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Regeneration of Isfahan Historical Axes with Emphasis on Design Dimensions (The Case Study of Joibareh Neighbourhood)

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Abstract

Urban design in the old city of Isfahan is also looking to realize the principles governing the foundation of the city, so that the particular mode of its formation as an example for the referral patterns of urban design. The main objective of this study is considered making cherished public places, to achieve this important, after introduction of one of the historical axis of old Isfahan, began to understand the organization of environmental quality and it is analyzed. Finally strategies presented in order to maintaining, creation and strengthen the principles governing the formation of urban spaces in other axes. Selection and/or peer review under responsibility of Prof. Dr. Ayşe Çakır İlhan.

Keywords: Old fabrics of Isfahan city, Patterns of urban design, Environmental qualities dimensions, Urban spaces;

1. Introduction

Isfahan city in the previous periods was livable and dynamic set with various aspects of urban life. Over the time, not only did not lose its value and attractiveness, even with the increasing spread of modern life, but also it has been considered more attractive than before. It certainly is in the shadow of the principles and characteristics that governing the foundation of the city, especially in its historical axes. Therefore importance and value of its old fabrics have been able to attract the attention of many people.

The historical axis of Joibareh is the main core and the oldest existing axes of Isfahan city that seems to be the example of successful development in the past. The main objectives of this study include; making places for people, making better places than would otherwise be produced and finally making cherished public places. In this manner, the first step of study is introducing case study area. Then urban design dimensions are recognized to analysis the axis, finally, the analysis of design values and norms would be considered.

1.1. Introducing the historical axis of Joibareh in Isfahan

Joibareh neighbourhood is located in district 3 of Isfahan which includes broad area of the city center. Historical part of Isfahan that large part of it is located in district 3, including the oldest and most valuable fabrics and

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monuments of Isfahan city which have unique composition specially in Joibraeh neighbourhood. The characteristic of this neighbourhood is very important and valuable, specially because of its position as the main axis of historical structure of Isfahan urban core (Figure 1). This position are recognized in various studies including three comprehensive plans of cities during last four decades (e.g. Nagsh-e Jahan pars, 1992). Joibareh neighbourhood had a compact and integrated fabric before imposing Kamal street on it, as is shown in figure 2. Although, the Kamal street has destructed the integrity of neighbourhood fabric, as is shown in figure 3, but the existence and aliveness of its main axes is relatively remained. Indeed, the existence of a series of land marking elements within this main axis have helped livability of neighbourhood physically and spiritually (Figure, 4).

Complex of centers of neighbourhood internal parts as a whole, including elements such as: 1) Cheheldokhtaran minaret (Figure 5), 2) Mirzabagher bazaar (Figure 6), 3) Sareban minaret (Figure 7), 4) Shahasadollah bazaar (Figure 8), 5) Koohsari caravan-serai (Figure 9), 6) Hajalikhah bazaar (Figure 10), 7) Hajssoleiman bazaar (Figure 11), 8) neighbourhood center of Zandkermani (Figure 12) are so interconnected that the physical and spatial separation is difficult. In fact, an interconnected series of spaces create a whole that each space is a component of it. It seems that the main secret of attraction is hidden in the relationship between spatial and historical appropriateness of components and time through one space to another space (Figure 4).

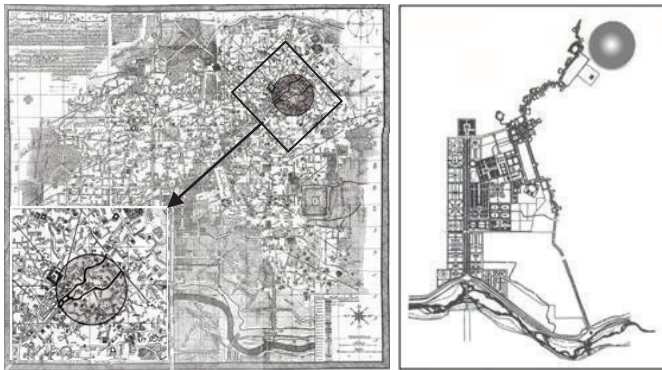


Figure 1. Position of Joibareh neighbourhood in the main structure of Isfahan city



Figure 2. Compact fabric of inner part of neighbourhood and the continuity of neighbourhood's main axis



Figure 3. Current neighbourhood fabric after Kamal street construction and the loss of neighbourhood integrity

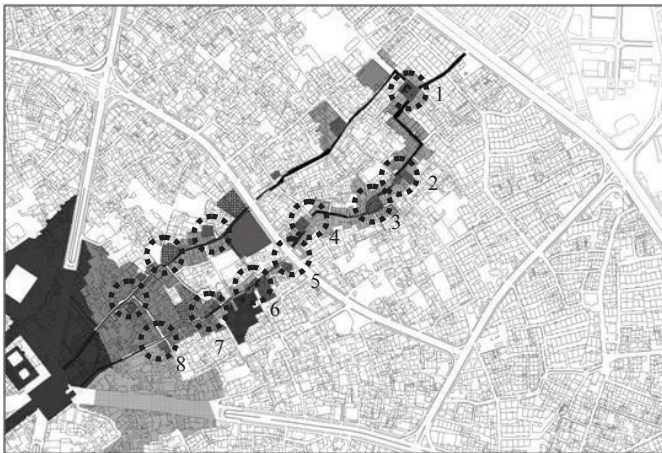


Figure 4. Complex of centers and the main elements within the Joibareh historical

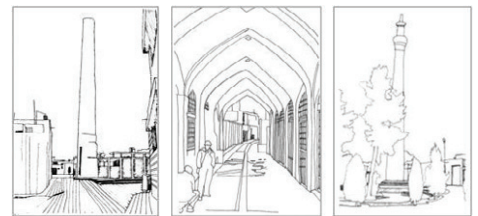


Figure 5.

Figure 6.

Figure 7.



Figure 8.

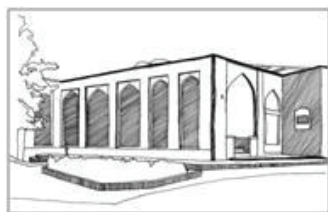


Figure 9.



Figure 10.

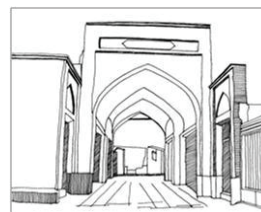


Figure 11.



Figure 12.

2. Theoretical framework

The theoretical framework of this research is based on an integrated design concept composing quality norms and dimensions in urban space/place content. Understanding the meanings of design quality and their introducing dimensions is the main implication of this study.

2.1. *The definition of quality*

Quality is the state of a thing or phenomenon that shows the specific emotional and intellectual impact on humans. Quality can be differentiated from each other phenomena and can be obtained from the form (formal or formal qualities), function (quality of function) or meaning of one thing (quality of meaning) (e.g. Khademi & Rafiei, 2009: 85 and Ablaghi & Poorjafari, 2007).

2.1.1. *Quality in urban spaces*

Quality in urban design is included from physical to activities and their perception of the environment and others. Quality in urban design is very broad concept that emphasizes the positive or negative evaluation. Unmistakable spatial- physical characteristics played an important role in creating environmental quality and are the most important tool for shaping the quality (Pakzad, 2007: 10).

2.2. *Introducing environmental qualities, dimensions/features*

Good and successful urban design is in search to achievement the optimal objectives, principles and norms of environmental qualities. Each of these norms and measurement tools are based on the dimensions and certain environmental factors that are called the environmental dimensions of urban design (Behzadfar, 2007: 80).

'Matthew Carmona et al.' have presented dimensions of urban design that include: 'morphological', 'perceptual', 'social', 'visual', 'functional' and 'temporal'. As urban design is a joined-up activity, this separation is for the purpose of clarity in exposition and analysis only (Carmona et al., 2003: vii). This paper begins with an analysis of the context for urban design in Joibareh axis and because the present analysis is based on past documentation, it isn't possible to review the perceptual dimension.

2.2.1. *The context for urban design*

Each place's unique quality is perhaps its most precious design resource (Carmona et al., 2003: 36). Buchanan argued that 'context' included 'patterns of land use and land value, topography and microclimate, history and symbolic significance and other socio-cultural realities and aspirations (Buchanan, 1988: 33). The examples of norms of context dimension are: character, authenticity, continuity, identity.

2.2.2. *The morphological dimension*

The 'morphological' dimension of urban design is the layout and configuration of urban form and space. Urban morphology is the study of the form and shape of settlements (Carmona et al., 2003: 61). Morphologists showed that settlements could be seen in terms of several key elements, of which Conzen considered land uses, building structures, plot pattern and street pattern to be the most important (Conzen, 1960). The examples of norms of morphological dimension are: physical and visual permeability, visual aesthetic, proportion.

2.2.3. *The social dimension*

Five key aspects of urban design's social dimension is 'the relationship between people and space', 'the interrelated concepts of the 'public realm' and 'public life'', 'the notion of neighbourhoods', 'issues of safety and security', 'the issue of accessibility' (Carmona et al., 2003: 106). Carr et al. identify three forms of access: 1. Visual access (visibility), 2. Symbolic access, 3. Physical access (Carr et al., 1992: 138). The examples of norms of social dimension are: security and safety, identity, social justice.

2.2.4. The visual dimension

One of the important issues in this part is aesthetic preferences. Aesthetic appreciation of the urban environment is primarily visual and kinaesthetic. As our experience of urban environments is a dynamic activity involving movement and time, the kinaesthetic experience of moving through space is an important part of the visual dimension of urban design (Carmona et al., 2003: 134). As Gordon Cullen (1961) conceived the concept of 'serial vision' and argued that the experience is typically one of a series of jerks or revelations, with delight and interest being stimulated by contrasts, by the 'drama of juxtaposition' (Cullen, 1961: 12), only kinaesthetic experience of Joibareh axis has been analyzed. The examples of norms of visual dimension are: aesthetic, visual proportion.

2.2.5. The functional dimension

Functional dimension of urban design involves how places work and how urban designers can make 'better' places. Leon Krier argued that there should only be mixed-use urban quarters, integrating all the daily functions of urban life (dwelling, working, leisure) (Krier, 1990)

The 'social usage' and 'visual' traditions of urban design thought each had a functionalist perspective (Carmona et al., 2003: 165). Because of this dimension of urban design has not been studied in this paper. The examples of norms of functional dimension are: resilience, vitality, security, hierarchy, diversity.

2.2.6. The temporal dimension

In this part, three key aspects of the temporal dimension of urban design are discussed. First, as activities are fluid in space and time, environments are used differently at different time. Second, although environments relentlessly change over time, a high value is often placed on some degree of continuity and stability. Third, urban environments change over time, and urban design projects, policies, etc., are implemented over time (Carmona et al., 2003, 193). With this hypothesis that as time passes, spaces become lived-in places, made more meaningful by their time-thickened qualities, Joibareh axis has been analyzed. The examples of norms of temporal dimension are: identity, sense of place, personalization.

3. Analysis of the historical axis of Joibareh through urban design dimensions

Field study could be done using all design dimensions and norms comprehensively. But, it was very broad for a research paper. Therefore, field study was limited to examine of visual dimension and its qualitative norms. Following analysis, are based on this concept.

3.1. The visual expression of the context

Existence of two minarets and four bazaars with different scale, locally and city-wide, gives the Joibareh axes unique identity. But new development in case study area makes little reference to them and they often have not been connected with their surrounding, and related context (figure 13).



Figure 13. New development in Joibareh axis

Lack of environmental quality references, attractive and human scale development to sustain facilities and animate the axis, can be seen within the axis (figure 14). Lack of appropriate open and green spaces to improve

health and quality of life are other weaknesses of axis. Therefore, existing green spaces will not be able to response the needs of neighbourhood residents (figure 15).

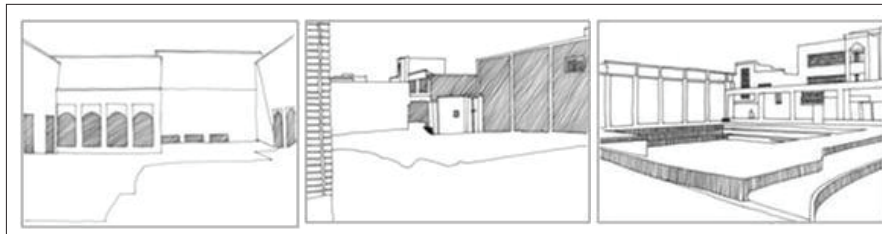


Figure 14. Unused existing open spaces



Figure 15. Unused existing green spaces

3.2. The visual expression of the morphological dimension

The plan shows buildings as constituent elements in a generalized, highly connected mass (urban blocks), which defines 'streets' and 'squares' and a small-scale. Buildings are generally low-rise and of similar height. The street pattern is 'organic', the cells of which are relatively small (figure 16). The total size of the blocks is the same and favorable so the neighbourhood has a good permeability. Blocks often have irregular and non-geometric forms and they are highly compressed and compacted together (figure 17).



Figure 16. The noli map (The combination of mass and space) based on the 1956 aerial photograph



Figure 17. The plot pattern map (blocks) based on the 1956 aerial photograph



Figure 18. The street pattern map based on the 1956 aerial photograph



Figure 19. Existing physical and visual permeability

Most urban grids are deformed. They are often described as 'organic' that generally based on pedestrian movement, and strongly influenced by local topography. Deformed grids may affect potential movement by reducing visual permeability and sight lines do not continue right through the grid from one side to the other but continually strike the surfaces of the building blocks, as one passes along lines, the spaces vary in width so affect visual permeability and thereby, an important influence on movement (figure 18). Smaller blocks also increase visual permeability – the smaller the block, the easier it is to see from one junction to the next, thereby improving people's awareness of the choices available, so Joibareh neighbourhood with small blocks has appropriate physical and visual permeability (figure 19).

3.3. The visual expression of the social dimension

The public realm: an urban block with residential uses in Joibareh neighbourhood has its own privacy that includes: 1. private space, 2. semi-private semi-public space and 3. public space.

The examples of old houses entrance in during the axis show that entrance realm of semi-private space is defined very good in the past (figure 20) but in new developments houses entrance is opened to the public space (figure 21).



Figure 20. The examples of old houses entrances



Figure 21. The example of a new house entrance

3.4. The visual expression of the visual dimension

Kinaesthetic experience in Joibareh axis shows that the urban environment has been designed from the point of view of the moving person. The pedestrian viewpoint is accompanied by the freedom to stop and engage with one's surroundings and environment with enough complexity to keep one occupied. The axis of Joibareh is visually

dynamic, with a strong sense of movement. The continuity of the axis wall and the height-to-width ratio determine the sense of spatial enclosure, while the width determines how the surrounding architecture is seen.

3.5. The visual expression of the temporal dimension

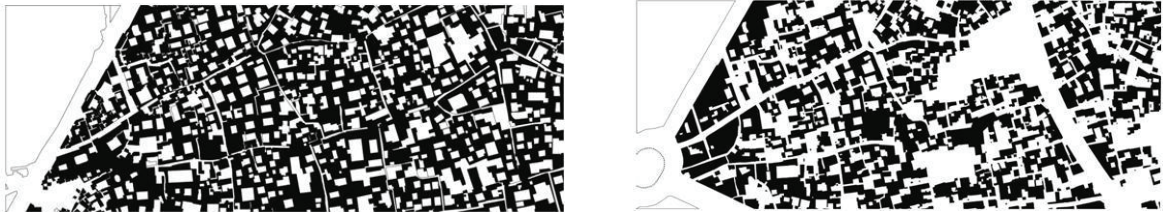


Figure 22. Comparing the compact fabric of inner part of neighbourhood in the past and its changes over the time



Figure 23. Comparing the old and new street patterns

4. Conclusion

To sum up the concluding part, strategies have been presented in order to develop and promote the quality of physical-spatial organization of historical axis in Joibareh neighbourhood, hoping to be used as pattern and design blue print guideline for other historical axes of Isfahan as well as same Iranian cities.

These strategies are summarized as follows:

- Incremental development of valuable historical places in urban core based on respect to contextual elements such as minarets.
- Respecting any normative values and socio-cultural choices which are considered by people, such as sociability, and using their design capability in design process of historical neighbourhood regeneration.
- Environmental design based on robustness and sustainability indicators.
- Preferring small size urban blocks for regeneration developments facilitating visual cues and increasing the choices of people for accessibility and permeability.
- Development of various street networks facilitating pedestrian movement based on slopes and topographic cues.
- Respecting the morphological content of blocks and street networks, specially in neighbourhood scale regeneration process, emphasizing on the disorder of existing historic block and street networks typology. Geometric verity of street width and length can helps residents, not only to enjoy visual effects but also to benefit the security and safety of their local public places.
- Conserving physical elements, such as sabuts, for comfortability, sense of affiliation and human scale.
- Conserving physical elements and spatial hierarchy such as Pirneshin, Hashty and their spatial relation for sense of public comfort and consensus.
- Development and design of mixed use pattern not only for land use plans but also for social relation in public and semi-public places.
- Design with climate as the main strategy for all spatial elements and all types of places specially whit emphasize on having lessons from the existing pattern and concepts of historical fabrics.

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