Abstract

Forests have an important role in reducing and controlling poverty in arid regions, also, the conservation of forests in these regions is the first step to prevent the transferring of arid regions to the deserts. In this study, using the latest methods of ESAs model potential desertification in arid and semiarid regions is The planting of a forest called the seghaleh-sarayan located in South Khorasan has been investigated and analyzed. The main purposes of this research are determining the effective criterias and sub criterias in desertification and prepare the map of current status of desertification in the study area. For this purpose each of the units facies were specified and the related parameters to the ESA model indexes were investigated in them and the informational data were prepared for each of these indexes, then each of these data were entered to the GIS and the separate layers were defined for each of these indexes, and finally by determining and combining geometric mean of the layers, four criteria were investigated. At the end, the desertification severity map was prepared for the study area. The results indicate that, 31% of the region area (5944.96 ha.) has critical type with high intensity, 43 % (8246.23 ha.) has critical type with medium intensity and 25% (4794.32) has critical type with low intensity. In the conducted study the management factors were identified as the most important desertification factors of the study area.

Keywords: desertification, arid region, ESAs, Seghaleh forest, GIS

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Title:

Assessment and mapping of desertification intensity using ESAs model in Seghaleh – Sarayan plain of Southern Khorasan province

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