

Codifying the Rules of Ecological Wisdom in Planning for the Regeneration of Livability in the Neighborhoods of Desert Cities (Case Study: City of Yazd)

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Abstract

Currently, cities are the largest forces changing the ecological conditions of the landscape and influencing ecological structures and processes. There seems to be no harmony or balance between the urban networks and the patterns in nature today, and the urban networks are dominating the vulnerable ecological networks. Disregarding ecological infrastructures and the imbalance between the natural and man-made environments has led to concerns about the livability of cities and urban areas for urban planners and designers. Livability crisis is the crisis of unlivable urban spaces that suffer from environmental challenges, the gap between man and nature, and the rupture of natural environment. These are some of the most significant problems in contemporary cities.

Introduction

Livability is a complicated, multi-dimensional concept that reflects the welfare of a local community. Ecological wisdom is an approach derived from the intellectual paradigm of ecology for city and planning tools, aiming to achieve social-ecological sustainability over long periods of time. Researchers have highlighted the ability of ecological wisdom in combining ecological knowledge with the development process, with the support of stakeholders, so as to enhance the experiences of life quality and livability. They argue that, by creating comprehensive and multi-dimensional perspectives, ecological wisdom turns urban planning into an ecological and resilient planning. The present study aims to investigate the relationship between the two approaches, ecological wisdom and livability, in the neighborhoods of the ancient city of Yazd and to highlight the indispensability of ecological wisdom approach in the regeneration of livability in urban neighborhoods.

Materials and Methods

The present study uses comparative-deductive method. In order to have an analytic-comparative study of the two approaches, ecological wisdom and livability, we will explain and analyze a series of concepts using the Delphi method and asking questions from experts (15 experts in geography, urban planning, environment and urbanism); then we will compare the two

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approaches by elaborating on similarities and differences in terms of their principles and applications. The driving forces, criteria, and sub-criteria of livability were deduced using the ecological wisdom approach in neighborhood structure and form, neighborhood space, neighborhood function, neighborhood landscape, neighborhood ecological services and processes. The livability of historical and new neighborhoods of Yazd was compared based on the criteria obtained from questionnaires and SPSS statistical analysis, and the final stage was to codify the rules of ecological wisdom in the regeneration of livability in the neighborhoods of the ancient desert cities.

Results and Discussion

An examination of the criteria obtained from the comparison between historical and new textures of Yazd suggests that the studied historical texture has a higher livability compared to the new one. The neighborhood space and the form and structure of man-made environment have the greatest influence on providing the livability of the neighborhoods under study. Form and structure are completely consistent with the natural context. The orientation of the buildings and passages are in such a way as to have the best use of winds, proper lighting, and optimal use of the sun heat in the summer and winter. The bazaars reflect the dominant spirit of the society of their time, serve as the vibrant core of the city, and, after all this time, still support the flow of light and air as well as air conditioning. Coherent urbanism with a connected texture and harmonious structure, intermixture of land uses, the connectivity of neighborhood spaces via sidewalks, creation of corridors for the flow of air and water through the neighborhood spaces, and the existence of gardens, and open spaces, green spaces have all set the stage for enhancing the livability of these neighborhoods.

Conclusion

An examination of the criteria obtained from comparison between historical and new textures of Yazd suggests that the studied historical texture has a higher livability compared to the new one. In other words, the ecological wisdom principles governing the planning and design of the historical neighborhoods have given rise to a sustainable structure and function that meets the needs of the users of the space and enhances livability. It is hoped that the ecological wisdom principles extracted from the ancient textures of the desert cities would provide a solution for the regeneration of livability, integration of ancient and new textures, and enhancing of the positive sustainable structures and functions in urban ecosystems.

Keywords: Desert City, Ecological Wisdom, Livability, Regeneration, Urban Ecology.

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