

Abstract

This research investigated the impacts of vegetation restoration with the species of *Tamarix aphylla*, *Salvadora oleoides* and *Calligonum comosum* on the physical and chemical properties of soil dunes as well as the role of these species for stabilization and improvement of sand dune also vegetation and fauna in selected site in Seifabad region in the Nikshahr township in Sistan & Baluchestan province. For this purpose, we have chosen four sites in stabilized by plantation area including *Tamarix aphylla*, *tamarix-Calligonum*, *salvadora oleoides* and control. At each site five -300 meters transects by systematic method and on each transect 10 plots were established randomly. The extent of each sampling plot was determined according to type canopy, distribution of vegetation and topography by minimum area method. In each plot, the percentage of total canopy, percentage of each species canopy, species richness, degree of importance, plant composition, density, diversity, relative abundance and relative vegetation cover were measured. By using of existence floristic list, relevant data including canopy percent, percentage of stone and gravel, litter and bareland have been estimated respectively. characteristic of Ecosystem's fauna Population, including number of mammals, birds and reptiles are based on field observations, reports and interviews with local people was investigated record. In addition, in the center of each transect soil samples from depth of 0- 20 cm and depth of 20 to 60 cm as affecting the establishment and growth of plants were taken. Soil physical properties such as texture, structure, infiltration, bulk density, porosity and moisture and chemical properties of soil organic matter, electrical conductivity (EC), acidity (pH), nitrogen, phosphorus, potassium, ESP, SAR and lime percentage were measured. Analysis of data while ensuring data homogenous normal distribution of variances was performed using software SPSS21. presence or absence of significant differences among the studied treatments were analyzed by Tukey test. Results showed that while *tamarix aphylla* has increased soil salinity, *salvadora oleoides* and *calligonum* have increased organic matter in the soil also have improve soil structure. the most diversity and richness species richness and variety of species in *tmarix- Calligonum* and the lowest one was observed in the control sites. also increasing the amount of litter on the soil surface have been resulted in increasing elements (P, N, K) which are the essential elements required by plants. In addition, the cultivation of this species were caused the presence of small mammals such as rats, mice Bellucci feet, small birds like *Alaemon alaudipes*, blond crow desert *Podoces pleskei* reptiles such as *Calotes versicolor* and small desert iguanas, because of this condition that has provided facilities for settlement of these fauna.

Key words: physical and chemical properties of the soil, *Tamarix aphylla*, *Calligonum comosum*, *Salvadora oleoides* and fauna of the desert



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**Effect of Restoration Practices on the
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