

Environmental sustainability in urban open spaces: quality assessment of residential quarters in Tabriz

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Abstract

One of the sustainable urban design strategies is to emphasize the micro scale urban spaces. The purpose of this study is to explore the environmental sustainability in urban space and assessment of three residential quarters in Tabriz.

Five main criteria of sustainable urban design (movement, energy, spatial form, ecology, and design and development) were selected for assessment. In a field study, the selected quarters were scored by a professional research team and the findings were assessed comparatively.

Maghsodieh historical quarter got the top score for movement, energy, and design and development criteria. Organic urban pattern, neighborhood facilities, connected streets, revitalized historical buildings, urban spaces for walking, environmental adaption, and local identity are among the main physical characteristics of this quarter. Roshdieh quarter, due to its designed green open spaces, biodiversity, green landscapes, and natural views, got the top score in ecology criterion. Both Maghsodieh and Roshdieh got the top score in spatial form criterion because of self-sufficiency, mixed applications, and diverse public spaces. Golpark quarter, having urban spaces which lack design as well as having serious environmental problems, got low scores in all five criteria.

This study shows that most open spaces of new residential quarters suffer from the lack of environmental design. Moreover, they cannot satisfy the needs and desires of their users. The strategies of thermal comfort, natural light, sound and wind comfort, and enhancement of the quality of urban landscape can help improve the environmental sustainability of urban quarters. New ideas such as walking ways, green ways, green bridges, bicycle and skate lines, urban and neighborhood parks as well as health and sport areas are all of practical use.

Key words: Urban open space, residential quarter, assessment, sustainability, environmental comfort, Tabriz