



Analysis of Neighborhood Livability Levels in Tehran District 12 within the Framework of Sustainable Urban Development

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Article Info

Article type:
Research Article

Article history:

Received: 2026/03/22

Received in revised form:
2026/04/19

Accepted: 2026/04/30

Available online: 2026/05/21

Keywords:

Sustainable Development,
Urban Livability,
Tehran city,
District 12.

ABSTRACT

Today, cities face numerous challenges, and population growth has brought harmful consequences for urban areas. The continuation of such urban growth, with social, economic, and environmental problems, is a crisis and a warning about the unsustainability of cities. Consequently, livability in cities has declined. This study aims to assess the livability of District 12 of Tehran in the context of sustainable urban development. The research adopts a descriptive-analytical method and is classified as applied research in terms of purpose. Data was collected through library-based and field methods. The statistical population consists of experts from Tehran Municipality District 12, and cluster random sampling was employed. Data was analyzed using the TOPSIS technique. District 12 of Tehran was selected as the study area due to its central location, historical significance, deteriorated urban fabric, and diversity of land uses. In this study, 20 indicators across various dimensions were evaluated, including personal and social security, quality housing, environmental pollution, public transportation stations, recreational facilities, drinking water quality, waste and sewage collection, educational spaces, sense of place attachment, citizen participation, environmentally compatible land uses, access to suitable employment, regional facilities and equipment, access to open spaces, green and public spaces, urban governance, social interactions, cleanliness of public spaces, quality of public spaces, and social justice. The results indicate that Iran Neighborhood ranked first with a score of 0.967, demonstrating a high level of livability, while Harandi Neighborhood ranked last with a score of 0.082, indicating the lowest level of livability. Qiyam Neighborhood ranked second with a score of 0.914. These findings reveal significant inequalities in livability levels across neighborhoods in District 12 of Tehran. Therefore, implementing sustainable urban development policies to improve living conditions, reduce neighborhood disparities, and enhance urban quality of life, particularly in disadvantaged areas, appears essential. Urban managers and planners should prioritize less privileged neighborhoods through targeted interventions aimed at promoting social equity and sustainable urban development.

Introduction

In recent decades, rapid urbanization and population growth have transformed cities worldwide, particularly in developing countries. Although urban expansion has contributed to economic and social development, it has also created major environmental, social, and economic challenges, including pollution, traffic congestion, inadequate infrastructure, unequal access to services, and declining urban environmental quality. Consequently, urban livability has emerged as an important framework for evaluating urban environments and supporting sustainable development. Livability refers to the extent to which urban areas provide safe, healthy, equitable, and satisfactory living conditions and encompasses dimensions such as environmental quality, housing, accessibility, social cohesion, economic opportunities, public participation, and urban governance. Livability is closely related to sustainable urban development. While sustainability emphasizes the long-term environmental, social, and economic viability of cities, livability focuses more directly on current living conditions and residents' well-being. A livable city should provide adequate access to essential infrastructure and services, including transportation, housing, clean water and air, employment, green spaces, and opportunities for social interaction and participation in decision-making. Thus, improving livability can serve as a practical pathway toward sustainable urban development. In this context, District 12 of Tehran, as the historical and administrative core of the city, has considerable cultural, economic, and historical importance. Despite its strategic position and rich heritage, the district faces challenges such as physical deterioration, environmental degradation, socioeconomic disparities, and unequal distribution of urban services. These conditions have resulted in differences in living standards among its neighborhoods. Therefore, assessing the livability of District 12 is essential for identifying development priorities, addressing spatial inequalities, and supporting sustainable urban planning.

Method

This research is descriptive-analytical in terms of method and nature and is classified as applied research in terms of purpose. Data was collected through library-based and field studies, with field study instruments including observation, interviews, and questionnaires. The statistical population consists of experts from Tehran Municipality District 12, and the sampling method is cluster random sampling. For data analysis, the TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) method was employed. In this algorithm, it is assumed that the desirability of each indicator increases (or decreases) uniformly. The best available value of an indicator represents the positive ideal, and the worst available value represents the negative ideal. Additionally, the indicators are assumed to be independent of each other. The distance of an option from the positive (or negative) ideal may be calculated as Euclidean distance (squared) or as the sum of absolute values of linear distances (known as block distances), depending on the trade-offs and substitutions among indicators.

District 12 of Tehran, with an area of 1,600 hectares, has approximately 73% of its urban fabric dating back more than 200 years. 3.43% of the district consists of significant zones and areas, and 15.5% of the length of urban edges (street facades) still contain valuable building facades. The district is bounded by Enghelab Street to the north, Shoush Street to the south, 17 Shahrivar Street to the east, and Vahdat-e-Eslami Street to the west. District 12 includes six districts and thirteen neighborhoods, and is home to numerous historical and cultural landmarks, including the Grand Bazaar of Tehran, Jameh Mosque, Shah Mosque, the Royal Citadel, Sabzeh Meydan, as well as national museums such as the National Museum of Iran, Marvi School, and other significant religious and cultural centers. The presence of these historic elements, alongside the deteriorated urban fabric, represents both challenges and opportunities for sustainable development.

Results

Based on the assessment of 20 indicators extracted from the current situation of District 12, the TOPSIS technique was employed for ranking. After standardizing the indicators, distances to the ideal and non-ideal solutions were calculated. The results revealed significant variations in livability levels among neighborhoods. Iran Neighborhood achieved the highest livability score with 0.967, followed by Qiyam with 0.914, Kosar with 0.487, Sanglaj with 0.445, and Pamenar with 0.433, demonstrating relatively favorable living conditions and better access to essential urban amenities. In contrast, Harandi recorded the lowest livability score (0.082), reflecting severe deficiencies in several dimensions of urban life. Emamzadeh Yahya (0.220) and Ferdowsi (0.232) also ranked among the least livable neighborhoods. These findings reveal substantial spatial disparities in the distribution of urban resources, facilities, and development opportunities across the district. Among the evaluated indicators, quality housing emerged as the most influential factor contributing to urban livability, followed by favorable physical environments and compatible land uses, while urban infrastructure quality ranked third. Environmental pollution reduction, access to financial services, and employment opportunities received comparatively lower scores.

Conclusions

This study demonstrates that urban livability serves as a critical intermediary between current urban conditions and the broader goals of sustainable urban development. The considerable disparities observed among neighborhoods in District 12 reflect uneven urban development patterns and highlight the need for targeted planning interventions. Improving livability requires integrated policies that address housing quality, environmental management, social equity, infrastructure provision, public participation, and economic opportunities. The results further confirm that sustainable urban development cannot be achieved solely through long-term environmental strategies; it also requires immediate improvements in residents' daily living conditions. Therefore, enhancing livability should be considered a practical and measurable approach to advancing sustainability goals in historic urban districts such as Tehran's District 12. To improve livability, urban policymakers should prioritize investments in educational and recreational facilities, healthcare services, public transportation, environmental quality improvements, employment creation, affordable housing, and equitable access to urban services. Such measures would not only enhance residents' quality of life but also strengthen the long-term sustainability and resilience of the district. Future research is recommended to investigate the dynamic relationships between livability indicators, conduct comparative studies across different districts, and develop comprehensive frameworks for monitoring and evaluating progress toward sustainable urban development goals.

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