

Khejri (*Prosopis cineraria* L. Druce) based agroforestry systems in the arid and semi-arid region: supporting ecosystem services

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Abstract

Khejri (*Prosopis cineraria*) based agroforestry systems i.e. traditional and copied/manipulated from traditional systems were assessed for ecosystem services. The information on different aspects of Khejri and its ecosystem services was collected through several documents on the subject sourced through web and relevant articles of select journals. The authors also visited the traditional Khejri based agroforestry fields in the area and made observations on the ecosystem services provided. The data were collected for provisioning, regulating, supporting, aesthetic and religious services. The Khejri based agroforestry systems were found to provide all ecosystem services. In total, we identified fourteen services provided by Khejri based agroforestry systems. Khejri-based agri-silvicultural and Agri-Silvi-horticultural systems provided more services and profits than sole cropping or other land-use systems in the region. Soil fertility and organic matter were also more under Khejri based agroforestry system as compared to other systems. Khejri based agroforestry systems enhanced the farm income, improved soil fertility, provided nutrition and resilience under hostile climatic conditions without degradation of land and other natural resources. Identification of possible ecosystem services from Khejri based agroforestry systems in our study will provide an instrument to the policymakers for assessing monetary outcomes of Khejri based agroforestry systems.

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