

Designing Housing Complexes for Low-Income Families Based on the Approach of Restoring Vernacular Architecture in Southern Coastal Shores of Southern in Iran

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Abstract

In addition to the physical location of housing, the conception of housing also includes the overall residential environment which consists of all the facilities and needed services for the well-being of the family, employment schemes, and education and health of the individuals. In fact, the definition of housing changes due to climate, religion, ethnic group, the amount of money that should be allocated to housing costs as well as the historical past of people in relation to housing and demographic trends and the insights. Financing the housing sector is one of the key components of this strategy. This variable is considered as an important economic and social dimension. In social terms, the issue of housing for low-income families and how to finance them is one of the government's main challenges due to the lack of affordability of housing. Reducing the cost of construction, the exploitation, and use of appropriate structures are the housing solutions for people with lower incomes that would reduce administrative costs as well as reducing overall costs. In these complexes there should be an effort to design the set of similar units in order to reduce design costs. The maximum use of infrastructure and even the construction of housing units in the pilot and lack of parking in the building will reduce the cost of construction. To avoid the construction of high blocks due to lack of employment as well as the cost of cleaning and supplying elevators and common areas between 2 and 4 units in order to be controlled by the residents and construction of stairs that are clearly visible and the other solution is to increase the security of joints. Various parameters are effective in the design of housing complex for low-income families and the income of Kish Island. One of the most important things is to create attraction in the design without imposing extra cost which we have tried to provide this attraction with south architectural of Iran.

Keywords: housing complexes, social interactions, vernacular architecture, low-income families, good housing.

Introduction

In the past few decades, apartment settling and collective residence in different cities of Iran, especially in large cities, have become very common. And the development of cities, by increasing the price of land and the specific urban problems there is no way but to live in apartment buildings. Some of the specific urban problems include the weakening of social interaction, neighbors who are rarely familiar with the other ones and are having less social interaction compared to those living in houses. Based on the less social health of the families there is a need for reconstruction of relationships in this regard especially when there is a talk about low income families which makes the situation a bit tougher. The builders have to try to reduce the cost of the construction as well as any future cost for these families. Culture is one of the most important issues in the design of residential houses. The house in which its space division, culture and way of people's life is not respected can't be a proper home for its residents and residents themselves may make some changes in the interior plan of their flat.

It seems that the architecture of Iran's traditional houses was highly affected by the environmental factors, climate, the materials, and cultural and behavioral pattern. That's why there was a specific form of architecture in each of the areas in accordance with the climate conditions and the environmental factors. At the beginning of the current decade the urban development and architecture took a new shape under the influence of overseas factors. Development of cities brought about specific problems which were mostly based on construction with an overseas pattern without little attention to the local and traditional architecture.

One of the social problems in the design of apartments is lack of attention to the needs of people who will reside in these apartment buildings in the future. Attention to the social aspects in the apartment buildings requires the consideration of the impact of settlement and people relationship with their physical, social and economic environment. In a sustainable society, providing houses is essential for all walks of life with different income levels. The residential complex which not only provides the current needs of individuals, but also is a key success in the future in bigger scale of the society. It seems that the desirable quality of life in sustainable society can be identified through consistent plan, living environment and neighbors relations. Thus, taking into account the wishes of indigenous community in the design and construction of settlements is of a high importance, provided that they have sufficient knowledge to understand and recognize this condition. This research is trying to come up with solutions in order to promote design regarding the social health in apartment buildings. This research will firstly take into account theories in order to increase the social health as well as looking for a way to reflect them in architectural designs. Finally some recommendations will be given in order to improve the social health of these communities, especially low-income families.

Research purposes

- To attract users in the residential complex inspired by the vernacular architecture of the region.
- Texture change by constructing residential complexes for low-income families.
- To offer housing model for low-income families for other residential islands in the Persian Gulf.

Hypotheses

1. The construction of a residential complex in accordance with Kish Island local architecture will have an important affects to attract people to settle in this island.
2. The construction of residential complex for low-income families will causes a change in different parts of the island.
3. The construction of residential complex for low income families in Kish Island will be an appropriate model for other islands as well as south coasts of the country.

Research Methodology

This study was conducted based on descriptive analysis which contains the explanation and understanding of the subject. In the first step (theoretical realm of the research) library studies were conducted through collecting research samples and database (residential complexes for low-income families) along with studying the necessary standards for residential complexes as well as studies on the restoration of vernacular architecture approach on southern Iran. As a result the common areas are identified and then qualitative data are categorized through description .finally, after using data and modeling them, we start our design phase and in this phase the theoretical issues of the study will be used respectively.

Housing Definition

The concept of housing also includes the entire and necessary services needed for better life of the families, employment plans, and health and education of individuals. In other words, housing is more than just a shelter and includes all services and the public facilities which are necessary for human life.

Housing can be defined in following 5 modes:

1. shelter 2. Housing and Family 3. The economic concept 4. Participation 5. residential environment (Eini Far, 2003).

"Christian Norberg-Schulz" has divided settlement methods into four groups:

1. Natural Residence 2. Complex Residence 3. General Residence 4. Private residence

Given the willingness of people to social life, communal settlements were formed. Urban spaces are the means through which human beings exchange their thoughts and emotions. That was when the complex residence initiated and it was after which human beings came to an agreement among themselves (Pour Dihimi, 2012).



Figure 1: Residential complex

The inhabitants of housing

Families in Iran are varied and numerous in both terms of quality and quantity. In the other words children above twenty years as well as and older relatives (grandparents, etc.) might be living in the same house. Family is the center of social relations and institutions such as the association, and clubs have not replaced families as the center of the social relations yet. It is worth mentioning that families also play an important role in children's upbringing as well as transferring the customs, tradition, and the beliefs.

Human basic needs are categorized as:

1. Life Needs
2. The economic needs
3. The social needs (Madanipur, 2012, 34)

Housing plays an important role in providing the above mentioned needs.

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What is the optimal housing?

The optimal housing is one of the most important issues about human community. Since the lack of the proper land as well as the expensive houses, people have to get along with the small houses as well as making a proper use of ever tiny space in the house.

Utility of the housing is related to the expectations that any individual or group might have about their homes. Creating desirability of housing for people in different social conditions is among the duties of city planners, architects, and designers. Architects are required to follow the affecting factors in utility of housing for people who possess national culture or the customs and specific expectations for their own. Individuals consider the optimal relations in the family as the best utility for their houses (Madanipur, 2012, 34).



Figure 2: A residential complex in Iran

The residential complex

Statistical Center of Iran defines housing or residential units as place, space or area that one or more families are residing in. In terms of residential density and the number of floors, urban housing is categorized into several categories but in terms of population it is of three categories: single-family, multi-family and residential complex (Chermayeff, 2014, 45)

A house is a type of residential building which includes some rooms, a big dining and living room as well as a back and front yard. This type of housing can be found in an old neighborhood of the city which is of a low density in the area (Eini Far, 2003).

Housing for Low-income families

An affordable housing is among the important and complex issue that is defined in relation to smart growth. It means that all families with any income levels and their own way of life should be able to provide a perfect place for themselves and enjoy living in a fixed location. If the purchasing power of citizens come down or be limited in an urban growth, that growth cannot be considered as smart one. So the core of smart growth thinking is based on citizen's capability to afford houses with any purchasing power. The purchasing power of families in affording the houses is based on the fact that the cost of housing should be in logical relation with people's income. In other words, the housing cost should be to the extent which could make families to spend their extra income to eliminate their basic needs such as food, clothing, transportation, health and education. The criterion is offered for different levels of income, occupation, age, household type and location (Dalal Pour-Mohammadi, 2010).



Figure 3: Housing for Low-income families

Financing the housing sector is considered as one of the key components of this strategy. This variable has an important economic and social dimension. In social terms, low-income families' housing as well as financing them, due to their low purchasing power in housing is one of the government's main challenges. In an economic term, market and mortgage rates and allocated loans to this sector is directly affecting the supply and demand for housing in this section (Eini Far, 2003).

Designing an artificial environment and social health

The quality of the artificial environment can be due to the different levels of social economy or other issues. For example the area with number of houses with broken windows can show the level of public health. On the other hand, adverse changes in the artificial environment can lead to a loss of confidence or social solidarity. However, the absence of the favorable physical and social environment is considered as a threat for the individual and the community. In Table1, some recommendations are provided for the idea of behavioral environment that can be beneficial for social relationships. Social visit - Social meeting - Social gathering (Eini Far, 2003).

The link between architecture and the nature

There is a peaceful coexistence between man, nature and architecture in Iran's local and traditional architecture. Many references in the Koran about the plant, parts of nature and the heavenly allegory of light has made nature to be widely seen in Iranian architecture as well as the spaces to come together in a specific hierarchy as if they are respecting and preserving God's blessings . Social activities, cultural and religious orders have always moved in tune with nature and the human empathy with the environment has led to various natural elements to be present in original architecture.

Architectural features in the hot and humid climate

This climate is located along a narrow coastal strip which is relatively long and more than two thousands meters in length. It starts from the mouth of the Arvand River in the southwestern province of Khuzestan and ends in Goter Gulf in the southeastern of province of Sistan and Baluchistan. These coasts are considered among the hot and humid areas in terms of climate. Summers are always hot and long and winters are only cold in January and February. Humidity is very high in these areas as it is located close to the sea as well as not having no vegetation due to lack of rain except for the palm trees and limited fields.

General characteristics of the buildings form in hot and humid areas

1- Central courtyard and semi-introspective buildings

The buildings in these areas are mostly introspective and rooms are located around a central courtyard. The main difference of these building with similar buildings in the central plateau of Iran is the fact that these buildings are introspective, but their relationship with outer space is not completely closed and there are tall windows and high and wide porch facing the street especially in the second and the third floor of the buildings.



Figure 4: The architecture of hot and humid areas

2- The utmost use of the shade and the climate:

Use of the bilateral natural air conditioning in the room and reducing the heat through opening windows which face the courtyard on one hand and the windows facing the street on the other hand makes the settlers to enjoy the wind which is blowing from the sea and the beach.

3- High room and elongated windows

The height of the room in this area is sometimes four times more than other parts of Iran with different climates. The reason is because of the heat which rises in the interior part of the rooms and thus air temperature in the lower parts of the room reduces. Windows which are below the ceiling on two sides of the room help the hot air to be ventilated.

4-Broad and high porches

Porches in this area of the county are larger than other areas as well as being an important part of the buildings. In the summer which is lasting about half a year, daily activities are often done inside the porch since the ventilation takes place properly as well as being in the shadow. There are often porches around a central courtyard as well as one or both sides of the yards.

5- No basements in areas close to the coast

There are no basements in areas close to the coast due to high groundwater level and very high humidity. Ground floors are also having a service aspect such as a kitchen, food storage, and possibly goods storage. The first and second floors are mostly residential. Another advantage of the upper floors is the air ventilation and more privacy since the upper windows are out of passers-by's sight.

6- Flat arch

The construction of arches is not common in these coastal areas and the majority of the buildings have flat roofs. Most of the people also sleep on roof in summer due to the relative coolness of the air on the roof.

7-Inspired by Arabic and Hindi arches

It should be noted that there are a lot of similarities between the buildings in here and the buildings in Arabic countries and India due to the trade exchange between these countries. For

example, the old buildings of Bushehr and Bandar Lengeh look like buildings in Sana'a, Yemen and wind vents in Bandar Lengeh, Qeshm and Bandar Abbas do quite look like wind vents in southern part of Persian Gulf. As well as the mosque in Chabahar which look like mosque in India and Pakistan. Semicircular arches over openings in these coasts are like arches in Saudi Arabia and India too.

8-The use of materials with low thermal mass and bright colors.

The use of materials in hot and humid areas with low thermal mass which do not store heat is appropriate. The biggest problem in these areas is the heat and storing the heat of the day for night is not a right thing to do. That's why wood is the best construction material in these areas since it transfers heat slowly and the gained heat during the day remains on the wood surface and through relatively cool breeze at night loses its heat (Memarian, 2008, 62)

Local architecture

To every Iranian who has spent years to investigate the local and traditional architecture in different areas in Iran (west, north west, north, north east), it is a big surprise when he gets to see the local architectural characteristics of Persian Gulf Iran especially the southern cities which are outstanding and super beautiful. Long wind vents the large buildings, the gates and multiple windows which are combined with geometric shapes as well as wide and long alleys and small squares are some of the important characteristics of the Local architecture of the region.

The use of wood with its beautiful shapes in the buildings as well as the entrances and the rooms are among the unique characteristics of the regions' architecture. The buildings all include wide corridors of about two meters which on each side of these corridors there is a wide and deep stage which is used during hot seasons. The front door doesn't open to the hall and minor rooms in the corridors are usually connected to other rooms through reticular windows which part of the cool air in hot seasons gets into the minor room through these windows.

The buildings on either residential or commercial areas are built on a platform which is about a meter high in order to prevent the flooding rain into the buildings. In private buildings the main rooms face east as well as the porch which is on all four sides of the central yard. In hot and humid regions the buildings have to be in east and west as well as having rectangle shape due to extreme sunshine.

This form creates cool air as well as reducing the humidity inside the buildings. If building are located in complete shadow, their plans can be free and open. Buildings are usually surrounded by trees and lawn in order to reduce the heat inside the building. The roofs are also flat which easily transfer water into the garden in the yard and the green space around the buildings in the time of the extreme rain. (Memarian, 2008, 83)

Conclusion

In the past few decades apartment buildings and collective living have become common among different cities of Iran, especially in large ones. In urban development by price increases of the lands and specific urban issues there is no way out but to live in these buildings.

And at the end of the above discussed statements we conclude that an appropriate housing includes good living space, comfort, appropriate access, security, stability and durability of the structure, the adequate lighting, ventilation and suitable basic infrastructure such as: water system, health and education, an appropriate environment, the right place and accessibility in terms of work and facilities as well as providing the growth and strengthening the ties between family members (horizontal relationship) and neighborhood relations (vertical relationship).

Considering the climate factors and local architectures of Iran's south coasts in construction of the residential buildings can give life to the protection and spread of this kind of architecture in

this region. Reducing the construction costs as well as eliminating the janitor and guard for the apartment building for low income families can make the residence to take responsibility for the building which finally leads to more social interaction as well as elevating the culture of apartment life.

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