Futures Studies on the Role of Resilience Components in the Dilapidated Urban Context (Case Study: Central Part of Ahvaz City)

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Abstract

Objective: The existence of various physical, social, etc. issues and problems in the worn-out central fabric of Ahvaz city has made this fabric vulnerable. Therefore, the present study, by adopting a futures research approach and with an applied purpose, has investigated the role of resilience components in the worn-out urban fabric of the central part of Ahvaz city.

Method: The research method is descriptive-analytical and the required data was collected through library resources and questionnaires, and its statistical population includes 40 specialists and experts active in the fields of urban management, dilapidated texture, and urban planning. Data analysis was performed using the Delphi method and the cross-effects matrix (MicMac.(

Results: Based on the findings, out of 30 sub-indices, 18 indicators have been identified as key factors that have the greatest and least impact on the future of resilience in the dilapidated urban fabric of the central part of Ahvaz city. In examining the impact of resilience on the dilapidated urban fabric of the central part of Ahvaz city, local empowerment, reducing vulnerability, improving environmental quality, and building quality have the greatest impact on resilience, respectively.

Conclusion :The results of this study showed that overall, social factors (such as public participation and social interactions) play the greatest role in increasing resilience, while institutional-organizational factors have the least impact and need to be strengthened.

Key Words: Dilapidated Fabric, Central Part, Urban Resilience, Future Studies, Ahvaz City.

Research Article

Purpose

The concept of urban resilience is particularly important in degraded urban areas, as degraded urban areas have complex social, economic, and cultural issues. These areas are always exposed to various types of damage due to physical deterioration, inadequate access, poor service facilities, and inefficient infrastructure. Considering the issues mentioned, it can be said that the vulnerability of cities, especially old and dilapidated structures, to disasters has become one of the main concerns of urban planners and managers in recent years. So that today, new approaches to crisis management emphasize the transition from the concepts of vulnerability to resilience and have introduced strengthening the ability of citizens to deal with the risks arising from natural and man-made disasters. In fact, historic and dilapidated urban areas are the beating heart of the city, but neglecting them can lead to low resilience. The central part of Ahvaz city, as the study area of the present study, is not isolated from this issue and faces numerous problems such as instability, inefficiency of communication networks, lack of services and facilities, low security, etc. The existence of various physical, social, etc. issues and problems in the worn-out central fabric of Ahvaz city has made this fabric vulnerable. Therefore, the present study, by adopting a futures research approach and with an applied purpose, has investigated the role of resilience components in the worn-out urban fabric of the central part of Ahvaz city. These issues make the dilapidated central fabric of Ahvaz more vulnerable to disasters and accidents, and despite the importance of this issue, there is no comprehensive understanding of the role and extent of the impact of resilience components (including physical, social, economic, institutional, and environmental resilience) on the future of this dilapidated fabric. Therefore, the main goal of this futures research is to investigate and analyze the role of resilience components in the dilapidated central urban fabric of Ahvaz in the upcoming time horizon. In this regard, the present study seeks to answer the following questions: What is the most important resilience components in the future state of the dilapidated central urban fabric of Ahvaz?

Method

This research, with a descriptive-analytical approach, examines in detail the indicators and variables affecting the resilience of the dilapidated fabric of central Ahvaz. Initially, the main variables were identified and structured by studying documents, conducting in-depth interviews with experts, and distributing a questionnaire. In the analysis stage, a survey method and questionnaire tool were used to measure the impact of these variables on the target population. The statistical population of this study includes specialists and experts with knowledge and experience in the field of resilience and the dilapidated fabric of Ahvaz (including academics and urban managers). In order to select the sample, the snowball sampling method was used; this method was efficient given the exploratory nature of the research and the lack of a specific theoretical framework at the beginning. This process began with the initial identification of a number of experts and continued with the introduction of more knowledgeable individuals until theoretical saturation was reached, and ultimately 40 interviews were

conducted with experts. Data analysis was performed using the Delphi method and the cross-effects matrix (Mic Mac).

Findings

Based on the findings, out of 30 sub-indices, 18 indicators have been identified as key factors that have the greatest and least impact on the future of resilience in the dilapidated urban fabric of the central part of Ahvaz city. Based on the results of the analysis of the mutual effects of factors on each other, the degree of direct and indirect influence of the factors on the future state shows the role of resilience components in the dilapidated urban fabric of the central part of Ahvaz. According to the research findings extracted from the Mic Mac software, local empowerment, natural resource management, sense of belonging and local identity, financial support, social capital, green and open spaces, awareness and education, level, education, pollution reduction, vulnerability and age and quality of buildings (influencing factors), environmental quality, critical infrastructure, warning and information system, quality and strength of buildings, local markets and access to goods, livelihood sustainability and road network and access (bi-faceted factors) had the highest direct impact on the future status of the resilience components in the dilapidated urban fabric in the central part of Ahvaz. In the field of indirect influence, these factors also received the highest scores and were repeated.

In general, the four main factors of local empowerment, vulnerability, environmental quality, and the age and quality of buildings play a very important role in shaping the resilience of the dilapidated fabric of the central part of Ahvaz. In the direct impact assessment, local empowerment leads with the highest score (463), emphasizing the importance of community participation and indigenous approaches in promoting resilience. It is followed by vulnerability (412) and environmental quality (412), indicating the need to reduce vulnerabilities and improve living conditions to increase resilience to crises. Finally, the age and quality of buildings (406) have also been identified as the fourth key factor in direct impact, emphasizing the importance of the physical condition of the urban fabric. At the indirect impact level, the same four main factors also have the highest scores, although there are slight differences in their rankings. Local empowerment remains at the top with a score of (469), demonstrating its pivotal role in creating a strong and sustainable support network. Environmental quality (418) and the age and quality of buildings (413) are in the next positions, respectively, highlighting the importance of the complex relationships between these factors. Vulnerability (411), although ranked fourth, is also considered an indirect factor affecting resilience. This overlap of key factors at both the direct and indirect levels of influence suggests a deep dynamic and interconnectedness between them. This suggests that to sustainably improve resilience in these regions, it is essential to adopt a comprehensive and integrated approach that considers all of these factors, as strengthening each of them, not only directly but also through a network of indirect relationships, will contribute significantly to overall resilience enhancement.

Conclusion

The results of this study showed that overall, social factors (such as public participation and social interactions) play the greatest role in increasing resilience, while institutional-organizational factors have the least impact and need to be strengthened. These findings are consistent with studies such as Akbari et al. (2010), Hatami et al. (2012), and Kao (2023), which emphasize the importance of public participation and social cohesion. Also, the focus on local empowerment and vulnerability reduction is consistent with the general concept of resilience proposed by Zeng et al. (2022) and Wasilovska and Slavkovic (2024). Also, while the present study does not address the overall state of resilience in different dimensions in Ahvaz, some previous studies such as Gorji et al. (1400) and Ilanloo and Sohrabi (1401) have reported an unfavorable state in specific dimensions of resilience in other regions. Overall, this study, with its emphasis on social dimensions, is in line with the existing literature in many aspects, but the difference in the impact of the institutional-organizational dimension can provide a basis for future research. According to the research results, to improve the resilience of the dilapidated fabric in the central part of Ahvaz, the following three general suggestions are presented:
Prioritizing investment in social empowerment and local participation
An integrated approach to reducing vulnerability and improving physical and environmental quality
Reforming and strengthening institutional-organizational structures and processes

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Conflict of Interest

The authors have completely avoided publication ethics, including plagiarism, misconduct, data falsification, or dual submission and publication, in relation to the publication of the submitted article, and there are no commercial interests in this regard.