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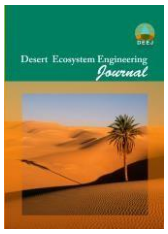

Impacts of land use changes on Technogenic desertification in Mashhad city

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Abstract

Urbanization lead a wide variety of difficulties that changes in the pattern of land use is the major consequence. One of the outcome of land use changes is ecological and biological capacity reduction or desertification. In this study, for determine of desertification due to urban development within the city of Mashhad, was used Iranian mothod (IMDPA). The land use map of this area was prepared in five decades, 40, 60, 70, 80, 90. The sources used to prepare the land use map includes, Aerial photos with scale 1: 20000, topographic maps with scale 1: 50000, digital topographic layers with scale 1: 20000, Landsat -7 ETM + Satellite images and the latest images of Google Earth. Using technogecic criterion in IMDPA mothod, weighting the indicators of this criterion was carried out. The severity of desertification in the five decades was determined by geometric mean of indicators numerical values. The results show that in the 40s, the low per capita green space and reducing of rangeland, in the decade of 60, 70 and 80, rangeland and agricultural land reduction and reducing per capita urban green were the most important indicators of Technogenic desertification. In the 90s, reduction of arable land, rangeland and per capita green space are the major indicators of desertification. In the five decades desertification intensity of the road congestion indicator was evaluated low, therefore the impact of it can be ignored on desertification of Mashhad.

Keywords: Technogenic desertification, IMDPA, land use changes, Mashhad city.

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