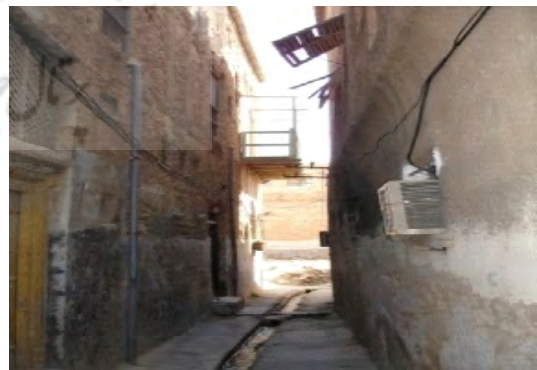


Fig.2: Weather conditions have an important role in shaping residential centers.

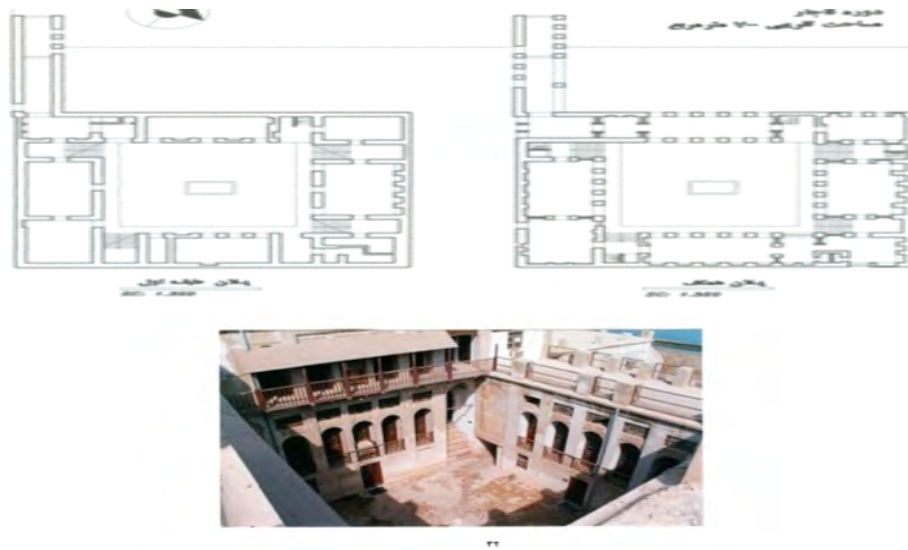


Fig.3: Mehraban's house: climate has an important role in the formation of the fabric.
(source: The School of Architecture and Urban Planning Shahid Behsheshti University, 2001)

of each component, grayish white plaster covering all buildings, doors, windows, shanashir (balconie) , made of beautiful wood cuttings, decorative cast-iron pieces inside them, besides the endless sea, is quite appropriate for this fabric, producing a unique view of the architecture of this region.

Looking at the buildings from the sea reveals their density, their height, and the materials used (The School of Architecture and Urban Planning Shahid Behsheshti University, 2001). Bushehr old fabric is divided into irregular blocks, separated by narrow alleys with a lot of shadow. The orientation of the rooms with windows on both sides,

which can easily trap the wind, contributing, in turn, to the air circulation inside the rooms, caused people to live on the upper floors. Thus, their windows enjoy harmony, while their orientation sometimes seems confusing. However, one can seldom see any windows on the first floor.

Houses are often in two or three floors. In the east part of the old fabric that is higher, most of the houses have two floors, but in the west part which is lower, three-floor buildings have been constructed. Another element seen in the fabric is the parapets on the roofs, which are a combination of wood and metal between stone columns; thus, by making the surface full and empty, the last stage of construction becomes light (Fig.4).



Fig.4: Some parapets in the roofs and shanashir "balconie"

Structure of Bushehr Old Fabric

The skeletal structure of Bushehr old fabric has been shaped over time, when the city was expanding. City spaces and elements have all been created and placed in their proper position. This fabric and the relationship among citizens, like other cities, have been formed based on environmental and weather conditions, production system of the community, involving the effective cultural, artistic, and technical factors. Thus, along with the changes in socio-economical foundations, technical advances, and changing trends in art and evolution of value systems, it has welcomed the unwanted changes.

Alleys and Streets in Bushehr

Having a hot and humid climate, Bushehr old fabric is intensive and continuous; thus, weather conditions have been considered in constructions and city developments. The cool sea breeze makes it necessary for the people to

use it in the best possible way. The empty spaces around the buildings to let the air circulate through the building are effective factors in the division of Bushehr old fabric to the smallest possible units.

The tall buildings have created narrow alleys that are filled with shadow through most of the day. In Bushehr old fabric, one can rarely find a deadlock alley while blocks are surrounded by alleys to have the maximum amount of fresh air.

The relation network has been affected by temperature, humidity, wind direction, natural effects of the land, local materials, ownership and local norms, and socio-economical features. Basically, one can find out four types of relations in Bushehr old fabric (Fig.5).

Spatial Organization of Bushehr Old Fabric

Bushehr old fabric, like other Iranian southern cities, is made up of small blocks of single houses. This helps the air move through the narrow alleys and bring cool breeze to the passersby. The narrow alleys have regular relations with each other in these blocks. Narrow alleys finally end in wider places called small squares. These open spaces can be regarded as the most important element in the organization of city space and fabric (Fig.6).

Spatial Organization

Spatial organization of the houses in Bushehr old fabric is central. The open central spaces in these two places are

for using natural light and ventilating domestic spaces. Inner tall walls surrounding the interior open "courtyard" produce shadow and reduce the severity of summer hot weather.

Due to its interior open courtyard, the architecture of this fabric is endogenous, but, because of different outward opening (window), connecting these buildings to the city spaces, this architecture is dualistic, being both endogenous and exogenous. Due to the ruling culture in these areas, some architectural policies have been considered, regarding people's privacy. The direction of organizing these structures is linear and by means of porches. On the floors, this is done by inner and outer Shanashirs (balconie) and covered verandas.

Organizing Policies and Privacy Rules Policies and privacy rules

In Bushehr old fabric, being both endogenous and exogenous, the of entrance structure to maintain privacy, is- for socio-cultural reasons- weak. The use of shutter mats, sun protectors, shift of plan direction- while allowing wind circulation and preventing direct sunlight- prevent annoying sights, that is, outsiders cannot directly see inside the house. Direct entrance takes place from street (a public place) to the entrance corridor of the building (semi-private space), and then, through a turn, entering the yard and private spaces of the rooms becomes possible. The entrance and waiting spaces are like a corridor, forming the semi-private spaces of the buildings (Fig.8 and 9).



Fig.5: Relation of the houses with the neighborhood centers (source:jabbarnia et al., 2000)



Fig.6: Bushehr old fabric is made up of small blocks of single houses. (source:cultural heritage org., 1986)

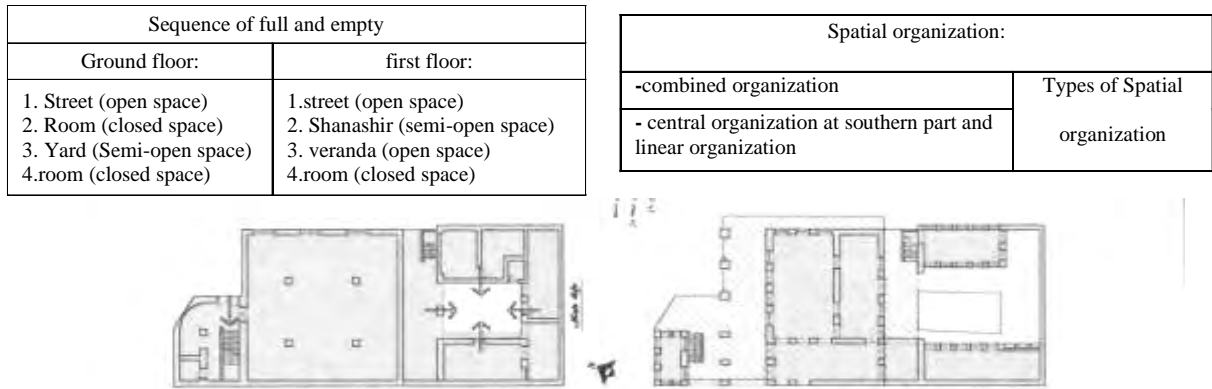


Fig.7: spatial organization at Mehraban house (source: The school of Architecture . And urban Shaid Beheshti university,2001)

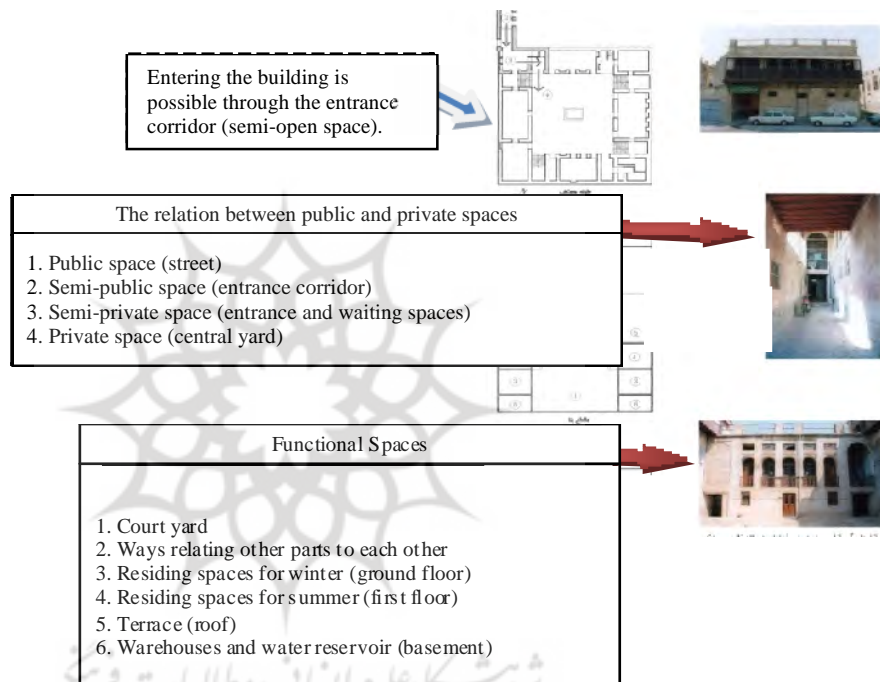


Fig.8: Entering the building (source: the school of Archi. and urban planning Shahid Behesheti University,2001)

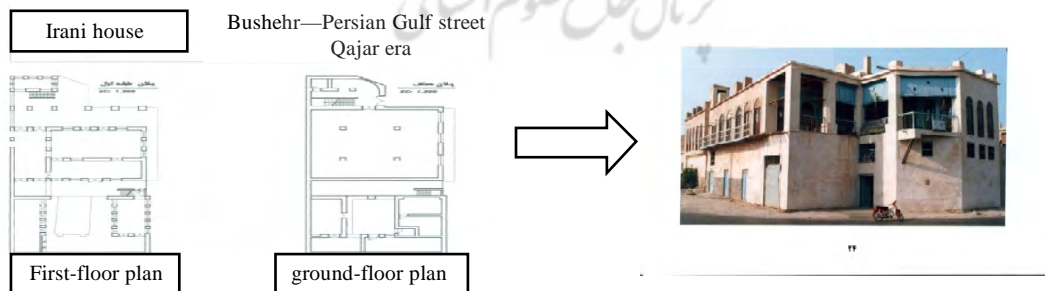


Fig.9: Entrance to the building (source: the school of Archi. and urban planning Shahid Behesheti University,2001)

Windows in the Inner and Outer walls

Most of the buildings in these two fabrics are open from two sides. Due to the humid area in the region, trapping the favorable wind in the building is crucial. Thus, windows in the outer part are inevitable. These windows lead the favorable wind into the inner spaces, and then it goes into the rooms. Ground-floor rooms, in terms of limiting the visibility from outside, have fewer and smaller windows. These rooms have larger windows, facing the yard, though. In multi-floor buildings, the upper-floor rooms have a number of large windows on the sides of the sidewalk and the yard. Shanashirs (balconie) ,verandas (tarmeh) , and spacious porches (iwan), facing the dominant wind, are among some of the semi-open spaces that have been used in the upper floors. They have an effective role in trapping the wind. In the upper floors, windows face each other, making it possible for the air to move fast within the spaces.

Ventilation and Light Trapping

Due to the regional weather conditions and the existence of the sea, wind is an effective factor here and has a vital role in determining the positions of urban elements and housing orientation. As a result, all houses in this region face the dominant wind—"north-west wind blowing in the plains of Tigris and Euphrates, influencing the Persian Gulf coasts". In the houses located in Bushehr old fabric, all the inner spaces are narrow and single-layer, and windows face each other. Thus, ventilation is possible in closed spaces, providing an appropriate condition. The existence of verands (tarmehs) and wide porches (iwan) are very effective in trapping favorable wind and allowing internal ventilation. Yards make the inner spaces bright, and, finally, wooden shutters play an important role in preventing and refining the sever sunlight (Fig.10 and 11).

Bastakiyeh Neighborhood in the United Arab Emirates

Bastakiyeh is the name of an old neighborhood in Dubai. Based on Iran southern architecture, this neighborhood was founded by the Iranian immigrants. The fabric in this neighborhood is like that of Bushehr and Bastak in Iran, having its own coherence and integrity. Despite having various buildings, Bastakiyeh has certain consistency and integrity. Bastakiyeh architecture focuses on the background. This kind of architecture, like Bushehr old fabric architecture, pays attention to the regional weather conditions, providing what people need. It also brings about images attractive to the public. Narrow streets, tall buildings, and high wind towers in this neighborhood reveal the culture and customs of the Iranian immigrants. Bastakiyeh old fabric is built of small blocks with a single opening in them. This helps the fresh air circulate through the narrow alleys and provide a cool breeze for the passersby. The distance between these blocks is the narrow alleys which are in regular relation with each other. The narrow alleys ultimately end in a small square. This open space could be the most important element in organizing the urban space and fabric. This neighborhood is about 60 thousand square meters. Iranian immigrants founded this neighborhood when Arabs were Bedouins. The materials used in Bastakiyeh are coral stones, lime and plaster. Doors and windows are made of teak and other expensive wood materials imported from India and Mombasa. To ventilate the houses, wind towers have been constructed: an important element of Iranian architecture. Narrow alleys separate buildings from each other, and due to their height, these narrow alleys have a lot of shadow (Fig.12).

Bstakiyeh buildings have been plastered. Their general view seems to be simple and ordinary. Because of the climate there, these buildings have different windows. Piers and



Fig.10: Directing the wind in the porches



Fig.11:Large outer windows in the upper part for ventilation

down have an important role in creating beauty and harmony among the fundamental elements of the buildings. Most of the buildings have their own special façade. In front of the entrance doors, there are four pillars made of stone and plaster. Like Bushehr old fabric, buildings in this neighborhood have several windows. In the upper floors, these windows start from the floor. Windows face each other; thus, good ventilation is possible, and this provides an appropriate living condition. Wooden shutters have an important role in preventing direct sunlight into spaces.

Ceilings are built of round timber (chandal), over which there is mat and palm branches. Parapets on the roof are other elements that show themselves off and create a special combination of wood and metal placed among the short columns.

Bastakieh fabric in Dubai, influenced by Iranian immigrants' culture, is in complete accordance with environmental and weather conditions.

Impact of Past Architecture on the Contemporary Architecture of Dubai

Architecture historians and theorists believe that in order to achieve architecture of a good identity, one needs to explore past architecture and culture. A true cultural and social attitude to the past is necessary to answer human needs and to introduce an identity-oriented architecture, which provides a promising future. Being aware of this, from the

1990s, the authorities in the UAE began to provide their cities with an identity. In order to attract tourists, they attempted to repair and reconstruct their old neighborhoods. Signs of Bastakieh architecture founded by the Iranian immigrants, based on southern architecture of Iran, can be seen in Dubai modern architecture, especially in tourist traps in the city (Fig.15).

CONCLUSION

Studying past architecture is in fact discovering one's own cultural and social identity. Understanding past architecture helps us find our identity. A practical view of past architecture helps us understand ourselves, and is a way to get rid of a kind of architecture without any identity. There is no doubt that ignoring this step and view causes a lot of problems. Besides, other countries would target our architectural heritage to register it in their cultural centers; thus, they would enrich their culture.

As historians and artists have mentioned, Iranian architects went to Iraq, Yemen, southern territories and islands in the Persian Gulf, and constructed buildings based on their cultural and artistic learning. Unfortunately, Arab architects and some of their present politicians introduce our artist ancestors' experiences as their own architecture. It's enough to look at the Persian Gulf countries to observe Iranian architecture. Nowadays, Persian Gulf countries, imitating and benefiting from our past humanistic architecture,



Fig.12: Albastakieh neighborhood in Dubai
(source:www.inago711-nero)



Fig.13: Piers and downs
(source: f.a.wikipedia.org/itshikh.5.4)



Fig.14: Dense fabric of Bastakieh neighborhood in Dubai and the wind towers built by the Iranian immigrants
(source: www.bastaki.ae/image)



Fig.15: Reconstruction of old buildings and using it in constructing new ones (source : www.panoramio.com/photo/35251343)

are reconstructing their tourist centers, and try to give an identity to their own cities in this way. So it is our and the authorities' duty to protect our valuable architectural heritage by good planning. To achieve this, the following objectives can be used for organizing and upgrading Bushehr historical and identified old fabric:

- Improving the quality of people's life by urban designing.
- Generating tourism identity and attracting tourists.
- Improving subjective and objective perspectives.
- Regenerating historical identity of the fabric by concentrating on tourism.
- Improving climate comfort quality.
- Improving the quality of urban designing (sustainable development).
- Improving ecological qualities.

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