Urban neighborhood regeneration model with emphasis on improving the quality of livability (Case study: Sirous neighborhood, District 12, Tehran Municipality)

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Abstract
Unbalanced urban development has led to physical, economic, social, environmental, managerial imbalances, and the failure of the regeneration model in urban neighborhoods. One of the negative consequences of such a process is tissue fatigue, which leads to a decrease in bioavailability. The research objective is to study the significance of the Sirous neighborhood regeneration pattern in District 12 of Tehran Municipality, with a focus on improving livability. Research is both applied in terms of purpose and qualitative-quantitative in terms of method. A statistical community is formed by 50 experts. The sampling method is non-probabilistic and snowball-type. Research information was collected through a library method. The data collection tool uses closed-ended questions. The Delphi panel model was used for data analysis. The results indicate that the physical criteria status in 4 housing and wear indicators, transport network, access and transport, environmental criteria status in 2 pollution and climate and green spaces, social and cultural criteria status in 3 participation, interaction and communication with people, identity and sense of belonging to the place, economic criteria status in 3 budget and investment, facilities and infrastructure and activity and employment, and management criteria status in 3 integration, design and plan, and undesirable regulations are poor. It can be concluded that the redevelopment plans prepared for the revitalization of degraded areas have not been implemented with an integrated approach considering all physical, environmental, economic, social, and managerial dimensions. As a result, the livability level of the residents of the Sirous neighborhood has decreased.
Keywords: Regeneration, model, livability, upgrading, Sirous neighborhood

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1.Introduction

Technological advancements and the transformations resulting from the Industrial Revolution have led to a significant increase in urban populations. This population growth has often exceeded the physical capacity and tolerance of cities, with a large proportion of residents settling in central urban areas. As a result, imbalances have emerged in physical, economic, social, and environmental dimensions. Uneven urban development has had considerable impacts on historical and old urban fabrics as well as cultural heritage. The majority of the population often consisting of migrants settled in the historical cores and central areas of cities, leading to physical changes, deterioration, and the gradual destruction of central urban fabrics. Over time, and due to the lack of effective regeneration and renewal programs, deteriorated urban fabrics emerged. Technological developments have played a significant role in accelerating this process. Although these deteriorated areas once met residents' needs, today they are no longer capable of doing so, either structurally or functionally (Pourahmad, 2010:74). Deteriorated urban fabrics contribute to a decline in livability and quality of life across physical, environmental, social, economic, and managerial dimensions. Livability refers to the enhancement of quality of life and the realization of sustainable urban planning. A livable city is characterized by a desirable natural environment free from pollution, a resilient physical structure, social harmony, and sustainable social and economic participation (Aref Hosseini, 2019: 137).

On the other hand, declining livability and the expansion of deteriorated urban fabrics and their impacts on residents' quality of life have drawn increasing attention to the concepts of livability and urban regeneration in urban planning discourse. Consequently, the regeneration of old, historical, and deteriorated urban fabrics has become a key concern in urban management practices. Over recent decades, various approaches to organizing and revitalizing deteriorated urban areas have been adopted. The reconstruction approach emerged in the 1950s, aiming to rebuild old urban areas based on approved urban master plans. This approach focused on regional-scale interventions, with national and local governments acting as the main stakeholders. In the 1960s, the revitalization approach gained prominence, emphasizing not only the continuation of reconstruction goals of the 1950s but also the development of urban peripheries. The spatial focus remained regional, and public sector institutions were considered the primary stakeholders. During the 1970s, the urban renewal approach became dominant, with an emphasis on implementing development programs at the neighborhood scale and encouraging private-sector participation. In the 1980s, the urban redevelopment approach focused on major projects within and around cities, highlighting neighborhood-scale interventions and involving private sector actors and civil institutions as key stakeholders. Since the 1990s, the urban regeneration approach has gained increasing attention, aiming to implement urban development programs in an integrated manner. This approach emphasizes neighborhood-scale interventions, the revision of strategies, and the formulation of new urban visions, with local communities identified as essential stakeholders (Izadi, 2014: 11). The primary objective of this research is to examine the significance of the urban regeneration model in the Sirous neighborhood, located in District 12 of Tehran Municipality, with an emphasis on improving livability.

The evolution of approaches to organizing deteriorated urban fabrics from the 1950s to the 1990s is clearly observable in the central areas of Tehran. In District 12 of Tehran, the inability to meet residents' needs within the historical core led to population outmigration to other parts of the city. This shift resulted in negative population growth rates in the district and in the Sirous neighborhood in particular. In addition, the decline in residential land use and the expansion of

commercial and workshop activities contributed to reduced levels of safety. Sirous neighborhood, as the central area of District 12, is predominantly characterized by commercial land uses with supra-regional functions, while service, green, and recreational land uses have received limited attention. Furthermore, due to the low durability and instability of building materials, along with the absence of effective regeneration initiatives, the share of deteriorated urban fabric in the neighborhood remains high. These conditions have accelerated the outmigration of local residents and the replacement of long-term families with single individuals. Many newcomers to the neighborhood, in some cases affected by social disorders such as addiction, have contributed to declining security, increasing crime rates, and the emergence of various social challenges. These factors have directly impacted the livability and quality of life in the Sirous neighborhood. Consequently, most developers and investors prefer to transfer their investments away from Tehran's central areas. According to this study, these conditions are the result of criteria and processes shaped by Tehran's metropolitan policies and the environmental, physical, economic, social, and managerial frameworks governing District 12. Due to its distinctive cultural and economic characteristics, the Sirous neighborhood was selected as the spatial focus of the present research (Dezhban, 2024:12).

Sirous neighborhood, as one of the neighborhoods of District 12 of Tehran Municipality, has a higher cultural and economic characteristic than other neighborhoods in the region and therefore it has been selected as a spatial domain in the present study. Sirous neighborhood is parallel to Rey Street on the eastern axis. On the western axis, it reaches Mostafa Khomeini Street, on the northern axis, it reaches the bazaar and Panzdah Khordad Street, and on the southern axis, it reaches Mohammadieh Square. The highest share of buildings with historical-cultural characteristics is located in this neighborhood. It is necessary to pay attention to this point that most of the textures in the aforementioned neighborhood, whether historical or residential, are old and worn out. Given the existence of important urban indicators in the neighborhood, numerous problems are observed in terms of physical, environmental, socio-cultural, economic, and management. As a result, the level of livability, living conditions, and the realization of the regeneration pattern in this neighborhood are low. Considering the various issues and problems that exist in the Sirous neighborhood in Region 12 of Tehran Municipality (Sirous Neighborhood Development Document, 2016: 7).

With the continuation of the mentioned issues in Sirous neighborhood, the historical and economic significance of the neighborhood as a central part of Tehran City fades, and on the other hand, due to the presence of dilapidated structures, the indigenous population in the neighborhood decreases, and the level of social interactions and security reaches its lowest point, leading to a crisis in the neighborhood's sustainability. The central issue of the research is: What factors have caused the Sirous neighborhood in District 12 of Tehran Municipality, which has historical, cultural, and economic characteristics, to experience a decrease in livability, and why has the regeneration pattern not been realized in this neighborhood?

2. Theoretical and Practical Background of the Research

2-1. Theoretical Background

Urban regeneration is an integrated approach that addresses problems, opportunities, strategies, and actions across physical, environmental, social, and economic domains. According to Roberts, urban regeneration is a comprehensive and integrated process consisting of a set of interrelated actions aimed at resolving urban problems and achieving sustainable improvements in the economic, social, physical, and environmental conditions of a defined area (Roberts, 2000:17).

Documentary reviews indicate that although the term Urban Regeneration was initially used as a

near-equivalent to urban renewal and did not carry a distinct meaning, it gradually acquired a positive connotation in contrast to the negative consequences of conventional urban renewal practices.

Alongside the evolution of conservation policies and planning approaches, renewal and improvement programs have become increasingly flexible and comprehensive over time. Urban regeneration represents an evolutionary policy approach that extends beyond the goals, ideals, and achievements of large-scale physical reconstruction programs of the 1950s, revitalization and improvement initiatives of the 1970s, and redevelopment strategies of the 1980s, which were largely focused on land development and commercial centers. While regeneration programs in the 1980s were primarily based on land and real estate development within a centralized and physical planning framework often targeting abandoned industrial and port areas this approach gradually evolved into a holistic perspective. This comprehensive view emphasizes not only the enhancement of physical environments but also transformations in economic, social, and cultural structures (Hadavi, 2017:197).

According to John Blewith, urban regeneration has produced significant impacts by incorporating multiple interrelated components through an anchor-based approach. Parikneson emphasizes the necessity of adopting broader perspectives and developing comprehensive planning packages to secure resources, education, capacity building, investment development, and social requirements (Kamanrudi, 2022:12).

Since the late 1990s, urban policies in developed countries particularly in Europe and North America have increasingly focused on urban regeneration through the qualitative enhancement of urban spaces and fabrics. Key policy documents in this field include France's national planning framework (2000), Germany's Social City program, England's Towards an Urban Renaissance document, and the Netherlands' Big Cities Policy. Although Western European countries have adopted different legal frameworks, planning systems, and intervention models based on their political and administrative structures, official documents consistently highlight environmental improvement, economic development, and social inclusion as the three fundamental pillars of regeneration policy (Yazdani, 2021: 445).

From the late 1990s onward, integrated regeneration approaches have been increasingly emphasized, focusing on the strategic integration of social, economic, and environmental objectives. This integrated approach to regeneration prioritizes the conservation, rehabilitation, and adaptive reuse of historic buildings, attention to cultural, artistic, and sporting events, the provision of diverse leisure activities, and a strong emphasis on design quality and authenticity. Moreover, it highlights enhanced cooperation among all stakeholders, increased employment opportunities, poverty reduction, mitigation of social deprivation, and the promotion of social participation as essential components of urban regeneration aimed at improving citizens' livability.

Livability encompasses the reconstruction and reconsideration of urban planning processes to create environments that support employment opportunities and recreational activities. It involves the provision of appropriate infrastructure, public services, fulfillment of basic needs such as food, clothing, housing, and access to employment opportunities, as well as improvements in environmental quality to enable residents to experience a higher quality of life (Zanella, 2015:3).

Peter Evans (2002) conceptualizes livability differently across developed and developing countries. In developing contexts, livability is closely linked to the fulfillment of basic needs such as food, clothing, housing, and relative welfare, whereas in developed countries these needs are often met through individual economic capacity. Consequently, livability in developed contexts

is associated with higher-order needs. This distinction aligns with Maslow's hierarchy of needs, where developing countries continue to prioritize basic needs, while developed societies increasingly focus on secondary and higher-level needs (Evans, 2002:96).

According to Pearson et al., the components of residential livability include access to high-quality neighborhood services such as transportation systems, schools, universities, training centers, and healthcare facilities; walkable and accessible pathways; demographic characteristics including age and gender composition; ethnic diversity; physical, social, cultural, and economic conditions; safety; sustainability; and opportunities for citizen participation in urban development plans. Additional factors include privacy in private spaces, a sense of place attachment and ownership, unique identity, economic stability in commercial and administrative land uses, housing affordability, attention to suburban and rural surroundings, lifelong learning opportunities, environmental quality, employment opportunities, neighborhood design, urban aesthetics, air quality, connectivity with surrounding neighborhoods, dependence on historical and cultural characteristics, civic participation, political participation, and volunteer activities (Fang et al, 2018:92).

«Urban regeneration» aimed at «improving citizens' livability» goes beyond the objectives and outcomes of urban renewal, urban development, and urban revitalization. Unlike urban renewal, which is often defined as a process of fundamental physical transformation, or urban development, which lacks clearly defined and comprehensive goals, and revitalization approaches that emphasize empowerment without offering concrete implementation mechanisms, urban regeneration stresses the necessity of long-term, strategic objectives and policies to address urban challenges at both local and metropolitan scales (Cesarona, 2024:25).

Fundamentally, the urban regeneration theory is interested in organizational movement in the field of urban change management with the aim of improving the livability of citizens. In any case, these organizational and institutional dimensions of urban regeneration theory also reflect several important characteristics, defining the roles, contents, and ways of functioning of urban regeneration. Although it is clear that the operational domain of urban regeneration is more practiced than theoretical, there is always an expectation for a high degree of similarity between the outcome in theory and the outcome in practice. The final element of urban regeneration theory, aimed at improving the livability of citizens, is the «strategic process» or, using the language of framing, «decision-making management through strategic methods». With the acceptance of the broad spectrum of topics related to urban change management and the agreement that many unique activities have limited scope and contain short-term and unsustainable solutions, the implementation of urban regeneration, according to a «strategic agenda», gains fundamental importance (Udounwa, 2024:101). In Table 1, the features, components, and needs of the urban regeneration theory for enhancing the quality of life and livability of citizens are described.

Table 1. Characteristics, Components, and Needs of Urban Regeneration Theory for Enhancing Livability Quality (Izadi et al, 2014:20)

Features	Components	Needs
Interventionist activity	Industrial restructuring; with an emphasis on the greatest possible return to the previous situation	Clearly and transparently outline the expected results

An activity that encompasses various sectors, from government to private and public	Constraints, including the availability of land and buildings	Providing a policy that has the ability to plan and implement predetermined goals
Appropriate response to economic, social, environmental and political changes	The real or perceived beauty of urban areas	Establishing and maintaining linkages between related policy systems
A method for mobilizing collective efforts and paving the way for agreement on appropriate solutions	Social composition of urban areas	Defining the responsibilities of each of the actors and organizations involved in the regeneration operations
A method for determining policies and activities designed to improve conditions in urban areas	Becoming one and joining together (various elements involved)	Creating a general sense of shared goals and collaborative performance

2-2. Experimental Background

In relation to the research background, numerous studies have been conducted on recreation and sustainability, which include the following:

Roberts et al, (2000) in their study entitled «Urban Regeneration», describe regeneration as a form of interventionist urban policy. They argue that when traditional approaches to organizing old urban fabrics—such as reconstruction and renewal—were widely used, urban planners gradually recognized the need for a new model to address the problems that had emerged from previous interventions. However, they emphasize that achieving urban regeneration is not solely dependent on public acceptance; rather, urban management organizations must operationalize regeneration models within their formal programs and create the necessary institutional conditions for collective action and broad societal participation (Roberts, 2000:12).

Mirath Dinardi (2012) in a study titled «Cultural Planning Strategies and Urban Regeneration in Buenos Aires», highlights the critical role of cultural elements in urban regeneration models. The primary objective of this research is to enhance socio-cultural capacities in support of cultural heritage-based development programs. The study adopts a culture-oriented perspective, focusing on the interaction between physical form, culture, and the sense of place experienced by citizens. These three factors are identified as key drivers in the organization and regeneration of old and deteriorated residential fabrics. The research process involves three stages: developing a strategy for improving deteriorated fabrics, examining residents' perceptions of urban spaces over time, and analyzing various urban spaces in relation to regeneration programs in central areas. The findings demonstrate the significant impact of cultural elements on improving urban conditions and achieving effective regeneration (Dinardi, 2012:10).

Zhang et al, (2023) in a study titled «Analyzing the Impact of Urban Management Problems on Livability Levels in the Shenzhen Region», found that most cities in the region exhibit relatively high levels of livability, while some cities experience low livability due to unfavorable environmental conditions such as pollution and flooding. The study reveals spatial inequalities in livability, with levels declining from central areas toward peripheral zones. Based on interviews with 12 experts, the authors identify three key factors influencing livability: ineffective management in reducing environmental risks such as flooding, the absence of long-term and decade-based planning frameworks, and weak urban management in cities particularly those with rural–urban characteristics where livability levels are low (Zhang et al, 2023:21).

Lopez et al, (2024) in their research titled «How Can We Make Our Cities More Livable? Causal Interactions Between Urban Sustainability, Regulatory Quality», and City Livability, conclude that ensuring urban livability and sustainability is one of the major social challenges of the twenty-first century. Their study analyzes causal relationships between the three dimensions of urban sustainability and city livability, while also examining the moderating role of business regulatory quality. The findings indicate that when regulatory quality is low, the positive impact of economic sustainability on livability weakens, and environmental sustainability may even have a negative effect on livability. This study provides new insights into the complex interactions among urban sustainability, regulations, and livability, offering valuable implications for improving livability in cities (Lopez et al, 2024:358).

Ziaei (2013), in a study entitled «Applying Urban Regeneration Models Based on Social Factors to Achieve Sustainable Development», emphasizes the role of public participation in improving urban livability through social capacities at the neighborhood level. This approach is more commonly observed in cities of developed countries. The primary objective of the research is to enhance citizens' skills for participating in regeneration programs targeting deteriorated urban fabrics. Participation is examined at two levels: individual and neighborhood scales, and broader urban and metropolitan scales. Using questionnaires and interviews, the findings reveal limited active participation by residents in regeneration programs. The study suggests that trusted individuals with strong social and religious characteristics can play a significant role in encouraging citizen participation. Moreover, discrepancies are observed between the perspectives of urban managers and experts and those of local residents regarding neighborhood capacities and challenges, highlighting the need for collaborative regeneration processes (Ziaei, 2013:5).

Motalebi et al, (2023), in their study «Urban Regeneration of Deteriorated Fabrics Along Urban Riverbanks: A Case Study of the Abdooran Riverbank in Kermanshah», conclude that neglecting environmental regulations in urban management and simplifying natural systems within urban contexts such as river corridors can alter natural processes and cause serious damage to ecological systems. The study notes that many urban riverbanks are surrounded by deteriorated and old urban fabrics, underscoring the importance of environmentally sensitive regeneration strategies (Motalebi,2023:79).

Makari et al, (2024) in their study titled «An analysis of the factors influencing the re-creation of the basic culture in the southern zone of informal settlements of Tabriz city» concluded that Tabriz city is the center of economic, commercial and cultural exchanges in the northwest of the country and is considered the sixth largest city in the country in terms of population. The proximity of a significant portion of Tabriz's informal settlement neighborhoods to historically valuable contexts such as the Yousef Abad-Abasi neighborhoods (adjacent to Robe Rashidi), the historical neighborhoods of Maralan, Sheshgolan, Aref, Taleghani, Dohchi, Sorkhab, etc. indicates high cultural-historical potential in a large portion of Tabriz's informal settlement context. Based on the research findings, the factors affecting the re-creation of a culture-based culture in informal settlements in the south of Tabriz were divided into four indicators: social, cultural, economic, and infrastructural. Among these indicators, the social index explains 41%, the cultural index 27%, the economic index 11%, and the infrastructure index 7% of the total variance. Among social factors, the security index, with a factor load of 969, has the highest factor load, and the ethnic minority rights index, with a factor load of 567, has the lowest factor load among the indicators (Makari, 2024:222).

Rasti et al, (2025) in their research entitled «Evaluation of sustainable urban development indicators and investigation of their effectiveness in achieving regeneration goals, case study:

Hamadan city» believe that what is always neglected in the process of improving and renovating worn-out textures of the country at various levels is mainly issues related to qualitative or physical content changes in the texture. The concern of this research is due to some functional characteristics of the sustainable development approach in dealing with these types of issues, which distinguish them from the usual perspectives of renovation or regeneration in terms of their application. It can be concluded that urban development plans create a positive outlook for sustainable development. In other words, the development of urban areas directly increases the performance of the fabric through the general design of the sustainability process, and through this, the regeneration process responds to these changes. What is clear is that the spatial structure of Hamedan city is the result of natural conditions, population settlement and activity systems, social and economic structures, and movement systems, and it reflects the connection and order between the main elements of the city, such as residential and activity areas, centers, axes, and movement networks, and open spaces (Rasti, 2025:123).

The difference between this research and other studies is that, for the first time, this research analyzes both the concepts of reframing patterns and bio-feasibility and their impact on each other, as such an analysis has not been conducted before.

In addition to these actions taken based on the redevelopment programs and documents aimed at enhancing sustainability according to physical, social, and environmental criteria, this research, with a holistic and integrated perspective, has examined all dimensions, including environmental, physical, social, economic, and managerial, in studying and analyzing the status of the Cyrus neighborhood redevelopment pattern for enhancing sustainability. Ultimately, based on the aforementioned five dimensions, the proposed model is presented.

The present study at the national and supranational levels can be a model for the 12th District Municipality and other municipalities in Tehran. Considering the proposed initiatives in other neighborhoods of Region 12 and other areas of Tehran, documents for urban renewal can be implemented, and the livability of citizens can be enhanced through the use of strategies. In addition, this study will serve as a comprehensive model in the five-dimensional environmental, physical, social, economic, and managerial aspects for others engaged in research and study in the field of regeneration and sustainability.

3. Methodology

3-1. Research Method

Research is of an applied nature and focuses on the analysis and relationships between the main variables of the study (viability and regeneration pattern). The goal of the research is to analyze the relationships between variables and add a new conclusion to the field of urban planning. This research was conducted using a mixed method approach, combining both quantitative and qualitative data collection and analysis techniques. Library information collection method. The data collection tool is a closed-ended questionnaire. The statistical society is composed of 50 specialists, municipal employers, and local development office members in District 12 and the Sirous neighborhood, as well as urban planning professors. The sampling method of this non-probabilistic research is snowball sampling. In this sampling, current participants in the study attempt to bring along potential participants as well. By doing this, it is possible to find participants who belong to a specific demographic that might not have volunteered otherwise. This sampling initially starts with a small sample and gradually grows into a larger sample, much like a snowball. Additionally, due to the statistical community not reaching 384 individuals, the Morgan's sample size method was used.

The data collection method is a library compiled from documents, theses, and articles. In the subsequent stage, the relevant data for quantitative analysis is extracted through a structured questionnaire, rated by experts and specialists on a scale of 1 to 5 based on the Likert scale. For analyzing the regeneration status of the worn-out fabrics of Sirous neighborhood with an emphasis on improving the quality of livability, a Delphi panel team was utilized to score environmental and physical, social, economic, and managerial indicators extracted from theoretical foundations and limited documents of the study area. The indicators obtained in the first step were provided to the panel members in the form of a semi-structured questionnaire for initial screening in the physical criteria with 40 indicators in the form of 6 indices, environmental criteria with 10 indicators in the form of 3 indices, socio-cultural criteria with 30 indicators in the form of 5 indices, economic criteria with 25 indicators in the form of 5 indices, and management-political criteria with 12 indicators in the form of 5 indices.

After receiving the first round of responses and suggestions, the information was collected, summarized, and categorized, ultimately leading to the creation of a second questionnaire based on physical criteria with 32 indicators in the form of 4 indices, environmental criteria with 5 indicators in the form of 2 indices, socio-cultural criteria with 20 indicators in the form of 3 indices, economic criteria with 15 indicators in the form of 3 indices, and management-political criteria with 7 indicators in the form of 3 indices. The number and composition of Delphi panel groups are described in Table 2. The factors influencing the pattern of regeneration for the enhancement of livability quality are observable in Figure 1.

Table 2. Sample Size of Specialists

Organizations	Gender		Abundance	Percentage
	Man	Woman		
Tehran Urban Regeneration Company	7	5	12	24%
Tehran Urban Renewal Organization	6	4	10	20%
Tehran Municipality, District 12	6	5	11	22%
Sirous Neighborhood Development Office	3	2	5	10%
Universities	5	7	12	24%
Total	28 (56%)	23 (46%)	50	100%

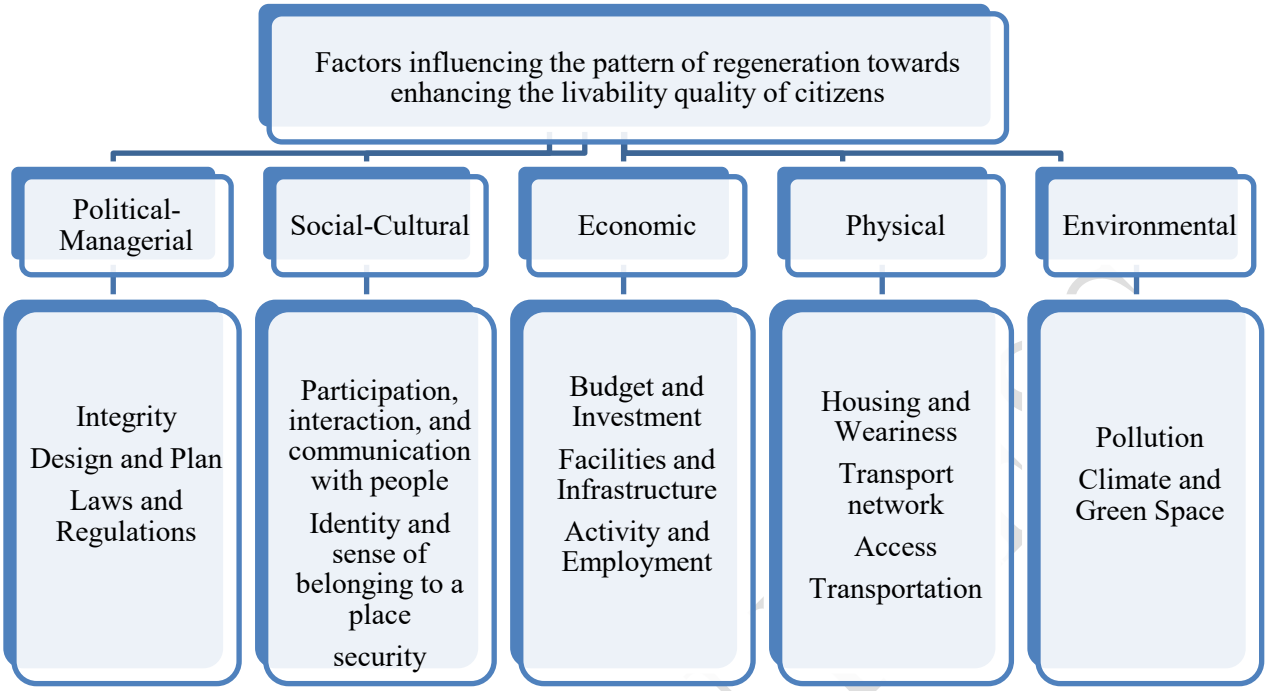


Figure 1. Research conceptual model

3-2. Spatial domain of research

The Sirous neighborhood encompasses a part of the old Tehran, located in District 12 of the current urban division of Tehran, and together with the Tehran Bazaar, it forms a part of the Bazaar neighborhood. The overall shape of the neighborhood is an irregular trapezoid, with the longest side along 15 Khordad Street and the shortest side along Rey Street. Sirous neighborhood is connected to 15th of Khordad Street from the north, to Molavi Street from the south, to Rey Street from the east, and to Mostafa Khomeini Street from the west. Although this neighborhood possesses historical fabric features, according to the architectural-urban planning characteristics of Tehran Municipality, it falls under the designated degraded fabric and unstable areas (Sirous Neighborhood Development Document, 2016). The geographical location of Sirous neighborhood in District 12 of Tehran Municipality can be seen in Figure 2. The proposed user levels in the rehabilitation and renovation plan of Sirous neighborhood are also described in Table 3.

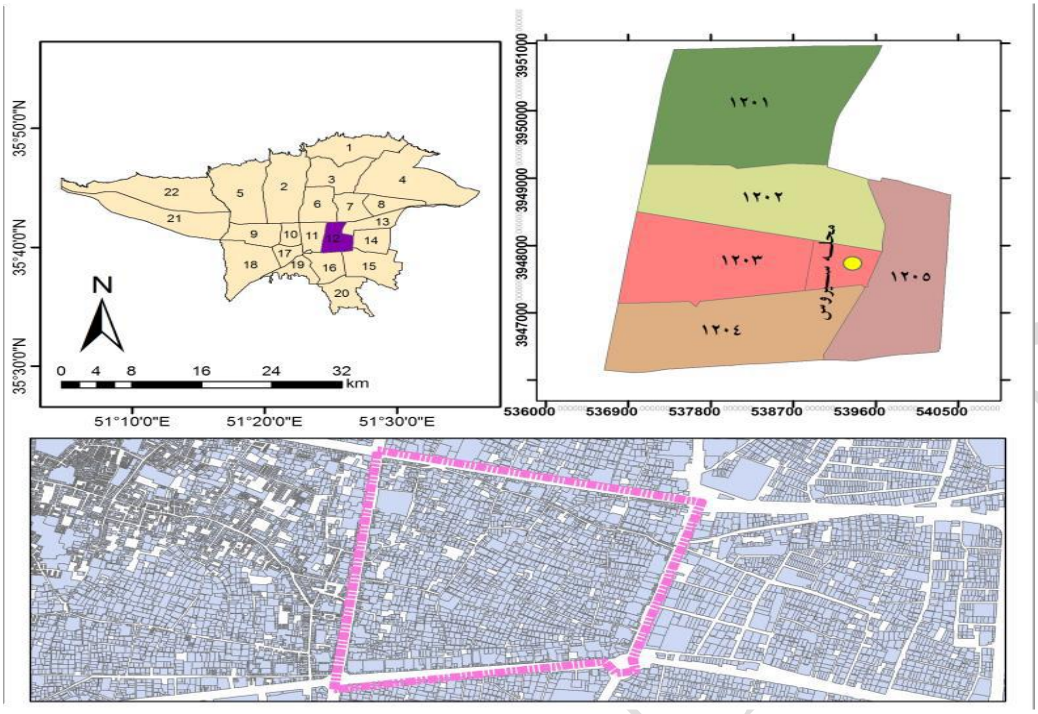


Figure 2. The geographical location of Sirous neighborhood in Region 12 of Tehran Municipality (Sirous Neighborhood Development Document, 2016)

Table 3. Characteristics of Degraded Fabric of Sirus Neighborhood (Sirous Neighborhood Development Document, 2016)

Worn texture specifications	Unit
Area of worn out texture	37 hectares
Population located in dilapidated areas	3923 people
Percentage of ownership in dilapidated structures	28%
Average residential units in dilapidated areas	64 square meters
The area of the region	43 hectares
Population of the area	4042 people

The priority implementation measures in the Sirus area in 2015 include environmental improvement of Naib al-Saltaneh and Gozar al-Agha markets, establishing a service center in the Sirous neighborhood (Mousavi Kiani), organizing the undefended urban space in the Sirous neighborhood, improving the front of Imam Hassan Mosque, developing and equipping Abu Hossein Park, improving Sadeghpour Avenue, improving Balagar Alley, improving Moradkhani Alley, improving Masjed Agha Alley and Molla Jafar Square, improving Rey Street, improving the front of Lavasani Mosque and Hajj Musa Bathhouse, improving the existing Sabats in Majid Abbasi Alley, organizing the wall of Mostafa Khomeini Avenue from Sirous Crossroads to Molavi Crossroads, constructing the Farhoud local multi-storey parking lot, restoring and

revitalizing Hajj Musa Bathhouse, revitalizing Golshan Bathhouse, and improving the Mousavi Kiani Avenue from the beginning of the park under construction to the intersection of Saadi Alley (Sirous Neighborhood Development Document, 2016). The priority actions for implementation within the Sirous scope in 2015 are visible in Table 4.

Table 4. Priority of implementation measures in the Sirous area in 2015 towards regeneration (Sirous Neighborhood Development Document, 2016)

Row	Actions	Trustee institution	Dimensions
1	Environmental improvement of Naib al-Saltaneh Bazaar and Gozar al-Agha	Regional Municipality, Beautification Organization, Renovation Services Office, Tehran City Technical and Engineering Consulting Organization, Cultural Heritage	Physical
2	Establishing a service center in the Sirous neighborhood (Mousavi Kiani)	Regional Municipality, Tehran Urban Development and Improvement Company, Beautification Organization, Neighborhood Renovation Services Office	Social
3	Organizing the defenseless urban space of Sirous neighborhood	The municipality of the region, the beautification organization, the water, electricity, and gas company, and the Tehran Urban Development and Improvement Company	Environmental
4	Renovation of the front of Imam Hassan Mosque	Municipality of the region	Physical
5	Development and equipping of Abu Hossein Park, improvement of Sadeghpour Avenue	Municipality of the region	Environmental
6	Improvement of Sadeghpour axis	Regional municipality, beautification organization	Physical
7	Improvement of Balagar Alley	Regional municipality, beautification organization	Physical
8	Renovation of Moradkhani Alley	Regional municipality, beautification organization	Physical
9	Environmental improvement of Masjed Agha Alley and Molla Jafar Square	Regional municipality, beautification organization	Physical

10	Environmental improvement of Ray Street	Regional municipality, beautification organization	Physical
11	Environmental improvement of the front of Lavasani Mosque and Hajj Musa Bathhouse	Municipality of the region	Physical
12	Environmental improvement of existing Sabats in Majid Abbasi Alley	Municipality of the region	Physical
13	Organizing the wall of Mostafa Khomeini Avenue from Sirous intersection to Molavi intersection	Regional municipality, beautification organization	Physical
14	Construction of a local multi-storey parking lot in Farhoud	Municipality of the region	Physical
15	Restoration and revitalization of Hajj Musa Bathhouse	Regional Municipality, Cultural Heritage Organization	Physical (Historical)
16	Reviving the Golshan Bathhouse	Regional Municipality, Cultural Heritage Organization	Physical (Historical)
17	Environmental improvement of Mousavi Kiani Avenue from the beginning of the park	Regional municipality, technical and engineering consulting organization, water and wastewater company, electricity, gas	Physical

4. Data Analysis

Performing the Three-Stage Delphi Process

First Delphi stage: In this stage, the indicators obtained in the first stage (initial indicators obtained through literature review of components and indicators and field visit) were provided to the panel team members in the form of a semi-structured questionnaire for initial review. After receiving the responses and suggestions of the first round, the information was collected, summarized, and categorized, and finally prepared as a second questionnaire. Second Delphi stage: In this stage, the questionnaire was distributed among the members in a structured and tabulated form. Members were asked to indicate the degree of correlation of the indicator with the criteria, the degree of correlation of the indicator with the research topic, and the degree of importance of the water exchange characteristic with the goal of recreating the worn-out textures of the Sirous neighborhood with an emphasis on improving the quality of livability using a 1 to 5 Likert scale (Table 5); and also to state and indicate the indicators and indicators that may not have been mentioned in this study. Finally, identify criteria and characteristics that are similar or overlap with each other.

Table 5. Likert scale

1	2	3	4	5
Very weak	Weak	Medium	Good	Excellent

Third Delphi stage: To summarize the opinions of the respondents, the mean and standard deviation of each indicator for each calculation stage were provided to the Delphi team members

in the subsequent stages, and they were asked to review the responses received, revise their opinions and judgments if necessary, and state their reasons in cases of disagreement. The goal of the third stage or any subsequent stage is to reach consensus or stability among the group members. When consensus or stability is achieved, the Delphi method is complete. Therefore, given the unanimity among the Delphi members, i.e., the convergence of their opinions, there was no need to repeat the opinion-seeking in the third stage, and this stage was chosen as the final stage.

Development and validation of physical dimension indicators:

In the physical criteria, in the first stage of Delphi, 40 criteria in the form of 6 indicators were provided to the panel team members. With the scores, corrections, and integrations made by the panel team members in the second and third stages of Delphi, 32 criteria in the form of 4 indicators were used to measure and evaluate the members.

Table 6. Scoring of physical indicators and criteria for the regeneration of dilapidated textures in Sirous neighborhood with an emphasis on improving the quality of life, Acceptance by Delphi Panel Team Members

Physical dimension					
Index	Criteria	Average	Deviation Criteria	Coefficient Changes	Status according to points
Housing and Weariness	Area and square footage of residential buildings	1/70	0/9	0/53	-
	The amount of measures taken to improve, rebuild, renovate, and recreate worn-out structures	3/39	0/99	0/29	+
	Buildings with a height of more than 4 or 5 floors	2/84	1/39	0/49	-
	Balance between the function of the residential neighborhood and some of the activities existing in the context	2/16	1/07	0/49	-
	Neglect of the valuable historical context in the Siros neighborhood	3/48	0/93	0/26	+
	Very little attention to the fragility and oldness of the buildings and the risk of destruction	3/9	0/98	0/25	+
	Fine-grainedness, impermeability, and instability of the Siros neighborhood textures	3/77	0/8	0/21	+
	The nobility of other houses to the housing of individuals	0/03	1/33	0/44	-
Road network	Designate designated routes for cyclists	2/93	1/21	0/41	-
	Disorganization and discomfort of pedestrian movement and interference with riding	4/61	0/67	0/14	+
	Greater penetration into the sub-neighborhood fabric and public spaces	2/61	1/1	0/51	-
	Appropriate design of the environment and landscape in the road network	2/29	1/07	0/47	-
Accessibility	Access to schools and educational institutions	2/16	1/07	0/49	-

	Availability of health and medical services such as doctors, pharmacies, and medical centers	2/61	1/17	0/45	-	
	Availability of social services	2/87	1/15	0/4	-	
	The size of chain stores	2/97	1/45	0/49	-	
	Variety of goods and services	2/32	1/19	0/51	-	
	Local arcades and markets	4/48	0/81	0/18	+	
	Providing daily necessities in the neighborhood	3/13	0/88	0/28	+	
	Access to the highway	2/84	0/73	0/26	-	
	The degree of accessibility from the residential unit to the workplace	2/32	1/19	0/51	-	
	Access to the bank	3/58	0/99	0/28	+	
	Accessibility to other neighborhoods of the city	3/87	0/88	0/23	+	
	The level of access to appropriate recreational and leisure facilities in the neighborhood	2/9	1/22	0/42	-	
	The level of access to sports facilities in the neighborhood	2/1	1/01	0/48	-	
	Quality of water, electricity and gas	3/8	0/98	0/26	+	
	The level of access to restaurants and grocery stores in the neighborhood	3/9	0/98	0/25	+	
	The level of access to safe and suitable play space for children	2/66	0/580	0/218	-	
	Access to museums and historical monuments	4/61	0/67	0/14	+	
	The level of access to leisure classes in the neighborhood	3/89	0/518	0/133	-	
Transportation	Cost of public transportation in the neighborhood	3/68	0/422	0/114	+	
	Distribution of public transport stations	4/58	0/76	0/17	+	
	Plural	98/71	30/06	61/01	(-)18	(+)14

The condition of physical criteria in the 4 indicators of housing and deterioration, road network, access and transportation in the regeneration of the worn-out fabric of the Sirous neighborhood with an emphasis on improving the quality of livability is undesirable, and most criteria have received a score less than the average of 3. In total, out of 32 criteria, 18 criteria are in an undesirable state and 14 criteria are in a desirable state. On the other hand, in the housing and deterioration index, the criterion of fine-grainedness, impermeability and instability of the fabric of the Sirous neighborhood has an average of 3.77, in the accessibility index, the criterion of accessibility to museums and historical monuments has an average of 4.61, in the road network index, the criterion of insecurity and discomfort Pedestrian movement and interference with vehicles have received the highest score with an average of 4.61, and in the transportation index, the criterion of distribution of public transportation stations has received the highest score with an average of 4.58.

Compilation and validation of environmental dimension indicators:
In the socio-cultural criteria, in the first stage of Delphi, 10 criteria in the form of 3 indicators were provided to the panel team members. With the scores, corrections, and integrations made by the panel team members in the second and third stages of Delphi, 5 criteria in the form of 2 indicators were measured and evaluated by the members.

Table 7. Scoring of environmental indicators and criteria for the regeneration of dilapidated textures in the Sirous neighborhood with an emphasis on improving the quality of livability by members of the Delphi panel team

Environmental dimension						
Index	Criteria	Average	Deviation Criteria	Coefficient Changes	Status according to points	
Pollution	Air and noise pollution due to workshops in the neighborhood	2/89	0/85	0/29	-	
	Regular, continuous and appropriate collection of waste in the neighborhood	2/77	0/63	0/23	-	
Climate and Green space	The extent of changes in use of green space	2/87	3/61	0/53	-	
	The proportion of green space and natural elements in and around the neighborhood	3/47	3/79	0/42	+	
	The degree of attention to the region's climate in construction	2/66	0/58	0/21	-	
	Plural	14/66	10/32	1/70	(-)4	(+)1

The status of environmental criteria in the two indicators of pollution, climate and green space in the regeneration of dilapidated structures of the Siros neighborhood with an emphasis on improving the quality of livability is undesirable, and most criteria have received a score less than the average of 3. In total, out of the 5 criteria, 4 criteria have been in an unfavorable state and 1 criterion has been in a favorable state. On the other hand, in the pollution index, the criterion of the presence of air and noise pollution due to workshops in the neighborhood with an average of 2.89, in the climate and green space index, the criterion of the share of green space and natural elements in and around the neighborhood with an average of 3.47 has received the highest score.
Compilation and validation of socio-cultural dimension indicators:
In the socio-cultural criteria, in the first stage of Delphi, 30 criteria in the form of 5 indicators were provided to the panel team members. With the scores, corrections, and integrations made by the panel team members in the second and third stages of Delphi, 20 criteria in the form of 3 indicators were measured and evaluated by the members.

Table 8. Scoring of socio-cultural indicators and criteria for the regeneration of dilapidated textures in the Sirous neighborhood with an emphasis on improving the quality of livability by members of the Delphi panel team

Socio-cultural dimension

Index	Criteria	Average	Deviation Criteria	Coefficient Changes	Status according to points	
Participation, interaction and communication with people	The level of citizen participation in organizing dilapidated structures	2/78	0/883	0/317	-	
	The existence of a spirit of teamwork among the old residents	3/06	0/135	0/044	+	
	Citizens' level of awareness of burnout characteristics and quality of life levels	3/48	0/471	0/135	+	
	Membership in neighborhood groups and associations	2/69	0/563	0/209	-	
	Membership in neighborhood groups and associations	2/72	0/508	0/186	-	
	Solidarity between residents and city managers	2/48	0/529	0/213	-	
	Level of trust in neighbors, institutions, and local representatives	2/32	0/655	0/282	-	
	Respect for each other by residents	3/3	0/98	0/29	+	
	The existence of non-governmental organizations and social networks	2/35	0/510	0/217	-	
	The level of skill acquisition in the field of reactions and appropriate behavior during a crisis	2/31	0/381	0/164	-	
	The possibility of the complete departure of the indigenous and native population and the arrival of the immigrant population	4/58	0/76	0/17	+	
	Participation and cooperation of neighborhood residents in educational programs with a burnout characteristic	2/27	0/584	0/257	-	
Identity and sense of belonging to place	Getting to know and communicate with neighbors and fellow residents	2/12	0/381	0/179	-	
	The level of hope for improving living conditions and neighborhood development	1/87	0/243	0/129	-	
	Passionately holding religious celebrations in the neighborhood	2/28	0/307	0/134	-	
	The degree of residents' sense of belonging and attachment to the neighborhood	2/31	0/147	0/063	-	
Security	The level of security for vehicles parked in the neighborhood	3/8	0/98	0/26	+	
	The level of security for residents, especially women and children, in the neighborhood around the clock	3/9	0/98	0/25	+	
	The level of conflict and conflict between native people and newcomers to the neighborhood	3/45	0/59	0/17	+	
	The level of social disorder at the neighborhood level	4/55	0/72	0/16	+	
	Plural	35/79	11/31	3/83	(-)12	(+)8

The status of socio-cultural criteria in the three indicators of participation, interaction and connection with people, identity and sense of belonging to place and security in the regeneration of dilapidated textures of Sirous neighborhood with an emphasis on improving the quality of livability is undesirable, and most criteria have obtained a score less than the average of 3. In total, out of 20 criteria, 12 criteria are in an undesirable state and 8 criteria are in a desired state. On the other hand, in the participation, interaction and connection with people index, the criterion of the possibility of complete departure of the indigenous and original population and the entry of the immigrant population has obtained the highest score with an average of 4.58, in the identity and sense of belonging to place index, the criterion of the degree of residents' sense of belonging and attachment to the neighborhood with an average of 2.31, and in the security index, the criterion of the degree of social disorder at the neighborhood level with an average of 4.55.
Compilation and validation of economic dimension indicators:
In the economic criteria, in the first stage of Delphi, 25 criteria in the form of 5 indicators were provided to the panel team members. With the scores, corrections, and integrations made by the panel team members in the second and third stages of Delphi, 15 criteria in the form of 3 indicators were used for the members' assessment and evaluation.

Table 9. Scoring of economic indicators and criteria for the regeneration of dilapidated textures in the Siros neighborhood with an emphasis on improving the quality of livability by members of the Delphi panel team

Economic dimension					
Index	Criteria	Average	Deviation Criteria	Coefficient Changes	Status according to points
Budget and Investment	Possibility to buy or rent housing at a reasonable price in the neighborhood	2	0/68	0/24	-
	The existence of financial incentives from the municipality and other organizations for organizing dilapidated infrastructure	2/81	0/98	0/35	-
	The level of willingness to invest in the neighborhood	2/61	1/31	0/5	-
	Lack of budget allocation to organize the deterioration of neighborhood textures	4/9	0/4	0/08	+
	Economic returns after organizing worn-out structures	3/16	0/82	0/26	+
	The amount of use of bank loans and facilities for the reconstruction and renovation of dilapidated infrastructure	2/61	1/23	0/51	-
	Financial ability of residents of dilapidated areas to rebuild and renovate	2/52	1/41	0/56	-

Facilities and Infrastructure	The level of access to water, electricity, and telecommunications services within the dilapidated area	3/1	0/83	0/27	+	
	The amount of vital lines and infrastructure (main oil, gas, electricity, fiber optic, and water pipes) in the neighborhood	2/84	1/37	0/48	-	
	The level of access of residents of the region to relief from the Water, Electricity, and Gas Organization during a crisis	1/74	0/85	0/49	-	
	The level of access to the Internet by residents of run-down urban areas	2/16	0/93	0/43	-	
Activity and Employment	Unemployment rate among the job-seeking population, especially women in the neighborhood	2/64	1/23	0/5	-	
	Income level of neighborhood residents	2/13	0/88	0/41	-	
	Variety of job opportunities in the neighborhood	2/58	1/41	0/54	-	
	The number of active and employed people in the neighborhood	2/42	1/1	0/47	-	
	Plural	68/22	15/53	6/04	(-)12	(+)3

The status of economic criteria in the three indicators of budget and investment, facilities and infrastructure, and activity and employment in the regeneration of the dilapidated fabric of the Sirous neighborhood with an emphasis on improving the quality of livability is undesirable, and most criteria have obtained a score less than the average of 3. In total, out of 15 criteria, 12 criteria are in an undesirable state and 3 criteria are in a desirable state. On the other hand, in the budget and investment index, the criterion of not allocating budget towards the maintenance of the dilapidated fabric of the neighborhood has obtained the highest score with an average of 4.9, in the facilities and infrastructure index, the criterion of access to water, electricity, and telecommunications services within the dilapidated fabric has obtained the highest score with an average of 2.84, and in the activity and employment index, the criterion of unemployment among the job-seeking population, especially women in the neighborhood, has obtained the highest score with an average of 2.64.

Compilation and validation of management dimension indicators:

In the management criteria, in the first stage of Delphi, 12 criteria in the form of 5 indicators were provided to the panel team members. With the scores, corrections, and integrations made by the panel team members in the second and third stages of Delphi, 7 criteria in the form of 3 indicators were used to measure and evaluate the members.

Table 10. Scoring of indicators and management criteria for the regeneration of dilapidated textures in the Sirous neighborhood with an emphasis on improving the quality of livability by members of the Delphi panel team

Management dimension						
Index	Criteria	Average	Deviation Criteria	Coefficient Changes	Status according to points	
Integrity	Concentration of power in management organizations	3/09	0/87	0/29	+	
	Integration and coordination between management organizations	2/92	0/55	0/19	-	
	The level of participation of stakeholders and residents in programs to organize dilapidated structures in order to improve livability	2/61	1/33	0/51	-	
Plan and program	Failure to implement neighborhood regeneration plans and executive measures limited to improvement and reconstruction	3/13	0/640	0/20	+	
Rules and regulations	The degree of flexibility in approving and changing laws for regenerating dilapidated structures in order to improve livability	2/89	0/519	0/17	-	
	Laws in the field of protection of historical monuments	3/9	0/94	0/24	+	
	The existence of appropriate control tools for building retrofitting	2/61	0/386	0/14	-	
	Plural	21/15	5/24	1/74	(-)4	(+)3

The status of management criteria in the three indicators of integration, planning and program, and laws and regulations in the regeneration of the worn-out fabric of the Sirous neighborhood with an emphasis on improving the quality of livability is undesirable, and the highest number of criteria has achieved less than the average of 3. In total, out of 7 criteria, 4 criteria are in an undesirable state and 3 criteria are in a desirable state. On the other hand, in the integration index, the criterion of concentration of power in management organizations with an average of 3.09, in the design and planning index, the criterion of implementation of neighborhood regeneration programs and executive measures in the area of improvement and reconstruction with an average of 3.13, and in the laws and regulations index, the criterion of laws in the area of protection of historical monuments with an average of 3.9 have obtained the highest score.

5. Discussion and interpretation

Based on the analysis of the research data, it can be said that the regeneration status of Sirous neighborhood with emphasis on livability is undesirable in all environmental, physical, economic, social and management dimensions. Such a situation can be seen in most neighborhoods of District 12 of Tehran Municipality. Although in general, the regeneration status of neighborhoods in District 12 with emphasis on livability is at a low and undesirable level. However, some neighborhoods have a better situation than other neighborhoods. The livability status of Sirous neighborhood with regard to regeneration measures in District 12 of Tehran Municipality can be seen in Figure 3.

The reason for the difference in the status of the regeneration of the neighborhoods of Region 12 with an emphasis on viability is the type of distribution of uses at the neighborhood level and the level of access of residents to various services. The distribution of workshop and warehouse uses

and the dominance of commercial uses in neighborhoods such as Bazaar and Sirous and part of Harandi are higher than in other neighborhoods. In general, the access of residents of the southern part of the region to medical, educational, recreational, etc. services is lower than in the northern part of the region. In a way, the desirability of the region decreases from north to south. Of course, it is necessary to mention that the spots of desirable condition in the northern part of the region are very limited and scattered. However, and in comparison with the general conditions of the region in its southern half, it can be said that the northern part is in a better condition than the southern half of the region. Regarding neighborhoods, since the concentration and density of blue color, which indicates a favorable livability status (except in very limited and minor cases), is observed in the west of the region and in the Sanglaj neighborhood and parts of the Pamnar neighborhood. Also, the highest concentration of unfavorable conditions, which is almost uniform, is observed in the Kowsar neighborhood and then in the Shahid Harandi neighborhood. The uniformity and spread of this condition in the mentioned neighborhoods indicates the general and severe dominance and the lowest level of livability of these neighborhoods. The Sirous and Bazaar neighborhoods are also more or less in a very close situation to the two mentioned neighborhoods.

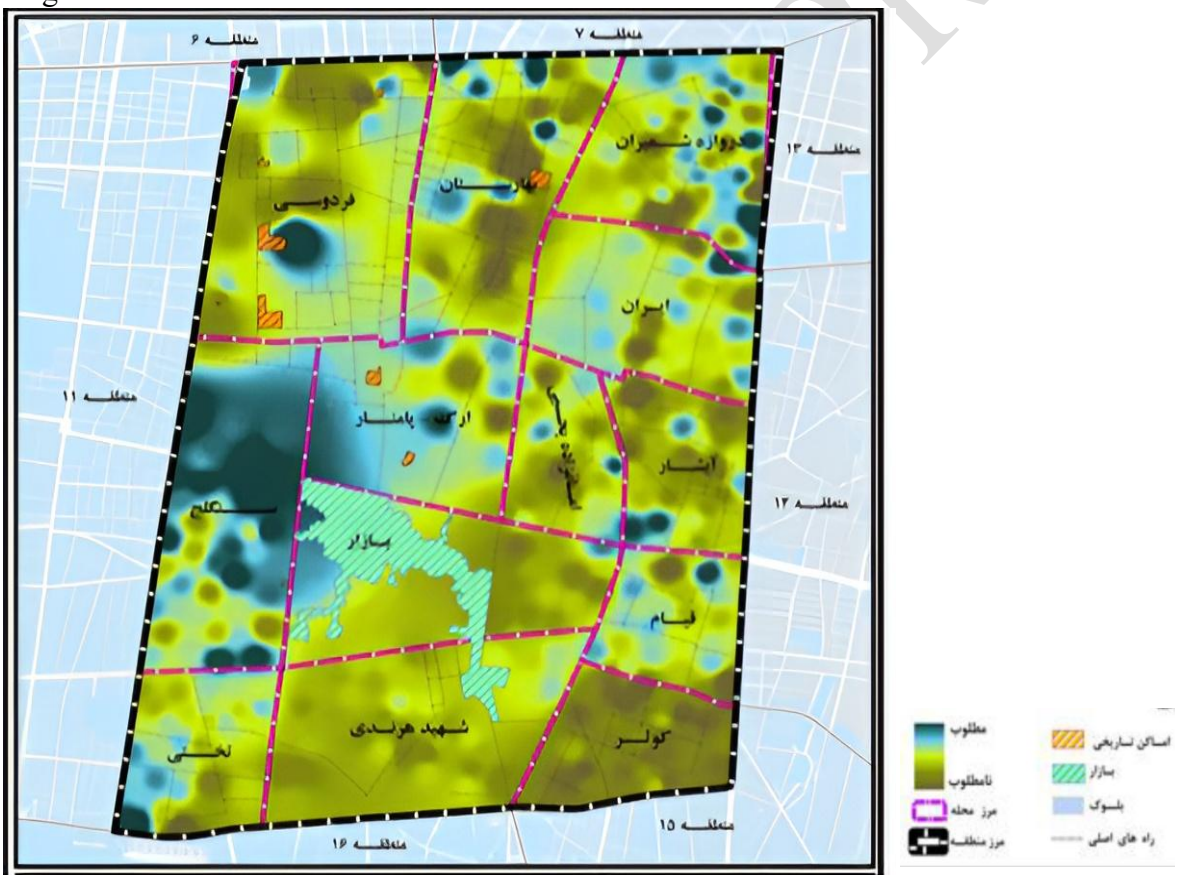
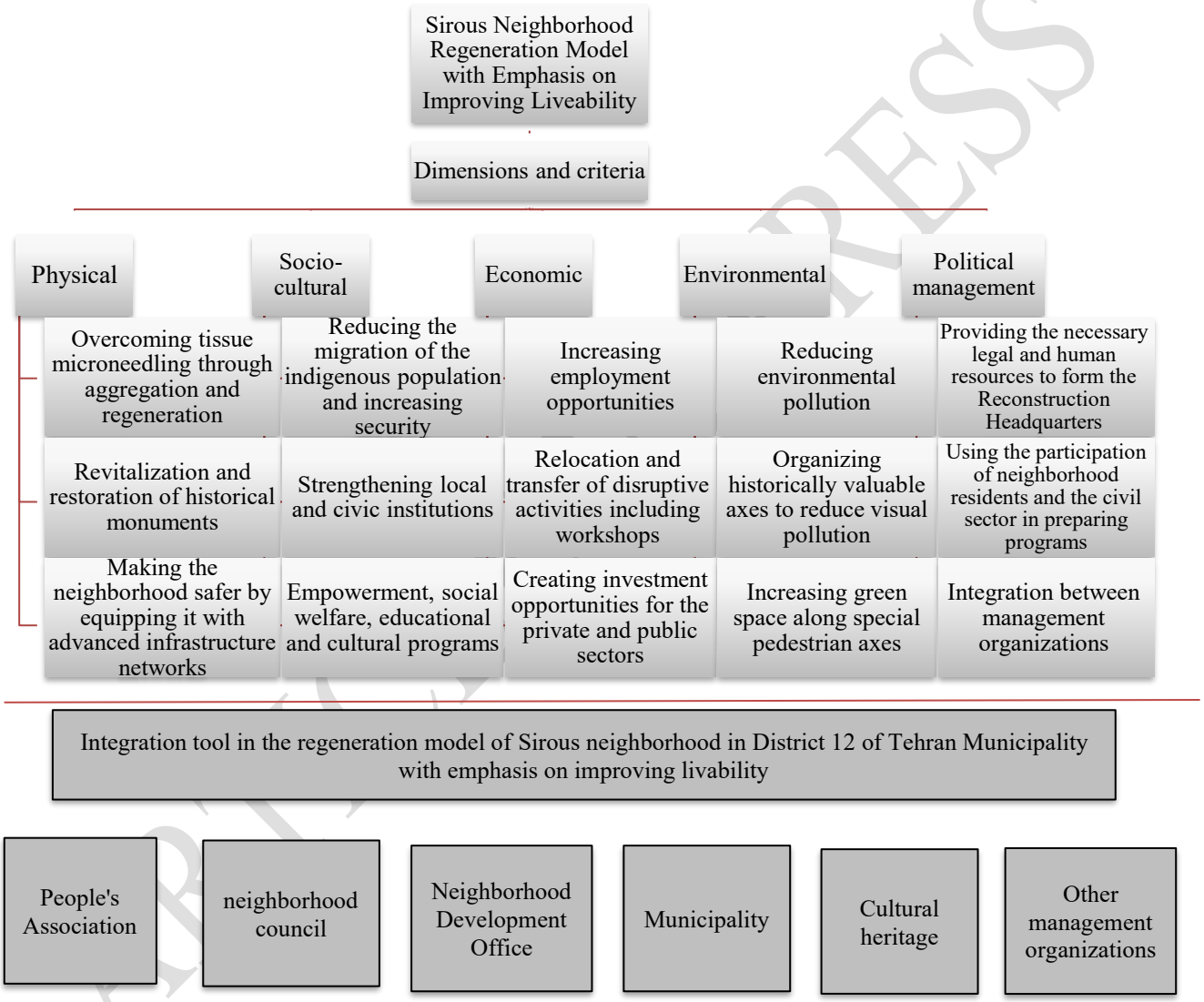


Figure 3. Liveability status of Sirous neighborhood according to regeneration measures in District 12 of Tehran Municipality

The proposed model must have «content integration» meaning attention to all physical, environmental, economic, social-cultural and political-management dimensions and «procedural

integration» meaning the use of participatory planning and attention to the interests of all stakeholders. If regeneration programs are implemented in the Sirous neighborhood based on such a model, the level of livability of the residents will also be improved.

figure 4. proposed model for realizing the regeneration of Sirous neighborhood in District 12 of Tehran Municipality with an emphasis on improving livability



6. Conclusion

Identifying the most important physical, environmental, economic, socio-cultural, political, and managerial characteristics of the Sirous neighborhood in order to identify regeneration capacities to improve livability is a requirement for neighborhood development in District 12 of Tehran Municipality. Because the textures of this neighborhood are associated with wear and tear and inefficiency, and its consequences have led to increased social anomalies, economic stagnation, and instability due to the age, fine-grained texture, lack of investment incentives, desire for immigration, and continuous changes in the local social texture.

The present study is close to the study of Roberts et al, (2000) entitled «Urban Regeneration». He believes that in order to realize regeneration in order to improve the quality of livability of citizens, it is better for the urban management system and the society to have an integrated view of all environmental, physical, economic and social factors. The difference of the present study with other studies is the study and analysis of the regeneration pattern in order to improve livability in such a way that the impact of the concept of regeneration and the impact of the concept of livability are seen together and each concept has not been analyzed separately. However, all the studies studied the concept of regeneration pattern and livability separately.

In the theoretical framework and intellectual system of the present study, in relation to the regeneration pattern of the Sirous neighborhood, with an emphasis on improving the quality of livability, the perspective of regeneration has been selected in order to improve the quality of livability of citizens. The urban regeneration model is an integrated approach to organizing old textures within urban areas, addressing problems, opportunities, strategies, and actions in the physical, environmental, social, and economic domains. Regeneration is an integrated and comprehensive approach and a set of related actions that lead to the resolution of urban problems and seeks to sustainably improve the economic, social, physical, and environmental conditions of an area subject to change. On the other hand, liveability is a subset of sustainability that directly affects people's lives in terms of access to jobs and economic opportunities, durable housing (resilient to natural disasters), provision of drinking water, electricity, information and communication technology, quality schools, reliable health services, etc. Liveability is also a set of human requirements that contribute to social welfare, health, and well-being of people, and encompasses individual and societal well-being.

In relation to the answer to the research question of which factors influence the regeneration status of the Sirous neighborhood with an emphasis on the livability approach, it can be said that physical, environmental, economic, social, and managerial factors are influential. The results of data analysis using the Delphi panel model show that the status of physical criteria in the four indicators of housing and deterioration, road network, access, and transportation in the regeneration of deteriorated textures of the Sirous neighborhood with an emphasis on improving the quality of livability is undesirable. The status of environmental criteria in two indicators of pollution, climate, and green space in the regeneration of dilapidated textures of the Sirous neighborhood with an emphasis on improving the quality of livability is undesirable. The status of socio-cultural criteria in the three indicators of participation and interaction and connection with people, identity and sense of belonging to the place, and security in the regeneration of the dilapidated textures of the Sirous neighborhood with an emphasis on improving the quality of livability is undesirable. The status of economic criteria in the three indicators of budget and investment, facilities and infrastructure, and activity and employment in the regeneration of dilapidated textures of the Sirous neighborhood with an emphasis on improving the quality of livability is undesirable. The status of management criteria in the three indicators of integration, planning and program, and laws and regulations in the regeneration of dilapidated textures of the Sirous neighborhood with an emphasis on improving the quality of livability is undesirable.

Also, in response to the question of why the Siros neighborhood regeneration model with an emphasis on the livability approach has not been realized, it can be said that the regeneration plans prepared to organize worn-out textures with an integrated approach to all physical, environmental, economic, social, and managerial dimensions, and with the participation of all stakeholders, including the private, civil, and public sectors, have not been prepared and

implemented. Therefore, the livability level of the residents of the Sirous neighborhood has also decreased.

Considering the review of theoretical foundations, relevant documents of the Sirous neighborhood regeneration model, data analysis through the Delphi panel model, and in relation to the answer to the research question, it can be said that all physical, environmental, economic, socio-cultural, and political-management dimensions have not been integrated in the Sirous neighborhood regeneration program in District 12 of Tehran Municipality in order to improve livability. Also, the documents and programs pay attention to the feature of participatory planning, but the participation of the private, civil, and public sectors (residents of the Sirous neighborhood) has not been used in implementation. Therefore, the lack of integration and equal attention to all the aforementioned dimensions and the failure to use non-governmental partnerships have resulted in the failure to realize the Sirous neighborhood regeneration model in order to improve livability. To achieve this, it is better for the model to have «content integrity», meaning attention to all physical, environmental, economic, social, cultural, and political dimensions of management, and «procedural integrity», meaning the use of participatory planning and attention to the interests of all stakeholders.

Contribution of authors

First author 70% and other authors 30%

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Conflict of interest

The author of this article has no conflicts of interest.

Resources

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