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Article Review

An Analysis of the regeneration of Ahvaz metropolis worn-out urban textures with future studies and scenario planning

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A R T I C L E I N F O

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A B S T R A C T

The worn-out urban texture and its internal elements arise due to the old age or the lack of a development program and technical supervision over the formation of that texture. Their urban regeneration in various social, economic, physical, environmental, etc. dimensions to improve the quality of life in this context with a future studies approach requires sustainable and desirable development in various existential dimensions. The purpose of this research is the impact of urban regeneration on worn-out textures with a future studies approach. The type of applied research and its investigation method is exploratory. Micmac and Scenario Wizard software programs were exerted to analyze the research results. In this research, key factors were determined by using Micmac software, and then several uncertainties were considered for each. Then, the essential scenarios of urban regeneration in worn-out textures were developed using Scenario Wizard software. The results show that the variables of preserving the physical identity and promoting and developing the productivity of urban lands have the most significant impact on worn-out textures. Examining the variables based on Micmac software's output indicates the instability of these areas. In addition, the filling degree is equal to 96%, showing the high impact of the variables on each other and their dispersion. The regeneration of worn-out textures is in a state of crisis, and the probability of organizing worn-out textures is low from the point of view of urban regeneration, and it requires the serious attention of urban planners and managers.

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Extended Abstract

Introduction

Ahvaz metropolis, with an area of 19,494 hectares, as one of the five large cities of Iran, has worn texture in its eight regions. So now, more than 40% of the city's residential texture comprises inefficient and worn-out textures. In this regard, it doubles the attention to urban regeneration by presenting different scenarios in the present time to solve the current problems and anomalies in different physical, managerial, social, economic, and environmental dimensions. Moreover, this type of planning and decision-making with the approach of re-creation and future research in the present time will make any activity in the future to the benefit of its citizens to improve the quality of life and organize the physical, environmental, and other conditions. As a result, the best aspect of planning and decision-making in this area is not whether it is right or wrong. However, any policy-making and regeneration in this area by urban planners and managers should lead to a more stable city in the future and the coming years. Therefore, the present study was formed with the analytical aim of recreating the worn-out textures of Avaz city with the approach of future studies and scenario writing. Furthermore, it aims to answer the following questions:

1-What are the key driving forces of regenerating worn-out urban textures in Ahvaz metropolis?

2- What are the proposed scenarios for improving and regenerating worn-out urban textures in Ahvaz metropolis?

Methodology

The research method is analytical-exploratory and practical in nature and purpose, respectively. The current research used a combination of quantitative and qualitative models and a combination of documentary and survey methods in the framework of the Delphi model and software analysis. In this regard, after preparing the questionnaire in the form of a two-by-two comparison, data were collected in the framework of the Delphi model. In order to identify primary variables and collect data, ten questionnaires were distributed among city managers and future studies elites. Each studied questionnaire was prepared as a cross-effects matrix, and its variables were evaluated based on impressionability and effectiveness. In this regard, to analyze them and quantify the numbers, the method of cross effects in Micmac was used. After entering the data into Micmac software, the degree of correlation between the variables was identified, and finally, the impressionable and effective variables were determined directly and indirectly. For the scenario wizard software, each key factor's condition was considered and designed in the form of a mutual effects questionnaire. This questionnaire's weighting was evaluated in pairwise comparisons, and the influence of the variables was evaluated as 3 to -3 numbers.

Results and discussion

The results show that 33 variables were identified and analyzed as effective factors in regenerating worn-out textures in Ahvaz metropolis. The dimensions of the variables matrix are 33x33, which were evaluated in different dimensions (management, economic, social, physical, and environmental). According to the output of Micmac software, the number of repetitions is 2, the number of one is 301, the number of two and three is 556 and 199, respectively, and out of the total of 1056, the highest ratio is 2, which means that there are more influencing factors. The filling rate of the matrix is more than 96%.

Conclusion

In the scenario section, eight scenarios in three favorable, static and critical situations that have the possibility of regeneration of worn-out textures were evaluated with Scenario Wizard software. The crisis scenario with 43% shows that the regeneration of the worn-out texture is not in a suitable condition, following the favorable scenario has 38%, and the static scenario has 39%. Also, the results of Scenario Wizard software show that the number of strong scenarios identified is 8.

61 scenarios with high compatibility and 53 scenarios with weak compatibility were identified. Among the evaluated scenarios, only the fourth scenario is favorable for the development and role of regeneration in improving worn-out textures in the study area. In this scenario, the driving forces are balanced and favorable, and regeneration policies can be the basis for increasing sustainability in these areas. These textures in the form of coherent and desirable development and sync with all dimensions and social, economic, environmental, physical, and management capitals based on scenario planning will make the strategies and visions more precisely planned.

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Conflict of Interest
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