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Evaluation and ranking of urban sustainability based on sustainability assessment by fuzzy evaluation model

Abstract:

Urban sustainability can be considered as a part of sustainable development, which emphasizes the balance between three dimensions of environmental, economic, and social sustainability to improve human well-being and the quality of life. In this study, it was attempted to assess urban sustainability in the most critical, populous, and expanded district of Tehran (district 4) using sustainability assessment by fuzzy evaluation. For this purpose, 52 primary indices which were divided into 8 secondary components were employed. Among them, 18 indices for environmental issues were grouped into three secondary indices as E1, to E3, and 34 indices for economic–social and cultural issues were classified into five secondary indices as H1 to H5. The results revealed that 56% of the study area was potentially unsustainable and 44% of it had a medium sustainability in terms of environmental aspects. Furthermore, 65% of the study area had a medium human well-being sustainability and 35% of it was potentially unsustainable in terms of economic–social and cultural aspects. Finally, 45% of the study area was found unsuitable in terms of overall urban sustainability. The functional sample proposed in the present study can provide the directors and planners with the required information about the condition of sustainability in the most important district of Tehran.

Keywords: Urban sustainability, Tehran, SAFE, Sustainability radar

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Maryam Robati Contact Info:

(+98) 912 503 8338

Personal: Maryamrobati1984@gmail.com
Work: mailto:m.robati@srbiau.ac.ir

Maryam Robati Available at :

Google scholar: https://scholar.google.com/citations?user=55e7XNEAAAAJ&hl=en&oi=ao

Scopus: https://www.scopus.com/authid/detail.uri?authorId=54401763200

ORCID: https://orcid.org/0000-0002-5847-5127

ResearchGate: https://www.researchgate.net/profile/Maryam-Robati

Web of Science: https://www.webofscience.com/wos/author/record/HMD-4855-2023