

The Application of Multi-criteria Decision Making Models for Assessing the Livability of Metropolitan Areas of Tehran

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Extended Abstract

1. Introduction

Geographers have always considered the ultimate goal of geographic studies to improve the quality of human life. In the various definitions presented from geography since very far away (i.e. Eratosthenes), the emphasis has been on the interaction between man and the environment. Geographers have always sought to optimize this relationship to deserve part of human life. Theoretical framework of bioactivity is a complex, multidimensional and general concept that is associated with a number of other concepts and terminology such as sustainability, quality of life, and quality of place, and healthy communities. People and places are two sides of the concept of livability. Biodiversity reflects the welfare of a local community and includes many features that transform a place where people tend to live there in the present and future. A habitable place to live is the right place to work and live.

2. Review of Literature

Livability is one of the greatest ideas of urban planning in contemporary times (Godschalk, 2004). Livability theory was created based on the work of Maslow, human needs, and then developed because of the importance of threats in the field of quality of life. Factors such as rapid growth, the lack of agricultural land and open spaces, housing shortages, the growth of social inequality, weakness of local identity and social life are serious threats to the livability of the communities. According to Radcliff (2001), people are happier and more satisfied in communities that meet their needs better. Livability is usually characterized by three main areas: environmental quality, local amenities and individual well-being (Lennard, 1995). Various indexes have been identified for livability in different researches, such as housing, employment, recreation, cleaning and security (Howley et al, 2009). Oberlink (2008) mentioned components of this including: housing, transportation and mobility, land use, cooperation and interaction, local

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social understanding and planning, and leadership, in report of opportunities for creating livable communities. This concept overlaps with some approaches such as sustainability, urban village, quality of life, smart growth and new urbanism; because all of them are critical responses to unfavorable urban policies.

3. Method

The research method used in this study is of applied and descriptive-analytic. The library and field documentation (questionnaire) has been used to collect information. The statistical population is the residents of Tehran City, which according to the census of 2016 includes 8693706 people. The sample size was calculated first in the studied areas according to the Cochran sampling formula with a 7% error rate. For 22 urban areas, 385 persons were obtained and according to the extent of the Tehran metropolitan area and the probability of the loss of the questionnaire, 485 researcher made questionnaires. Next in each of the studied areas, the proportional quota was allocated based on the population. Sampling method was also possible in this research. Cronbach's alpha method was used to measure the reliability of the instrument, namely the household questionnaire, which is equal to 0.799.

To investigate the validity of the questionnaire, which was used as the main tool of this research for assessing the biogenesis of 22 metropolitan areas of Tehran, the views of experts in geography and urban planning, urban development and sociology were used. In order to reach the final survey indexes, a sample of the above resources was provided by 15 experts in the form of an initial questionnaire. In two phases, they used the Delphi method to scale the questionnaire. The initial questionnaire, which was provided to the experts, was 214 items, while at the end of the Delphi dual phase remained only 193 points. A total of 58 items were also extracted from the statistical yearbook of 2016 and the rest were used as questionnaires in the final questionnaire.

4. Results and Discussion

In all areas of the 22 metropolises of Tehran metropolitan area, the bioequivalence conditions are not the same, and there is a significant difference between the regions of Tehran in terms of the biodegradability index. As it is stated in the ranking of the 22 metropolitan areas of Tehran in terms of Livability based on the multi-criteria decision making model of VIKOR, region 1 with the highest livability with the lowest level of VIKOR (0) in the first place and area 3 with Wickor (0.62) and Zone 2 with Wickor (0.71) were ranked the first to the third. In contrast, regions 20, 19, 17, 15, 18, 16, and so on with the highest amount of calculated Wikers were placed in the last positions. These results indicate that the biodegradability of the regions is not the same so that most southern regions (14 regions) have poor biodegradability, and the decreasing livability after high livability to the central regions Tehran City has been drawn. A total of 14 regions located in most of these areas are in the southern and inner suburbs of Tehran metropolis. In terms of statistics, 0.18 is in optimal condition, 0.18 is in semi-desirable condition, and 0.44 is in unfavorable condition. These results are

consistent with the results of Sasanupour et al. (2014), in which case the first and third places are in the first place in terms of livability.

5. Conclusion

Findings revealed that today Tehran has social, economic, physical and environmental problems. It originates from the massive re-distribution of the population due to the concentration of administrative and political facilities. On the other hand, widespread migration with regard to economic conditions and unemployment is one of the most important factors contributing to the pattern of inhumane physical development, insecurity, density, environmental issues, and ultimately reducing bio-availability which is far away from sustainable development components. Due to the fact that urbanization is not inhibited and high population growth is one of the most important factors of increasing the risks and reducing the livability of Tehran's metropolis, population growth and consequently, concentration, traffic, physical growth, and the handover of the city to its peripheral and urban areas have provided a platform for stimulating and exacerbating the risks, such as the formation of thermal islands, greenhouse gas emissions, and so on.

According to the results of the research, the following suggestions are presented for the biodegradation of Tehran's metropolitan areas:

- Considering the improvement of the economic situation in the southern and central zones (20, 19, 17, 18, 15). In other words, while logic 1 grows due to the existence of commercial centers and infrastructure services, etc., it is also necessary to consider the economic growth and development of other districts and zones since the 1st and 3rd districts, 2,22, have produced significant gaps compared to other areas.
- Improving the housing situation in the southern areas of Tehran (20, 19, 18, 17, 16, 15) and the various opportunities provided in this field (i.e. diversity leading to the creation of lively and dynamic neighborhoods and the residence of different citizens) economically and socially in the neighborhoods.

Keywords: Urban sustainable development, Path analysis, Biodegradability, Multi-criteria decision making models, 22 Tehran Metropolis.

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