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EVALUATION OF THE QUALITY CRITERIA OF THE URBAN STRUCTURE OF WORN-OUT TEXTURE IN AN EARTHQUAKE CRISIS

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Abstract

Due to the high density of deteriorating urban areas and the lack of adequate safety standards, it is essential to assess their vulnerability to earthquakes in order to mitigate potential damage. The purpose of this study is to present a coherent theoretical framework for understanding the concept of urban environmental quality and its components, and to adapt these elements to the conditions of earthquake-induced crises in these areas. Using a descriptive-analytical research method, the indicators affecting the quality of urban structures were identified, evaluated, and scored by 30 experts in urban management and planning through the DEMATEL (Decision-Making Trial and Evaluation Laboratory) systems thinking technique. Based on the results of the analysis of eight final selected criteria, the most interactive criterion was found to be environmental health and sustainability (with the highest value of C+E=47), while the most prominent criterion was safety and security (with the highest absolute value of C-E=10). The least interactive criterion was the sense of belonging to the environment (with the lowest value of C+E=23), and the most subordinate criterion was readability and visual proportions (with the lowest absolute value of C-E=0). Finally, by applying a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis to these four criteria, it was determined that the environmental quality of the deteriorating urban areas is in an aggressive-competitive position when facing earthquake-induced crises. Consequently, aggressive strategies addressing the four priority criteria impacting the environmental quality of these areas, both before and after an earthquake, have been proposed.

Key words: Earthquake crisis, evaluation of environmental quality criteria, systematic evaluation, urban management, worn-out urban texture

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