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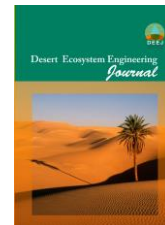
Hazard assessment of desertification using the MICD model: a case study of Kaji pond watershed in Nehbandan, Iran

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Abstract

Desertification is the result of a series of important processes. Among them, climate change and human activity are the most important. Arid and semi-arid regions cover a vast area of Iran (85%). The hazard assessment of desertification and preparation of desertification intensity maps are key tools for management of desert regions. This research assessed the efficiency of the MICD model for hazard assessment of desertification in the study area of Kaji pond, located in the Nehbandan region of South Khorasan province. The results of baseline studies conducted in the area were used to prepare a map of the smallest desert homogenous units and then score and assess the hazard of desertification in each unit. The results showed that desertification hazard in the study area fell into five classes: slow (I), low (II), medium (III), high (IV) and severe (V). The severe class covered the largest part of the area under study (54.1%) and the low class (II) covered the smallest area (3%). The highest score was assigned to active sand dunes with a value of 25 in the severe class (V). The lowest score was assigned to rocky protrusions and desert lakes with a value of 3 in the low class (II).

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