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**DESHNOKE SACRED GROVE, A VALUABLE AESTHETIC AND SPIRITUAL  
ORAN FOR CONSERVATION, DESHNOKE VILLAGE, BIKANER DISTRICT  
(RAJASTHAN)**

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**ABSTRACT**

Sacred groves are part of landscape containing trees, animals, other forms of life and geographical features that are conserved by human societies because of their religious belief. These sacred sites have large biodiversity rich area and we can obtain large number of medicinal plants, fodder, fuel wood, fruits and many more things of daily uses of human kind from these areas. Sacred groves also inhabit threatened and endangered species. Our present study area is Deshnoke Oran of Bikaner District, Rajasthan that inhabits many significant plants species which needs to be conserved. There are many factors which are adversely affecting plants, growing in this area including overgrazing, overexploitation, and various anthropogenic activities. So, this present study brings in light various measures to conserve the plants species of this particular area.

**Keywords: Sacred grove, Oran, Deshnok, Conservation**

**INTRODUCTION**

Sacred groves are any grove or orchard tree having special religious importance to a particular culture. Most of these sacred groves are associated with several endogamous group of Hindus and, Buddha, Jain or Islamic Lok devata's along with

other communities and tribal groups. Plants found in these groves are good source of fodder, fruit, timber wood, seeds and ethno medicines. Thar Desert with its unique environment and culture has a rich variety of life support systems derived from nature.

There are few studies on Sacred Groves of Rajasthan which are related to Western Rajasthan Districts and Thar Desert in context of biodiversity profiling [1]. These areas are protected for their religious beliefs. These religious beliefs somehow played very important role in protection and conservation of threatened species growing in these areas. An example of belief is observed by Alpesh and Mehta, by studied 12 sacred groves from Kachhh District which is situated in western part of Gujarat. They noticed that local people have great faith in local deity [2]. It can be said that these forest and surrounding agriculture land act as religious community to these believers [3].

In other words, sacred groves are refuge of certain plants species preserved on religious ground which can satisfy aesthetic, scientific, cultural and recreational needs of mankind [4]. WWF-India reported sacred groves are major compound of environment protection in many areas [5]. Indian rank is 10<sup>th</sup> in most forested nations in the world with 76.87 million hectares of the forest cover i.e. 20.6 percent of total geographic area of country [6].

There is vast diversity in India's sacred groves. That's why value of these sacred grove is immense and biodiversity of these sacred grove have tremendous ecological significance and keeps the ecological

process in balanced state. The major issue of this 21<sup>st</sup> century is to preserve this biodiversity for future generation. Conservation of these sacred natural site through religious belief is a powerful tool, as religion is the most powerful modality to convince peoples to do conservation of flora and fauna species. One another very authentic report has been given by landscape magazine with title of "Protecting biodiversity in Dakshinkali on a Sacred grove in Kathmandu valley, Nepal, this report emphasized that Economic pressure and lack of awareness are responsible for the local exploitation of threatened plants such as orchids, whose trade is banned under the CITES international agreement [7]. Alison *et al.* worked on sacred groves and biodiversity conservation in semi-arid area of Cameroon dry land need to be taken into account for national environment protection policies as an alternative to achieve international agreement such as biodiversity conservation [8]. Kumar and sharma have given the detailed account about sacred groves conservation with special reference of Gupteshwer Mahadev sacred grove of Pratapgarh District, Southern Rajasthan [9]. Kumar *et al.* worked on conservation and management of sacred groves, myths and beliefs of tribal communities in North-India [10]. A detailed account of vegetation loss due to human encroachment is given [11].

Heniri *et al.* described the impact of urbanization and human encroachment on biodiversity of India [12].

### STUDY AREA

Study area of present study is Deshnoke Sacred grove or Oran that is situated in Bikaner District of Rajasthan. Oran of Deshnoke comprises area of about 2452.2600 hectare. Bikaner District is situated in North West side of Rajasthan. It is located 27°47'26' N 73°20'27' E. It has an average elevation 265 meter (896 feet). Bikaner considered having a desert climate. There is virtually no rainfall during the year in Bikaner. The average annual temperature is 26.4°C. The rainfall here average 241 mm. The least rainfall occurs in January. The average in this month is 3 mm. Most of the precipitation falls in July averaging 72 mm. The temperature is highest on average in June at around 35.3° C. January is the coldest month with temperature averaging 14.5° C. Oran is a part of Thar Desert which has arid climate that is characterize by having xerophytic plants.

Deshnoke is also world famous for the Karni Mata temple where local rats held sacred. Oran is held sacred for the religious belief of mataji. This temple is a popular tourism destination in Bikaner District.

### METHODOLOGY

Frequent study is done in research area and information is gathered from sacred grove, sacred trees, taboo, deities, festival and

cultural aspect through personal contacts, questionnaires and by interviewing local people of that area. Plants are identified by local flora of that particular area.

### OBSERVATIONS

#### Conservation of sacred site

It is the act of preserving the natural resources so they can be used in sustainable way. Natural resources include renewable and non-renewable sources. For example, rain forest which are biodiversity rich areas which provide food to mankind, timber for fuels and various medicinal plants present there. Many valuable plants like medicinal plants are found in these sacred natural sites so these should be managed to conserve these valuable plants. According to conservationist development is necessary for bright future but only when changes are not harmful to natural resources or environment. Preservation rather than conservation attempts to maintain the area of earth in present condition without pampering more human activities. At present conservation of environment is major challenge to the world as these human activities extremely diminish the environment.

Our present study area inhabits large number of medicinally important plants that needs to be conserved. So many conservation measures need to be implemented to protect the biodiversity of this area. Internationally the urge for the

protection of the sacred natural sites have also been recognized by Convention on Biological Diversity (CBD) and UN permanent forum on Indigenous Issues.

### **Major challenges and threat**

Sacred grove inspite of having immense religious value these sacred grove faces many threats. Some of these threats include-

- a) Land use change that includes deforestation, land conversion, encroachment and fragmentation.
- b) Developmental activities in and around grove area.
- c) Change in species composition both planned and accidental.
- d) Change in social norms, cultural and religious practices.

All these threats affect grove biodiversity. One of the major threats that adversely affects the sacred site is increasing anthropogenic activity in and around sacred site. These anthropogenic activities include overgrazing and establishment of chemical factory near sacred site and cutting of trees for the source of fuel. This overexploitation and pollution from factories result in disappearance of species before they noticed or their scientific value discovered. These anthropogenic activities disturbed the equilibrium of interrelationship that exists between communities and environment and that adversely affect environment.

Some important impact of human activities on environment which lead to environment decay are deforestation, industrialization, loss ecological balance, water pollution, air pollution, increased consumption of natural resources, production of waste, extinction of wildlife, agriculture runoff, urban development etc. These all impacts lead to environment degradation. Loss of biodiversity is a significant aspect of environmental degradation. While the environment degradation is commonly associated with these human activities, in fact environment is changing with time that result into natural calamities.

Human activity is causing environmental degradation which is the deterioration of the environment through depletion of resources such as air, water and soil, the destruction of ecosystem, habitat destruction, extinction of wildlife and pollution. It is also defined as the any undesirable change in the environment. These human activities also decline biodiversity.

### **Vegetation of sacred grove**

Deshnoke sacred grove is a part of Thar Desert. Thar Desert have arid climate, therefore of area of this reason is adapted for xerophytic condition. It is reported that Thar Desert represent only 5% of the flora of India which was about 17,500 flowering plants [13]. The natural vegetation of this area is classified as Northwestern thorn

scrub forest occurring in small clumps scattered more or less openly. Density and size of patches increases from west to east following the increase in rainfall. The natural vegetation of the Thar Desert is composed of the following plant species:

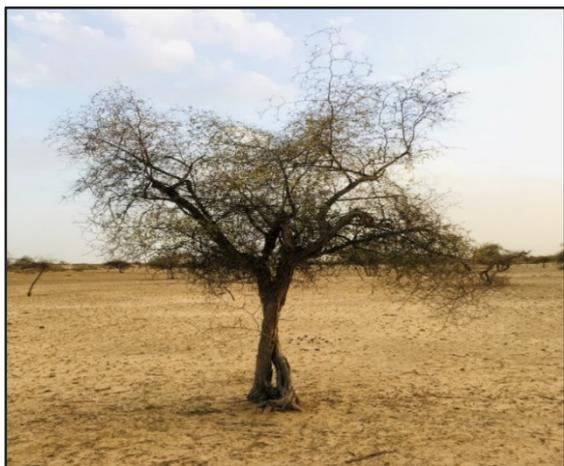
### Major vegetation of Deshnoke Oran plant species

*Acacia nilotica*, *Balanites roxburghii*, *Cordia sinensis*, *Prosopis cineraria*, *Tamarix aphylla*, *Acacia jacquemontii*, *Calotropis procera*, *Capparis decidua*,

*Ephedra foliata*, *Suaeda fruticosa*, *Zizyphus mauritiana*, *Zizyphus nummularia*, *Aerva javanica*, *Crotalaria burhia*, *Cenchrus biflorus*, *Cenchrus setigerus*, *Cenchrus ciliaris*, *Citrullus colocynthis*, *Convolvulus microphyllus*, *Cynodon dactylon*, *Dactyloctenium scindicum*, *Eragrostis tenella*, *Fagonia schweinfurthii*, *Leptedenia pyrotechnica*, *Ochthochloa compressa*, *Panicum turgidum*, *Panicum antidotale*, *Phragmites spp*, *Sorghum helepense*, *Solanum virginianum*, *Tribulus terrestris*.

Table 1: Ethano medicinal plants from sacred site and their uses

Sr. No.	Botanical name	local name	Family	Ethanomedicinal uses	RUBL No
1	<i>Acacia nilotica</i>	Desi babul	Mimosaceae	Leaves are used to treat diarrhea; gum is used as emollient and antipyretic. [14].	19506
2	<i>Aerva javanica</i>	Booh	Amaranthaceae	Roots and flowers are used in kidney problem [15].	19982
3	<i>Calotropis procera</i>	Aak	Asclepiadaceae	Whole plant is used in fever, cold and eczema. Root bark is applied in elephantiasis [14].	-
4	<i>Capparis decidua</i>	ker	Capparaceae	Bark of tree is used to treat cough and asthma. Powder of fruit is anti-diabetic [14].	20003
5	<i>Cenchrus biflorus</i>	bhurat	Poaceae	Fruits are diuretic. Stem and seeds are used for abortion	-
6	<i>Eragrostis minor</i>	choti ghas	Poaceae	Plant is used in digestive disorder. Plant is used as fodder for animals [14].	-
7	<i>Fagonia schweinfurthii</i>	Jabasa ,dhamasa	Zygophyllaceae	Leaf juice applied locally to remove broken thorn tips with jaggary form body parts of human and animals.	
8	<i>Leptedenia pyrotechnica</i>	kheemp	Asclepiadaceae	Branches are diuretic. Juice of leaves is used as expectorant in catarrh infection and in asthma [14].	20071
9	<i>Prosopis cineraria</i>	Khejri	Fabaceae	Leaves have antitumor activities. Stem extract has analgesic and antipyretic activity [16].	20019
10	<i>Tribulus terrestris</i>	Kanti, ghokru	Zygophyllaceae	Mixture is prepared by adding fruit of this plant with Bharak, salparni, Krishnaparni and gokshru. One tea spoon taken orally in the morning [17].	20031
11	<i>Zizyphus mauritiana</i>	Ber	Rhamnaceae	Fruits are boiled with water and its filtrate is applied on body. It gives relief in heat stroke [18].	20037



*Zizyphus mauritiana*



*Fagonia schweinfurthii*



*Convolvulus microphyllus*

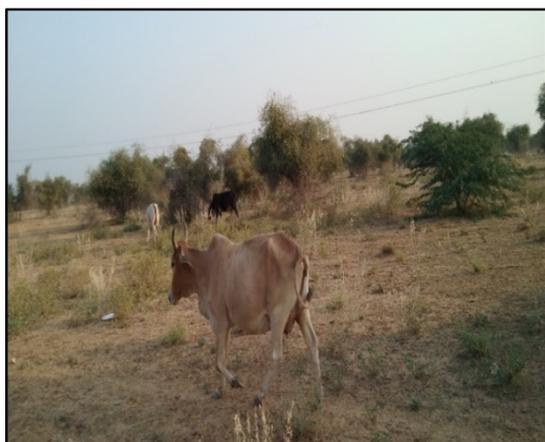


*Ephedra foliata*

Plate (1) some ethnomedicinal plants of Deshnoke Sacred grove



Figure 1: Deshnoke Oran showing Karni Mata temple



Cattles grazing in Oran



Domestic waste in Oran

Plate 2: Showing Oran area and human perturbation

## DISCUSSION

The western Rajasthan Especially Bikaner district is backward in the field of all scientific research just due to ignorance and possibly harsh climate and low population density. A handful literature is available for habitat ecology and biodiversity conservation. Over exploitation, habitat loss and lack of scientific knowledge are the major threats for losing species in sacred grove of study area. If it is continuously neglected, some more species become endangered. This present work proposes to generate information and awareness in people about conservation of wildlife of this sacred grove and it also prevents the human encroachment effect plants of the sacred grove.

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