Analysis of spatial-activity structure problems and decisionmaking structure of district 5 of Isfahan city

Farzaneh Dehghani Gishi¹, Ali Asghar Mohammadi², Zahrasadat Fayyaz³

Abstract

Cities and urban areas have various urban planning problems, and if they are left unattended, not only new problems will emerge, but existing problems will also become more intense. Some planning theorists have emphasized on the need to focus directly on planning problems and presented various methods for finding and analyzing problems since the late 1970s. The problem can be thought as a theoretical or practical difficulty that shifts the researcher's attitude towards a subject and leads him to enrich his knowledge. To define the problem, it is required to describe the system including agents, relationships, people and environment, including the market, competition, methods and programs, and briefly, goals, opportunities and challenges define the problem. A problem is regarded as an opportunity for a decision or a barrier that makes it difficult to achieve a given or intended goal; therefore, in the definition of a problem, we refer to a problematic situation that has not yet been resolved and needs to be solved. Thus, when an obvious difference between the existing situation and the desired situation is recognized, the problem has been detected. Problem solving, merely, is not a single process and can be divided into four separate but related parts: identify or detect problem, problem definition, problem statement, and problem analysis. The purpose of the present research is to identify the structural-spatial-activity problems and the decision-making structure of the district 5 of Isfahan based on upstream texts and documents, the opinions of the residents of the region, and to trace the problems based on the opinions of the decision-making structure of the region. The research methodology is descriptive-analytical, and the problems are analyzed using creative problem-solving techniques (boundary test and fish bone method). According to the results of the study, the most important problems in this area are the decrease of residential values in some areas of the region, the inefficiency of roads and public transportation system, the low participation in the revitalization of worn-out areas, and the inefficiency of the urban management system.

Keywords: problem, problem solving, boundary test, fish bone, district 5, Isfahan (Iran).

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Evaluate the quality of life based on the city prosperity index in Maku Free Zone

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Abstract

In the 21st century, cities are facing much confusion. Being introduced by the United Nations Human Settlements Program (2012), the city prosperity model proposes a new approach to urban prosperity and sustainability and seeks a fundamental solution to improve the quality of life. The present study is aimed to evaluate and measure the city prosperity in Maku Free Zone based on the quality of life component. This research is applied in terms of purpose and descriptive-analytical in terms of nature. 22 sub-criteria have been used by referring to studies and field document reviews regarding the subject and purpose of the research. The data has been standardized for analysis and Shannon's entropy method has been used to weight each index. Then, urban prosperity has been scored for each of the cities in Maku Free Zone using the TOPSIS model. Maku (Iran) with a coefficient of 0.824 and rank 1 has the highest prosperity in terms of the urban quality component, and Shoot and Poldasht cities have the lowest urban quality with a coefficient of 0.212 and 0.142 and ranks 2 and 3, respectively. The results obtained from TOPSIS show that more facilities and services are concentrated in the center of the region, Maku; thus, the inequality and gap between the cities of the region can be observed with a considerable difference, which should be improved by providing appropriate solutions to the development of deprived cities this should be prioritized in the development plans of the Maku Free Zone.

Keywords: TOPSIS model, urban prosperity, quality of life, Maku free zone.

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Provide an automatic web-based platform for collecting traffic data

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Abstract

The reality is that people often search for a path that has the parameters of being short, low cost, and using the least amount of energy. However, traffic is one of the most influential factors in choosing the route to reach the destination. It can be said that people mostly prefer a long route with low traffic to a short route with heavy traffic. Thus, traffic makes many optimal path equations more confusing. In addition, it is obvious that the main criterion to select a route, among different communities, is the traffic condition on the required route. This problem highlights the significance of the present study and attempting to collect traffic data, because if the goal of the research is achieved, the least effect is saving time, money and energy. For this purpose, this study seeks to collect traffic data of Tehran province. Traffic data exist instantly, but the problem is that there is no platform for data collection and storage. The lack of an appropriate platform to store traffic data has always been a problem that has challenged researchers in this field. Therefore, a method for collecting and storing traffic data on the web platform has been discussed in the present study. The programming method in different environments has been used in this paper, as during a long period of time, the data were collected and compared to the collected traffic data. It was found that the area with heavy traffic is always overcrowded in most hours of the day, especially during the hours of the day and night when people commute to work. But the important point here is that the areas that have heavy traffic usually have heavy traffic or semi-heavy traffic during 24 hours. In other words, it is rarely observed that the areas with different traffic loads make a significant difference in the traffic condition. In terms of accuracy, it can be concluded that this study has collected traffic data with high accuracy according to the geographical location of each area on each street.

Keywords: traffic, geographic information systems (GIS), web-based model, traffic behavior, automatic traffic storage.

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The spatial analysis of the urban areas vulnerability with passive defense approach Case study: District 9 in the southwestern area of Mashhad

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Abstract

One of the prerequisites of urban planning is the identification and spatial analysis of vulnerable areas and neighborhoods exposed to military attacks in order to reduce the dimensions of life and financial losses. The appropriate implementation of such plans is based on the recognition and separation of high-risk areas from other areas. Therefore, the present study is aimed to achieve the effective criteria for reducing the vulnerability of neighborhoods in the district 9 of Mashhad based on the principles of passive defense and identification of the most vulnerable neighborhood in this area. To do this, four criteria of the population at risk, the accessibility to relief centers, the composition of urban context and the border of risky centers and 10 indices have been extracted as special theoretical basics of the research. All these criteria and indices have been evaluated and analyzed in urban planning. The research methodology is based on descriptive-analytical approach using the AHP model. Also, the SWAT technique has been used to achieve strategies. These strategies have been developed based on the principles of defense, downsizing, optimal scale, performance dispersion, optimal location, permeability and non-dependence of users. According to these studies, the neighborhoods of Kausar, Hafez, Honarestan, Shahrara, Iqbal, Rezashahr, Ab and Bargh, Sarafarazan, Nirohawai and Chaharcheshmeh are the most vulnerable neighborhoods from the passive defense aspects.

Keywords: passive defense, spatial analysis, vulnerability, neighborhood, district 9 of Mashhad city.

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Evaluation of the effect of the urban growth form on the environmental quality of the forest areas of the city (case study: Shirgah city¹)

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Abstract

With a short view of the conditions of the world's environment in the last two decades, we can say that despite the recent controls in the field of the environment, not only the adverse human effects have not been decreased, but also problematic issues such as high atmospheric pollution, ozone layer depletion, greenhouse phenomenon and global warming and numerous effects caused by these phenomena have been emerged. On the other hand, the extreme growth of urbanization and the increase of the urban population in different countries after the Second World War has emphasized on the need to consider urban issues for planners and the experts involved in urban affairs. The important point that has received attention by all individuals is urban growth and development patterns. In recent decades, cities and urban areas have expanded their original size mostly in a short period of time. Their development in separate, unplanned and unorganized parts has become recognized as the pattern of urban expansion or horizontal distribution and is the source of many problems in developing and developed cities and has adverse impacts on the urban environment and forest areas of the city. The present research is aimed to examine and measure the growth pattern of Shirgah city on the environmental quality of forest areas of the city. The research methodology is based on descriptive-analytical approaches, in which statistical models and SWOT technique have been widely used to measure the effects of physical development of the city on the environmental quality of forest areas. Besides using documents and library studies, a questionnaire is developed for data collection, which was distributed among a sample of 352 people. Based on the opinion of experts in the internal and external factors matrix and the planning matrix by SWOT model for data analysis, the quantitative strategies were extracted. The results of the SWOT technique showed that in the internal matrix with a total score of 2.587, it indicates the amount of strength, and in the external matrix with a total score of 2.431, it indicates the amount of threat. We found that the strengths and threats related to the impacts of the city growth pattern on the environmental quality of the forest areas were dominant; thus, four strategies have been presented in this regard. It is worth to mention that ST strategies are prioritized, so the implementation of ST strategies in the activities is highlighted to achieve the desired result.

Keywords: growth pattern, urban form, physical development, environmental quality, forest areas.

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A representation of attitude differences in the urban planning of developing countries in the form of adapting the systems in India and Iran

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Abstract

In order to recognize the spatial planning system of the countries, we should first understand their planning and development system and then consider the experiences of those countries in the spatial planning system and its comparison with the current situation of the country of origin. The spatial planning system of Iran has not been successful in the field of urban development projects and has encountered failures. To eliminate these problems, using successful global experiences can be a suitable solution. Due to its leadership in the spatial planning system and successful performance in urban development programs and the use of active public participation, India has been investigated as a successful sample in this research. In this comparative comparison, two types of general knowledge (general, geographic, economic situation and intra-territorial divisions) and specific (macro planning system and spatial planning system) were obtained from two countries of Iran and India. The research method of the present study is qualitative and comparative and based on library and documentary studies. Based on the results, the approach and mechanism of spatial planning is more advanced in India and is shifting towards inclusive participation, but this movement is slow in Iran. In both countries, planning is done on various scales. The implementation and supervision system of India is based on a serious control and supervision system on land use and has strict rules in the field of development and construction regulations, but in Iran, the implementation of programs is average and supervision is not done well. In India, the planning process is first from top to bottom and then from bottom to top, but in Iran, the planning process is top to bottom. Finally, it can be said that India's planning and spatial planning system is more advanced compared to Iran in many cases, and those responsible for planning should consider the important points of India's plans and programs and how they are implemented.

Keywords: planning, spatial planning, India, Iran.

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