



## Documentation of changes of natural and human ecological in urban open spaces (Case study: historical sites of Kerman City)

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### Extended Abstract

**Objective:** Urban open space is one of the factors that gives identity to the structure of historical neighborhoods in cities, which in many cases, ignoring their structural and semantic values, has been disrupted the historical fabric as a result of development plans. The historical fabric of Kerman is not an exception. Kerman has a very coherent fabric belongs to Qajar Era. and this coherence has been evident in all architectural elements including buildings and open spaces between them, paths and access routs. Recent evolutions caused by developments - a little later than Tehran- have had a devastating impact on Kerman's central and historical core. Currently, this part of the city, despite all its potential values, has become the most disorganized and inferior part of the city and is plagued by many physical, cultural and social problems. Among those, urban open spaces in neighborhoods neither have been identified and documented so far nor have been protected from widening and demolition process. Hence, the importance of open urban spaces in giving identify to urban fabric structure in many cases has been neglected. Therefore, due to the importance of understanding the historical process to meet the contemporary needs of the city, the aim of present study is to identify and document the trends and causes of human and natural ecological changes in these spaces through a review of written historical documents as well as aerial photographs of the past decades and apply the results to protect and revitalize these spaces.

**Methods:** This study attempts to document and evaluate open spaces of the historical city of Kerman with a descriptive-historical and analytical approach based on historical texts and old photographs. The library and field studies are at the first stage. In library studies, the collection of historical documents and the study of upstream plans were considered. Then the visualization of the open spaces was done based on aerial photos. (Due to current conditions and limitations, old image documents and aerial photos are important and the only source of information available on smaller and more unknown buildings.) Then, with use of AutoCAD software and based on aerial photos from Cartographic Center, their architectural plans were extracted for four consecutive periods and their field status was also monitored in the field study. The last step is to evaluate and analyze the research findings. The output of documentation will be in the form of maps, texts, tables, photographs and graphical informations that will lead to the comparison and analysis of the research findings and assess the evolution of human and natural ecology in these four periods.

**Results:** The dominant function of buildings next to the open spaces in historical neighborhoods is religious function that has always been central to the traditional social fabric in Iran and the hierarchical access to these spaces demonstrates this focus well.

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The dominant geometry of the primary structure of these spaces is regular geometry, formed by organic design. In analyzing the process of spatio-geometric and functional changes of open spaces, the role of multiple factors is clearly observed. It is not correct to mention just a single human or natural factor in this case. However, many reconstructions have occurred following the destruction or damage of natural ecology, but this has not been documented elsewhere, and the role of human factors is usually more pronounced in the analysis and identification of causes of changes. In addition, urban development plans and road widening policies of recent decades have resulted in disruption of compacted neighborhoods and disruption of open urban spaces, and in some cases building indoor spaces have completely eliminated these spaces from urban structure.

**Conclusion:** At the end, considering the speed of demolition and disintegration of historical fabric of Kerman and the gradual elimination of open urban spaces (and undeniable role of human factors), reviewing development policies and defining specialized documentation projects in the historical fabric, seems to be necessary in order to connect the valuable past to the dynamic future with identity. In this regard some suggestions as follows can be proposed:

- Allocating part of the budget of relevant public and private organizations to comprehensive recognition projects and urban restoration projects in historic neighborhoods.
- Defining specialized documentation projects in the historical fabric.
- Designing in accordance with the authentic identity of urban open spaces and a specialized look at this category in tourism projects and cultural tourist attractions.
- Considering the potential hazards, present in historical fabrics, both human and natural (especially the high level of groundwater in Kerman).

**Keywords:** Urban Open Space, Kerman City, Historical Site, Documentation, Natural and Human Ecology.

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