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A Study On The Ecological Role Of Khejri (*Prosopis Cineraria*) In Taranagar Region Of Churu District (Rajasthan)

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Abstract- The study was conducted in Taranagar region of Churu district of Rajasthan. In this study researcher work on Ecological role of *Prosopis Cineraria* tree (Khejri) found in the study area. For this study author applies various method such as - direct observation, field study, etc. The material uses for this study are Thermometer, Hygrometer, poly begs, pH meter, etc. Author finds that the Khejri (*Prosopis Cineraria*) tree play important role in ecology of the study area. It reduces soil erosion of desert. It also increases the soil fertility and Biodiversity of Taranagar region. Climate regulation, Oxygen production, air purification, provides natural habitat & shelter to organisms are also done by this tree.

Keywords – Ecology, *Prosopis*, *cineraria*, Factors, Desert, Taranagar, Rajasthan.

Introduction- A healthy ecology of any place matters a lot and enriches the environment there. Ecology can be defined as the scientific study of relationship of living organism with each other and with their environment. The Biotic forms and abiotic factors of a particular area of an environment known as ecosystem. Abiotic factor such as light, temperature, wind, rainfall, soil ph etc. and biotic factors such as producers, consumers and decomposers are included in it.

The study area is located in desert area, so researcher studied desert ecosystem. The ecology of this area is very challenging due to various unfavorable climatic conditions.

The fauna and flora of this area are very rich. Desert mammals, reptiles and aves are found such as – Camel, wild cats, foxes, black buck, rat, snakes, chameleons, lizards, desert monitor lizard, eagles, sparrow, Pavo, squirrel, vultures, and variety of other animals can all be found in the desert.
Many plants Khejri, Teak, Rohida, Mango tree, Ber, Ker, Thor trees, Banyan, Mulberry tree, Lasora, Lemon, Neem, Ardu, Babool, Ashoka, wild Sunflower, Amaltas, Sharpunkha, Sheesam, Parijat or Harsringar, Belpatra, Satyanashi, Nilikatali, Sata, Belpatra, Aak , Ashwagandha, Barkarela , Alovera, Bagroo, Pilwant, Matira, Saniya, Khimp, Kachra, Tall grass, drought resistant grasses, bur grass, etc. are found in this area.
Out of above mentioned flora Khejri tree is one of the most important plant to study the ecology of study area because it is mostly grow in desert areas (dry region of Rajasthan, Punjab, and Madhya Pradesh). Scientifically Khejri is refers to as *Prosopis-cineraria* (family-Fabaceae). It is commonly known as Shami tree or Banni

tree. It plays a role in the ecosystem of arid and semi-arid areas, mainly in Thar Desert Shami tree (Sanskrit), Janti and Jand (Delhi & Haryana), Banni (Karnataka).

In Rajasthan, Khejri (*Prosopis Cineraria*) play important role in ecology as well as cultural events. In India, Rajasthan state is situated in north-west direction of geographical map. Taranagar is located in Churu district of the state. In this study researcher mention the ecological role of *Prosopis cineraria* in Taranagar region.

Study area – Rajasthan is a state in north western India, which also known as Land of Kings. The study is carried out in Taranagar block of Churu district in Rajasthan. The climate of Taranagar is arid and semi arid, little rainfall, the cold winds of north western India make this place coldest in winter (**0ºC)**, and hottest in summer(**50ºC)**. Agriculture is only dependent on rainfall. Rain water is used for drinking also. Most of the terrestrial area is covered by Sand soil. Sand soil is also known as "Baaloo Ret" in this area.

Methodology-

Methods - This study is carried out in Taranagar region of Churu district. Researcher applies many methods for study of ecological role of Khejri plant (*Prosopis Cineraria*) such as - survey method, direct observation method, field work and photography, etc.

Materials - During the study Ph strips, thermometer, hygrometer, camera, mobile phone, paper, Pen, Poly bags, sampling bottle, etc. materials are used by researcher.

Results and Discussion-

1. **To Control Soil Erosion-** In arid region, Khejri (*Prosopis Cineraria*) help in soil conservation by nitrogen fixation and also stabilizes soil and prevent Desertification.
2. **Increase Soil Fertility** – Its leaves and pods debris increases the soil fertility by mixing in it.
3. **Purification of Air** - Khejri (*Prosopis Cineraria*) tree help in absorb harmful substances from air and also clean air helping to preserve the Earth's natural balance.
4. **Climate Regulation**:-The tree help in tolerate the wide range of temperature and other climatic conditions, and regulate the climate.
5. **Oxygen Production –** It provides oxygen for desert animals and plants by the process of Photosynthesis.
6. **Water Holding capacity –** The soil around the Khejri tree (Prosopis cineraria) has high water holding capacity.
7. **As Food source** - The pods and leaves of Khejri tree use as food source. The green and dried pods are eaten as vegetable. Green pod locally known as 'Saangri' that is a rich source of economic value because of its high demands. Ripened pods of Khejri (*Prosopis Cineraria*) locally known as 'Khokha' are a rich source of fiber, protein and vitamins. Its leaves are used as a traditional medicine and also a source of leaf fodder for animals.
8. **Shelter and Habitat**:-Khejri tree (*Prosopis Cineraria*) provide habitat to the birds, animals and insects like lizard, monster lizard, chameleon, sparrow. It also provides shelter to desert animals and Human beings.
9. **Biodiversity enrichment -** The Khejri tree (*Prosopis Cineraria*) provide food, shelter and habitat for many animals and birds, which help conserve local biodiversity.

Conclusion- In this research, author focused on ecological value of *Prosopis cineraria* (Khejri) in Taranagar block of Churu, the desert district of Rajasthan. The study covers almost all ecological aspects of Khejri in study area. Different parts of the tree are use for different ecological aspects in the environment. Author finds that the Khejri tree reduces desertification, soil erosion, etc. in this area. Beside it, the tree also increases the soil fertility, provides habitat, food & shelter to animals and plants also.

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