

Abstract

the growing trend of desert lands around the world, including Iran, is one of the problems that control global concerns. one of the most common ways to control the desertification process in Iran is to perform biological operations of desertification by planting Haloxylon Aphyllum. But lack of accurate knowledge of the ecological needs of this plant and lack of knowledge of planting criteria has led to the fact that planting in some areas has not been successful and has not been economically justified at high costs. This study was conducted to identify susceptible areas for planting Haloxylon Aphyllum to revive the desert using Analytical Hierarchy process (AHP) method in Chahdashi area of Nehbandan city. In this study, the parameters affecting the establishment and growth of the Haloxylon Aphyllum, such as: meteorology, geomorphology, groundwater and soil factors (such as soil texture, gravel, soil chemical properties, alkalinity, etc.) are determined and then these criteria are formulated in AHP model. At three objective levels, criteria and options were designed. That's level one, the intended purpose of the research, at the second level are decision problem criteria or parameters influencing this value and at the third level, the options available, is considered. Then, the questionnaire was prepared as a paired matrix for each goal and describing goals and procedures, academic experts and executives were asked to rate the weight of each parameter and finally, the final weight and relative importance of each criterion based on the geometric mean of the completed questionnaires, specified and by using Expert choice software, Hierarchical tree with appropriate incompatibility rate determined and by using capabilities ArcGIS10.4 software , by overlaying and analyzing the information layers, the AHP method identified suitable sites for the planting of the blackbird species. the results showed that From the whole area under investigation 19% has a very good talent, 9.14% the right talent, 12.06% Moderate talent, 2.85% Inappropriate talent and 22.59% Absolutely inappropriate talent for planting Haloxylon Aphyllum species. Also 34.36% From the investigated area, is

extruded rock facies, stabilized sand dunes, agricultural lands and residential areas, that it is not included in the model. Among the factors affecting establishment and growth of black species, soil weight is equal to weight 0.478, it gained the most weight and was identified as the first priority in Site Selection for planting *Haloxylon Aphyllum* species in the Chahdashi area. Then, weight the weather criteria 0.256, Groundwater level by weight 0.138, and morphology and land use by weight 0.128, They were ranked next.

Keywords: Site Selection, *Haloxylon Aphyllum*, Analytic Hierarchy Process, Chahdashi Area, Desert revival.



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Desertification

Site Selection for Planting Haloxylon Aphyllum Species to Restore

Desert Using Analytic Hierarchy Process

(Case study: Chahdashi Area, Nehbandan City)

Supervisor:

Dr.A. Pahlavanravi

Advisor:

Dr.M. Dehghani

By:

N. Sadeghi

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