

Abstract

Rangeland habitats, as one of the most important natural ecosystems, are subjected to degradation due to unproductive exploitation. This research was conducted with the aim of optimal use and organization of their current conditions and proper planning based on the ecological capability of the land in the Sistan region. Accordingly, the first required physical data (landform, soil science, geology, erosion, climate and climate), biological (vegetation) and economic (lands, infrastructures and energy sources) of Sistan Plain They were mapped and mapped to GIS. Then, the appropriate criteria for assessing the environmental capability of the land for the development of rangeland management were determined and based on the ANP-DEMATEL approach and their interactions, the elevation indices (0.117), slope (132 / 0), soil type (0.069) and soil erosion (0.088) had the most weights in determining rangeland suitability. Finally, by applying TOPSIS and SAW methods, in the GIS and EDRISI selva environment, the analysis and coherence of the information layers were designed to prepare a final map of the land suitability of the study area for the development of rangelands. The results showed that, for TOPSIS and SAW maps, the same classification scale was used for the maps, but the area allocated to each floor was obtained in two different ways. Based on TOPSIS results, more than 50% of the area has limited and inappropriate capacity (about 837,500 hectares) for rangeland development, whereas, based on the results of the SAW method, more than 60% of the area has a fairly suitable capacity (about 30,9539 hectares) for the development of rangeland Shows itself.

Key words: Land suitability, Multi Criteria Decision Making, Range management, Sistan plain.



University of Zabol
Graduate School
Faculty of Water and Soil
Department of Range and Watershed Management

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**Land use Suitability Evaluation to Develop Range
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Decision Making Models (Case study: Sistan Plain)**

Supervisor:
Dr. sohela noori

Advisor:
Ms. Fazlollah Ahmadi Mirghaedi

By:
Roghayeh Kazemi Kemmak

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