

## ORIGINAL RESEARCH PAPER

# Urban Form Resilience in Physical-Social Regeneration Approach

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**ABSTRACT:** The concept of urban resilience, considering the extent of these changes, seeks to predict the damage, as easily as to stabilize a system that is particularly important when discussing a valuable historical fabric. Urban form as comprehensive idea, composed of all visible elements of the urban center, whether natural or artifact, and the spatial crystallization and form of the activities of the urban community, which is exemplified by its three dimensional nature, in addition to the surface, in bulk. This composition includes human artifacts, buildings, road networks, open spaces and urban facilities, and natural elements such as topographical complications, currents and vegetation, and the study of its resilience can be a shortcut to measure the stability of the system on an intermediate scale. The aim of this study is to explain the structure and optimal model of the resilience in the urban form of the worn-out neighborhood forces. In explaining the urban regeneration approach. Finally, with the formulation, explanation and emphasis on the fundamental concepts of sustainability, which is one of the most respected developers in developing countries, our country can, given the ancient history of historical cities in most of the metropolis of the country, and changing the nature of the type of intervention in Development of tourism as well as optimization of tissue efficiency and these issues are considered as a principle in most urban design projects. To suggest researchers in the future research, we can examine the more accurate relationship and the quality of the relationship between burnout and inefficiency in neighborhoods, which expresses and analyzes the type of this intersection as a systemic relationship.

**Keywords:** Urban resilience, urban form resilience, sustainability, systemic relationship

## INTRODUCTION

The old textures of the cities of the country have enjoyed a certain dynamics and structure with the structure and function of their inhabitants, but today, due to neglect, worn-out texture in Iran has become one of the most important urban problems. One of the main reasons for this is the lack of attention to the issue of identity and its physical dimensions in these textures. On the other hand, today, with the rapid growth of urbanization and the lack of space in most areas, the use and exploitation of all the potential facilities of the city, such as worn

out texture, is felt more than ever. Urban identity enhancement is one of the main strategies for achieving the goal of living in fragile tissues. According to officials from the Department of Housing and Urban Development, there are about 50,000 hectares of urban wastewater in more than 100 cities in Iran. The government alone can provide about 11.2 percent of the credit for the renovation of these worn-out tissues, and the rest should be provided through citizen participation. One of the main goals of the government is to provide housing for the renovation of urban wastewaters. This is important when it seems quite serious that in the main cities of

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Iran, sometimes it has reached 40% of the burnout. The major part of the problems of corroded tissues is the lack of quality and quantity of housing. Several historical, cultural, and economic factors have led to a sharp decline in the quantitative and qualitative status of housing in these tissues. This is despite the fact that housing today is regarded as something beyond shelter and includes all the services and facilities necessary for human well-being and should be provided with a fairly long and secure right for the user (Knapp, 1982)

Historical textures in cities as forming nuclei and dating civilizations Communities in the residential neighborhood are among the most important interfering concerns, as a living spirit that speaks of events and events that are based on history. Multiple generations that have, over time, contributed to the survival of cities. Resilience in the macro concept itself offers a set of concepts in the intellectual paradigm, which are more likely to try and anticipate the principles and strategies to minimize these changes. The early detection of these changes and their effects on the city, and design and planning based on this diagnosis, can greatly enhance the city's resilience to change (Desouza & Flanery, 2013). Definition on the one hand is a system that should be resilient, and on the other hand, the kind of crisis that the system must resist against and, accordingly, has the dimensions of physical, social, institutional, livelihood, space, etc. (Lu & Stesad, 2013). In fact, the degree of disturbance that a system can absorb remains in the same situation remains, or the degree to which the system's ability to self-organize and the ability of the system to create and increase learning and compliance capacity are explained. (Carpenter, 2001). So, the historical context, in practice, in the sense of a system requires the explanation of the particular hazards of exhaustion. The concept of urban form in the morphological view of the constituent tissues of these urban nuclei can be used to analyze the best resonance effect and explain the multiple dimensions of resonance in the functional dimension, which is to extract the model of this type of approach to the subject of historical texture It requires a deep understanding of the mechanism and our relationship between the dimensions of this dimension. So that dimensions such as social and economic, in the traditional way, in relation to residential neighborhoods with institutional and physical dimensions, should be considered as spatial and functional com-

munication. (Adger, 2000)

### **Urban fabric and dissertation**

Urban fabric is the aggregation and interconnectedness of spaces and urban elements that have been subjected to compact or discrete, specially replaced by natural and especially topographic features in urban areas, such as blocks and neighborhoods. In fact, urban texture is a product of urban morphology and is a combination of mass and space as well as human activities as a function (UNEP, 2014). The city's texture is divided into legal, national and international works, legal texts and illegal textures. Urban texture can be categorized geographically and temporally in six types: historical texture, middle tissue, new texture, peripheral tissue, and cellular tissue. Urban texture in terms of their functional quality can also be categorized according to the weakness or lack of some qualities in the body or their function under different titles. Urban texture consists of two parts of the body (form) and function (role). Sections of urban texture whose physical, functional or both, have been reduced and damaged, are called wear-edges. In this sense, the dissertation is two types of physical and functional. When the body is damaged, but the activities and applications are needed or in case of a photo, it is accompanied by a relative burnout, and if both types of burnout occur, we will be completely exhausted. The extinction of the physical parts of the city from the main form and the move towards the functional destruction of the city is a burnout and a process in which the body and activity, and in the aggregate of urban space, undergo a kind of transformation, disorganization, imbalance, disparity, indifference, and ultimately, a factor in the elimination of collective memories and the decline of urban life, is called urban exhaustion. In order to identify and determine the urban exhausted texture, three main criteria: instability (blocks with more than 50% of the buildings being unstable and worn), impenetrability (blocks with more than 50% of passages less than 6 meters) and fine grained (blocks that More than 50% of its buildings are less than 200 square meters. (Arab Ahmadi, 2007). According to the definition of the High Council for Urbanism and Architecture, it refers to areas of the legal area of the city which, due to physical and physical exhaustion, lack of access to seafarers, facilities, services and urban infrastructure, are vulnerable to spatial, environmental and economic costs. (High Council for Urban De-

velopment and Architecture of Iran, 2004).

### **Principles of Urban fabric**

The High Council for Urbanism and Architecture of Iran has characterized the characteristics of urban wear in six dimensions; buildings age (mainly with old buildings, lacking technical standards, and lack of resistance to earthquake with moderate intensity), aggregation and number of floors (parts with an area less than 200 m<sup>2</sup>, max. One to two floors), type of materials (mainly clay and bricks on brick and iron, regardless of horizontal, vertical and non-standard fittings), access status (mainly office buildings with a width less than 6 M and permeability coefficient less than 30%), urban infrastructure services (lack of infrastructure and infrastructure The public green open wounds (quality indicators) (population permeability of tissues, faults and channels of rivers, rivers, valleys, and rural villages in the city, etc.) (quoted from Meshkini's time Kazemian and Ali Abadi 2011 and Azizi 2010) . The passage of time and lack of maintenance due to the lack of investment required to maintain worn-out tissues has led to exposing these tissues to specific characteristics, such as lack of access to tissue. Lack of adequate infrastructure for environmental problems and high pollution. Lack of leisure-time facilities for poverty and Vulnerable deprivation against earthquake Low song services High population density High population density Dwelling of insecurity and social dilemma. Burnout is not unique to the body, but represents the existence of conditions that threaten life in various dimensions. These include high crime rates, social problems, the existence of economic poverty, the lack of adequate physical infrastructure and vulnerability to earthquakes, the impossibility of proper relief in times of crisis, and many other things (Andalib, 2006), on the basis of exhaustion We examine the economic, social, physical and environmental dimensions (Gunters, 2010). The three areas are: the historical urban center of the city (with urban heritage), the middle-aged tissue of the city (without urban heritage) and the marginal texture of the city (informal settlements) (the Supreme Council of Urban Planning and Architecture of Iran, 2004). Taking into account the previous definitions and categories that examine the various aspects of urban wastewater, we are confronted with categories about the types of worn out texture.

### **Historical exhausted fabric**

Based on the definitions presented, the first and main type of tissue in the city is the historical context of the city, which in the vast majority of cities includes the central core of the city's formation and is divided into areas classified by the Supreme Council for Urbanism and Architecture For urban exhausted tissues, the earliest is the historically worn texture of the city center, which has a historical background and value. Therefore, since the historical context of the city, not as a symbolic phenomenon, but as a means to understand the course of the evolution and evolution of the urbanization and urbanization of each city, preserving urban identity and authenticity and explaining urban life based on objective and scientific evidence, has always been considered. have been. The architecture of monuments includes memories, thoughts and works of many generations in the past that play an important role in the creation of urban identity. These erosive and historic textures are on the verge of destruction despite the fact that they cover a large part of Iran's cities and use countless elements of identity. Improvement and modernization of urban historical textures has always been the goal of protecting historical cities and cultural buildings, but also responding to the needs of the city, and has brought about the repair of the downturns of the past and the damage to the building and the new function, adapted to the needs of the life of the day. Texture defects, lack of optimal access to public services, lack of open spaces, waste disposal problems, inadequate urban landscape design, environmental problems, buildings vulnerability to natural disasters such as earthquakes, inappropriate communication networks, improper use of materials Making parts is one of the most important problems in this category of tissues.

### **Urban form**

The shape of the city is defined as the pattern of the spatial distribution of human activity at a certain point in time. The city form is formed from all visible elements of the city, whether natural or artifact, and the spatial crystallization and form of the activities of the urban community, which is represented by its three dimensional nature, in addition to the surface, in volume. This combination includes human artifacts, buildings, road networks, open spaces, and urban facilities and natural elements such as topographical complications, currents and

vegetation, each of which forms a city cell with its own special form, has led to the emergence of the form of the city. In a general view, urban form is a combination of characters that are related to land use patterns, urban transport systems, and urban design (Handy, 1996). In Lynch's view, urban form is a widespread, static and stable spatial pattern of physical elements in the city and the result of a more or less repetitive population density of urban elements (Lynch, 1981). Therefore, it can be concluded that the urban form is the result of the convergence of many of the concepts and elements of the city. The International Urban Municipal Seminar (ISUF), with morphological analysis, describes three principles regarding the city's form (Moudon 1997): 1. Urban form, consisting of three basic physical elements: the building and its free space, and Streets. 2. Urban form in scale, building / piece, street / block, city and region can be explored. 3. Because the elements of the city's form are undergoing change over time, the city's form is only historically understandable (LSE-Cities, 2011).

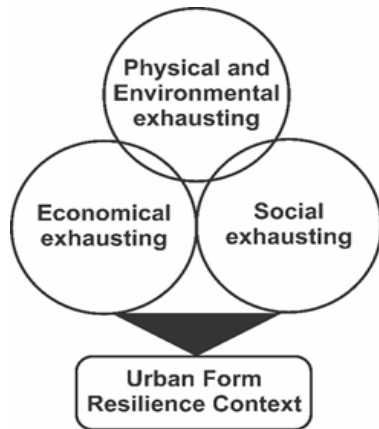
The growth of each city is a dual process of external expansion and physical growth or internal growth and reorganization. Each of these two methods can be used differently from each other. External expansion of barrels increases the city's scope, or so-called horizontal expansion, appears, and internal growth is reflected in the internalization of urban populations and the form of urban growth. Thus, with two major changes in the form of cities, the internal form of it (vertical development) shows itself as a high order and increasing density, and the change of the other form (horizontal development) has appeared as urban dispersion. First compression was carried out in order to exploit the land of the city center, but had negative consequences such as environmental pollution and the decline of the quality of life in urban centers and dispersed over the same urban dispersion, low density, distributed and urban development without land use planning (Bruegmani, 2005), and new developments in separate and distinct parts of other areas (Ottenmann, 1997). Since urban forms cannot be sufficiently limited to the two types, we consider the type of urban form in terms of the researchers. According to Persman and Minari, the spread of the city is as follows: a scattered city, a densely populated city, a marginal city, a city of corridor, and an edifice, and in most parts all urban forms, with the excep-

tion of a scattered city, are the widespread efforts of knowing the centralization of Urban development has taken place in specific parts of the city (Katie & Burton, 1996). In the literature of the development of the city of Mysore, another categorization of a variety of urban forms can be found as follows: a diffused form or pattern of distribution, a new traditionalist development, a city of limited or urban containment, a city boom, a compact city.. In the current research, in addition to the forms mentioned above, we consider the resilient city form and the sustainable urban form.

### **Resilient urban form in exhausted fabric**

Resilient city forms are defined in terms of density, in both static and normative settings, including the diversity of building typology based on strong and consistent infrastructure, multi-purpose adaptation or flexible open spaces (Jenks et al., 1996) (Bramely et al., 2006) (Williams et al., 2000). These cases differ in their properties as conditions that are favorable for resilience and are usually defined in terms of climate and environmental changes. In this context, density is the most influential factor in resilience, and its positive form is less energy consumption and less greenhouse gas emissions, less need for trips that lead to contamination, reduce pressure on green areas and make optimal use of Efficient technology contributes to a dense urban form (Jones & et al., 2009), and can resist the predicted effects of climate change in the city and the natural environment. Additionally, increased residential density, usually in the context of increasing public transport, safety, services and employment, can contribute in many ways to social, economic and environmental resilience. The desire to reduce the definitions of a resilient city form associated with a strong conceptual relationship between the urban paradigm of sustainable urban development and city urban planning perceptions. For example, Borton (2000) refers to the potential hidden costs of environmental sustainability from a dense urban form that involves squeezing public and private space and inflating land values (Dempsey et al., 2010). It should be noted that while density may seem like a basis for space, the measurement of the number of inhabitants in the specified region is evaluated mentally and a social interpretation is dependent on individual characteristics. Jones and McDonald (2004) argue that if change is taken in more diverse condi-

tions than climate and environment, for example, social, political, and economic change - and then a number of other aspects of urban form, including type of building, street plan, open spaces configuration, land distribution and transport infrastructure, property value may be important for resilience to change. Accordingly, definitions and interpretations can be considered as a focus on the principle of urban form, with physical, social, economic and urban environmental resonance. Thus, according to Burton (2000), McDonald's and Jones (2004) and Smith (2016), as well as internal interpretations of the concept of exhaustion, it is possible to express the theoretical framework according to the following dimensions in the reshaping of an urban form in a worn-out historical context. Mainly in the sustainable development approach, three social, economic, and environmental dimensions can be considered. Considering the subculture of the concept of resilience and completing this approach in the field of urban form, four main dimensions of economic, social, environmental and physical cited. These concepts focus on the physical and social aspects when they are filtered out of burnout indicators, taking into account general principles, which ultimately can be seen in the mechanism of these relationships as shown below. (figure 1)



**Fig1:** Dimensions of the urban form in distressed urban fabric

Therefore, based on the concepts mentioned in order to achieve an appropriate method for assessing the resilience of the urban form in the worn out texture and emphasizing the historical value including the existence of the building, a conceptual model can be presented that is more explored by examin-

ing the resilience approach in urban form, physical dimensions In criteria such as density and structure of morphology, social, in the criteria of social credit and the to work, urban environment, vitality and transportation, and ultimately economic, with the criterion of ownership and degree of use of land, and the diversity of residence and property value are explained and The concept of the urban form after the intersection with burnout practically has the greatest impact from two physical dimensions And socially acceptable. It should be noted that the historical concept is either in the worsening of the burnout, or in a non-existent one, the only concept that gives the most attention to the history of the building and the type of spatial organization of its value, and only one emphasis on the type of evaluation and variables of the model. Is. (figure 2)



**Fig 2:** Conceptual Model of Research Evaluation of the Gradualization of the Urban Form of the Neighborhood in the Historical Context

### Conclusion

The present research is concerned with the resiliency of the urban form of the worn out texture, especially in historical textures, more in an effort to assess the extent of resiliency, which, according to indicators and metrics, is required to examine the theoretical foundations of incidence and intervention resources in the type of approach as well as the model A concept in the historical centers of Tehran, located in the 12th district of Tehran, proposed and calculated the analytical structure. According to the definition of the distance method from the optimal target level of the research, the calculation of the level of urban form of the optimal level by examining the resilience of the sample sites in the experiences of the urban form in Europe, by dividing the optimal level of the status of each indicator, is at the optimal specified limit It has been suggested that

successful European experiences can be exploited in extracting the strategies of local plans and programs. The results of the findings indicate that it is important that, in general, the urbanization of the urban area in the neighborhoods has an inappropriate distance from the optimum level and in general is not practically resilient, in general, given the specificity of the phenomenon of the historical core, which is necessarily in Iran. With regard to the history of various interventions throughout history, it is possible to conclude that the optimum level and the distance to the cases are exceptional. In parallel, the issue of exhaustion and the concept of resilience due to the overlap of the indexes that are most often in a structure and can prove the impact of each other, and the result is convergence of scale and have a cross-section in the macro and intermediate dimensions. Finally, in order to increase the level of the urban form of the neighborhoods, which is somewhat enduring, especially in the urban historical context, by increasing the amount of recognition and general analysis of all historical sites in the calculation of the amount of resilience, it is proposed and applied in practice. The results of the action. Determining the structure of relevant and specific cognition and analysis based on the basics of resilience and matching the erosion identifiers in the form of the applied model as well as the optimization of the application of the sustainability approach in a hierarchical manner for relevant organizations as well as consultants as well as redefining and publishing. It was endorsed by the High Council of Architecture and Urbanism in approving the concept and concept of resilience in system stability with the goal of integrating the findings on the one hand; and also the documentary social dimension optimization in the form of annual reports and the formation of the work of its analytical group in the localities can be found in Large dimensions observe resilient goals while improving the wear and tear. In practical terms, the preparation of plans, focusing on the analysis of the urban form of urban regeneration as urban redevelopment projects, and not just traditional approaches to rehabilitation, renovation, and rehabilitation, and the conservation of urban valuable tissues by eligible organs, can be understood as the concept of resilience in the form of a city where the predominant burnout has occurred in the tissue to some extent. Finally, with the formulation, explanation and em-

phasis on the fundamental concepts of sustainability, which is one of the most respected developments in developed countries, our country can, given the ancient history of historical cities in most of the metropolises of the country, and changing the nature of the type of intervention in Development of tourism as well as optimization of tissue efficiency and these issues are considered as a principle in most urban design projects. To suggest researchers and researchers in the future research, we can examine the more accurate relationship and the quality of the relationship between burnout and inefficiency in neighborhoods, which expresses and analyzes the type of this intersection as a systemic relationship.

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