

## SACRED GROVES-A CASE STUDY OF UBHESHWAR MAHADEV SACRED GROVE, UDAIPUR (RAJASTHAN)

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Widely conceived as preservers of the biodiversity, the conservation of sacred groves should attract the immediate attention of policy makers, both in terms of conserving the natural biodiversity as well as the cultural heritage of a nation. The fact that biodiversity is under threat and needs to be conserved have been emphasized through our field observations. The present paper is an in depth analysis of the existence and sustenance of Ubheshwar Mahadev sacred grove, situated in Udaipur district in southern Rajasthan. The significance of the study lies from the fact that this grove houses 75 species of valuable plants of which 4 species are rare, 7 species of wild animals of which 4 species are endangered and rare and found in the deccan plateau and western ghats, of India.

**Keywords:** Biodiversity; Sacred grove; Ubeshwar Mahadev.

### Introduction

Sacred groves are well-protected forest ecosystems, which have been able to maintain rich vegetation preserved by local community on religious grounds. Any interference with biota i.e. any type of resource extraction from the grove is strictly prohibited though in some groves people may collect material such as leaf litter, fallen wood, mature fallen fruits etc. Practices like hunting and logging are strictly prohibited by the local communities in these places. Such places are prized and preserved as they provide many services and materials to the society like food, fodder, fuel wood, fibre, medicines, shelter etc. They provide drinking water to humans, bovines and wild animals in many localities. As such they may serve as rechargers of aquifers and thereby help in soil conservation. Sacred groves have been playing a role of reservoir of biodiversity. They have ecological and economic significance due to the presence of rare and endangered species of animals, valuable medicinal plants and threatened flora. Sacred groves act as natural gene pool reservoirs and serve as examples of habitat preservation through community participation<sup>1</sup>. These are considered to be one of the significant remaining vestiges of India's rich heritage in the sphere of environment, which have been preserved purely by the virtue of the ancient Indian traditions and religious practices.

Rajasthan is a storehouse of sacred groves and

are known by various names like "Oran", "Devras", "Bagh" or "Bani". Several such groves are located in remote tribal areas of southern Rajasthan and are in existence due to their association with some deity. Many scholars have worked on different issues related to sacred groves at national and international level<sup>2-13</sup>. However, not much work has been done on these groves in the Mewar region of Rajasthan. In the present paper, an attempt has been made to present factual research evidence in the form of a case study about the Ubeshwar Mahadev sacred grove situated in Udaipur district of southern Rajasthan.

*Study Area* - Ubheshwar Mahadev, an ancient temple of lord Shiva, situated in the range of southern Aravallis near Dhar village in Girwa tehsil of Udaipur district is a good example of sacred grove/landscape. The local people believe that when Maharana pratap was being pursued by enemies (Mughals), bees sprouted from temple's 'Shivling' and drove the enemies away. The festival 'Gavri' commonly observed in the Mewar region for a period of 40 days was celebrated for the first time at Ubheshwar Mahadev. During this 'Gavri' season contradictory moods of lord Shiva reflected in the Shivling-the angry and happy. The name Ubheshwar (Ubhai means two and Ishwar means god) is derived from these two contradictory aspects of the Shivling.

*Sanctum sanctorum* is situated close to a perennial water stream and thus serves as a source of water

and resting place for people and livestock. The landscape around the temple is considered sacred and preserved as grove. Around the temple, trees of *Mangifera indica*, *Phoenix sylvestris* and *Ficus religiosa* are planted long back. Temple is located in the midst of Ubeshwar reserve forest, a part of Udaipur (East) Range which comes under jurisdiction of Udaipur (North) Forest Division with 150 hectare commanded area. It is situated at an altitude of 2870 ft above MSL and lies between latitude 24°37'7.9" East and longitude 73°33'39.9" North. This area is a tribal dominated area with the population of 5000-6000 people of Bhil, Meena and Garasia tribes. It is situated at a distance of 20km from Udaipur city in western side and present on Udaipur-Dodawali road.

**Methodology** - The survey was conducted in the form of interviews with the local population including medicinemen, temple priest, shop owners at the temple sites and other prominent personalities in the villages. The interviews were conducted all the season in lieu of the fact that vegetation varies with the season. The information collected is authentic and primary (first hand) in nature, as the researcher has personally participated with the local people during their community feasts, festivals and other local events. A questionnaire was also prepared for supportive data. Information about the history of the temple was collected from secondary published material about Ubheshwar Mahadev. Informations are also gathered from local forest officials. Specimens of plants were collected from the temple site and deposited in the herbarium of laboratory of Ethnobotany and Agrostology, Department of Botany, University College of science, M.L.Sukhadia University, Udaipur (Rajasthan) for authentication of information and further references.

### Result and Discussion

**Importance of Ubeshwar Mahadev sacred grove** - Sacred groves play a vital role in the ecosystem and provide a large variety of livelihood needs like food, fodder, non-timber forest products, dry fallen wood, seeds, fire wood and ethnomedicines. It is a safe site for nesting birds which also offer safe site to rock bees for placing their hives. Ubheshwar Mahadev sacred grove is a resting, drinking and grazing ground for the livestock. Many wild animals use it as shelter and many birds take refuge in the grove. Elliot's Giant Flying Squirrel (*Petaurista philippensis*), Black-capped Blackbird (*Turdus merula nigropileus*), Red Spurfowl (*Galloperdix spadicea*), Grey Junglefowl (*Gallus sonneratii*) are few animal and bird species present in the Deccan plateau and Western Ghats are also reported here and peripheral zone of this grove. Wild animals like common Langur (*Semnopithecus entellus*) and Leopard

(*Panthera pardus*) also take shelter in this grove and surrounding forest. Around fifty years back, Bengal tiger (*Panthera tigris*) was a common sighting here. It is a storehouse for rare plant species like *Sauromatum pedatum*, *Ensete superbum* and *Gardenia turgida*, riverine species like *Syzygium heyneanum* and several terrestrial orchids like *Habenaria furcifera*, *Habenaria plantaginea* and *Eulophia ochreatea*. So this is an abode of rare and endangered flora and fauna. Many flowering ornamental plants like *Nelumbo nucifera*, *Jasminum grandiflorum*, *Nerium indicum* and *Catharanthus roseus* are planted near the temple to use their flowers in the worship of the deity. *Jasminum grandiflorum* is also present as wild in few pockets of this grove. This grove is a socio-religious place for tribals and they come for pilgrimage and entertainment. Fairs on different festivals (*Maha Shivratri*, *Navratras*, *Full moon day*, *Saptami of Baisakh*, and *Haryali amavasya etc.*) are organized by the tribal people who show their deep beliefs in the deity. As per mythological beliefs cremation site opposite the temple make this grove a complete pilgrimage destination. In the *Baisakh* month, tribal people immerse the ash of pyre in the water stream flowing near by temple. This perennial stream is a good source of water for irrigation, drinking source for livestock and for human beings. By custom, no cow dung is removed from the area, and same is allowed to dry and decay. The dried dung cakes are used to cook *bati* (ball like local delicacy of wheat flour) and *Paniya* (roti cooked on green leaves of *Butea monosperma*) by pilgrims and villagers who visit the temple. The arrangement of dried dung cakes ensures the sanctity of the grove and provides ample stock of fuel to all. Cutting of trees, sacrifice of animals and consumption of liquor is prohibited in this area. Any sort of damage to green vegetation is considered a sin by the tribals. So *sanctum sanctorum* helps in *in-situ* conservation of biodiversity and genetic resources. It is a natural laboratory and a storehouse of reputed medicinal plants, which are used to cure various human ailments. Trees (24 species), shrubs (13 species) and many other species of herbaceous and lower plants are reported here. So the grove is a treasure house of biodiversity.

**Vegetation of the grove** - Various habit forms of plants are available in the grove. An exhaustive list of plants (Table 1-6) found in the region have been presented in a tabular form. Each table provides the list of plant species occurring in the grove according to their habit. The names are arranged alphabetically along with their local names, family to which they belong and its local uses.

**Present status of the Ubeshwar sacred grove** - Sacred groves in Rajasthan have undergone decline and shrinkage

Table 1. Tree species of the Ubeshwar grove.

S.No	Botanical name	Local name	Family	Local Uses
1	<i>Acacia catechu</i> (L.f.) Willd	Khair, Khairia	Mimosaceae	Fuel, fodder and for making pestle
2	<i>Acacia leucophloea</i> (Roxb.) Willd.	Rijua, Arunjhia	Mimosaceae	Timber, fuel, fodder, food, fencing material
3	<i>Aegle marmelos</i> (Linn.) Corr.	Bel, Bili	Rutaceae	Fodder, food, medicine and leaves are offered to Lord Shiva
4	<i>Albizzia lebbeck</i> (Linn.) Benth	Siras, Saras, Kalia	Mimosaceae	Timber, fuel, fodder, medicine, religious uses
5	<i>Albizzia odoratissima</i> (L.F.) Benth.	Kala-siras, Kalia	Mimosaceae	Timber, fuel, fodder
6	<i>Anogeissus latifolia</i> (Roxb.) ex. DC. Wall.ex Guill. & Perr.	Dhavra, Dho, Safed Dho	Combretaceae	Timber, fuel, fodder, medicine, gum and handle of agricultural equipments
7	<i>Bauhinia racemosa</i> Linn	Heetri	Cesalpiniaceae	Timber, fuel, fodder, fibre, , food, medicine
8	<i>Bridellia retusa</i> (Linn.) Spreng.	Lankpana, Lampan	Euphorbiaceae	Medicine, fodder
9	<i>Butea monosperma</i> (Lam). Taub.	Khankra	Fabaceae	Timber, fuel, fodder, food, fibre, medicine and gum. leaves are used to make Leaf-Bowls and leaf plates
10	<i>Cayratia trifolia</i> (Linn.) Domin	Khatedi	Vitaceae	—
11	<i>Cassia fistula</i> Linn	Amaltas, Bahawa, Garmale, Karmalo	Cesalpiniaceae	Timber, fuel, medicine,
12	<i>Diospyros montana</i> Roxb.	Vangli, Vish-Tendu	Ebenaceae	Medicine, shade
13	<i>Dipteracanthus patulus</i> (Jacq.) Nees.	—	Acanthaceae	—
14	<i>Eucalyptus</i> sp.	Safeda	Myrtaceae	Wood for house making
15	<i>Ficus religiosa</i> Linn.	Peepal, Peepali	Moraceae	Timber, fuel, fodder, food, medicine
16	<i>Gardenia turgida</i> Roxb.	Padiri	Rutaceae	Medicine
17	<i>Jasminum sambac</i> (Linn.) Aitt.	Mogra	Oleaceae	Ornamental and flowers are offered to goddess Gavri
18	<i>Lannea grandis</i> (Houtt.) Merr	Godla, Golla	Anacardiaceae	Fibre
19	<i>Mangifera indica</i> Linn.	Aamb, Aam, Amboo	Anacardiaceae	Timber, fuel, food, shade
20	<i>Mitragyna parviflora</i> (Roxb.) Korth	Kadamba	Rubiaceae	Timber, fuel, fodder

21	<i>Phoenix sylvestris</i> (Linn.) Roxb.	Khajoor	Arecaceae	Fuel, food, fibre, fencing material, wood for house making
22	<i>Syzygium heyneanum</i> (Duthie.) Wall.ex.Gamble	Makhan-jambu	Myrtaceae	Food, shade, temporary hut material
23	<i>Terminalia bellirica</i> (Gaerth.) Roxb.	Bahera, Beda	Combretaceae	Timber, fuel, medicine, wood for house making
24	<i>Wrightia tinctoria</i> Roxb.R.Br.	Khirmi, Khanni	Apocyanaceae	Timber, fuel, medicine, utensils

Table 2. Shrubs of grove.

S.No	Botanical name	Local name	Family	Local Uses
1	<i>Calotropis procera</i> Br.	Aak,Aakra,Aakdo	Asclepiadaceae	Medicine, fodder
2	<i>Capparis sepiaria</i> Linn.	Katar, Kali katar, Kanther	Capparaceae	Fuel, fencing material, food
3	<i>Euphorbia caducifolia</i> Haines.	Danda thor	Euphorbiaceae	Fuel, food, medicine, live fencing
4	<i>Euphorbia nerifolia</i> Linn.	Thor	Euphorbiaceae	Fuel, medicine, live fencing
5	<i>Flacourtia indica</i> (Burm.f.) Merrill	Kanju, kankair, Kanker	Flacourtiaceae	Fuel, medicine, food
6	<i>Grewia asiatica</i> Linn.	Dhaman	Tiliaceae	Food, timber
7	<i>Grewia tenax</i> (Forsk) Fiori.	Gangir, Gangen, Ganger	Tiliaceae	Timber, fuel, food, medicine
8	<i>Helicteres isora</i> Linn.	Marorphali, Hateri, Atedi	Sterculiaceae	Fuel, fibre, medicine, material for basketry
9	<i>Jasminum grandiflorum</i> Linn.	Chameli	Oleaceae	Ornamental, flowers offered to goddess Gavri
10	<i>Jatropha curcas</i> Linn.	Ratanjot	Euphorbiaceae	Bio-fuel, live fencing
11	<i>Lantana camara</i> Linn.	Ghaneri, Bevan	Verbenaceae	Fuel
12	<i>Nerium indicum</i> (Linn.)Mill	Kaner	Apocynaceae	Ornamental
13	<i>Zizyphus nummularia</i> (Burm.f.) Wt. & Arn.	Chan bor	Rhamnaceae	Fuel, food, fodder medicine

Table 3. Herbs of the grove.

S.No	Botanical name	Local name	Family	Local Uses
1	<i>Acanthospermum hispidum</i> DC.	Kanti	Acanthaceae	Medicine
2	<i>Bacopa monnieri</i> (Linn.) Wettst.	Brahmi	Scrophulariaceae	Medicine
3	<i>Blainvillia acmella</i> (Linn.) Philipso	_____	Asteraceae	_____
4	<i>Boerhavia diffusa</i> Linn.	Lal-sata	Nyctaginaceae	Food, medicine
5	<i>Cassia tora</i> Linn.	Punwad, punwaria	Caesalpiniaceae	Medicine
6	<i>Catharanthus roseus</i> (L)G.Don	Sada-bahar	Apocynaceae	Ornamental
7	<i>Commelina benghalensis</i> (Linn.)	Bukana, Bokhanio	Commelinaceae	Food, medicine
8	<i>Curcuma pseudomontana</i> Grah.	Jangli haldi	Zinziberaceae	Medicine
9	<i>Dipterocanthus petulus</i> (Jacq.) Nees	_____	Acanthaceae	_____
10	<i>Ensete superbum</i> (Roxb.) Chees.	Jangli kela, Magra kela	Musaceae	Food
11	<i>Habenaria furcifera</i> Lindl.	_____	Orchidaceae	_____
12	<i>Habenaria plantaginea</i> Lindl.	_____	Orchidaceae	_____
13	<i>Indigofera cordifolia</i> Heyne.ex.Roth.	Kakad	Fabaceae	Food, medicine, soil conservation
14	<i>Lepidagathis trinervis</i> Wall. ex.Nees.	Pathar-phor	Acanthaceae	Medicine
15	<i>Leucas aspera</i> (Willd.) Link.	Piyari, Kaddiyo	Lamiaceae	Medicine
16	<i>Nelumbo nucifera</i> Gaertn.	Kamal	Nelumbonaceae	Ornamental
17	<i>Ocimum canum</i> Sims.	Van tulsi	Lamiaceae	Medicine
18	<i>Polygonum glabrum</i> Willd	Saka	Polygonaceae	Medicine
19	<i>Pupalia lappacea</i> (Linn.) Juss.	_____	Amaranthaceae	_____
20	<i>Sauromatum pedatum</i> (willd.) Schott.	Jangli Suran	Araceae	Medicine
21	<i>Tridax procumbens</i> Linn.	Tokariyo, kalal, Kali mehandi, Pebula-kamocho	Asteraceae	Medicine
22	<i>Zinnia elegans</i> Jacq.	Gal-phool	Asteraceae	Offered to Debras, put on between head and ear pinna

**Table 4.** Climbers /Lianas.

S.No	Botanical name	Local name	Family	Local Uses
1	<i>Cocculus hirsutus</i> (Linn.) Diels	Bajar-bel, Van-veela	Manispermaceae	Medicine
2	<i>Cryptolepis buchananii</i> Roem. & Schutt.	Dudhuli, Tikari-vel	Periplocaceae	Fibre
3	<i>Hiptage benghalensis</i> (Linn.) Kurz.	Ameti	Malpighiaceae	Agricultural equipments

**Table 5.** Grasses of the grove.

S.No	Botanical name	Local name	Family	Local Uses
1	<i>Apluda mutica</i> Linn.	Bhango, Tamta bheda	Poaceae	Medicine, fodder
2	<i>Arthraxon prionoides</i> (Steud.) Dandiya	Undhari-ghass	Poaceae	Fodder
3	<i>Brachiaria ramosa</i> (Linn.) Staph	Salki	Poaceae	Fodder
4	<i>Dendrocalamus strictus</i> (Roxb.) Nees.	Bans, Vanhedo	Poaceae	food (New shoot), fencing, Medicine, house making, fodder, multipurpose plant
5	<i>Heteropogon contortus</i> (Linn.) P.Beauv	Suvaghass, Lapla, Sur wala	Poaceae	Medicine, fodder
6	<i>Paspalum dilatatum</i> Poir.	—	Poaceae	—
7	<i>Paspalum vaginatum</i> Swartz.	—	Poaceae	—
8	<i>Sehima nervosum</i> (Rottl.) Stapf	Heran	Poaceae	Food, fodder

**Table 6.** Pteridophytes of the grove.

S.No	Botanical name	Local name	Family	Local Uses
1	<i>Actinopteris radiata</i> (SW) Link	Mor pankhi	Pteridaceae	Medicine
2	<i>Adiantum incisum</i> Forsk	—	Pteridaceae	Medicine
3	<i>Cheilanthes farinose</i> (Forsk.) Kanlf.	—	Pteridaceae	Tattooing
4	<i>Marsilea minuta</i> Linn.	—	Pteridaceae	—

Part of Ubheshwar Mahadev sacred grove has been submerged because of construction of an 'anicut' across the stream flowing through grove. Removal of certain tree species for the purpose of construction of footpaths and motor roads through the grove pose a serious threat to the sustenance of the grove in its natural state.

The expansion of market economy, which places heavy demand on resources such as timber, fuel wood and food, is major cause of decline in the plant species of sacred grove. For most villagers, economy is easier to understand than ecology.

Vandalism is another cause of threat to grove. Urban and rural people come over here for picnics, write their names or draw many other symbols on trunks of trees which cause serious injury to trees and thus provide avenues for pathogens to cause diseases. Visitors who go there for recreation damage the vegetation by preparing food. Forest fire and grazing of livestock by tribals is another cause of loss of vegetation.

Step well-cum-storage water tank (*Bavri*) is becoming a garbage retaining chamber rather than a water storage tank due to solid waste like polythene bags, disposable items etc. thrown by the visitors.

Invasion by exotic weed *Lantana camara* is also a serious threat to grove. This weed is massively penetrating the forest area and has reduced grass production in large chunk of the area.

So decline in traditional beliefs, economic development and other socio economic factors are responsible for the decline in status of the sacred grove. *Suggestions for conservation of grove* - Sacred groves serve as a meaningful fusion of religion and ecology. There is a need of preservation, protection, restoration and proper management of the grove. Fresh initiatives should be taken for conserving the biodiversity. Any type of conservation method taken will have a long term effect only when the local people are involved. So it is important to encourage the local communities to maintain the biodiversity through appropriate financial rewards and by providing other means of livelihood. Any type of damage to flora and fauna should be stopped through apposite methods. Three storeyed plantations (*i.e.* plantation of herbs, shrubs and trees) of indigenous species should be encouraged. The region has potential for tourism and this could have a positive impact on the economy. The principle of ecotourism prompts us to prescribe certain measures to prevent the loss of biodiversity. Demarcation of area for food preparation by visitors, installation of dustbins for proper disposal of waste, watch and wards system at social or government level to prevent loss of property by visitors

are some steps which could be taken in this direction. Fruits should be consumed in the area so that the regeneration of the particular species can become possible. Proper legislative support and specific policies are required for the conservation of grove diversity.

The present study brings out the fact that Ubheshwar Mahadev sacred grove has not lost its pristine glory as much as many of its kind in Rajasthan have. Efforts should be made for the conservation of this grove and the grove should also be safeguarded against other perceived threats as analyzed.

#### Acknowledgement

The author (GS) thanks the Principal, S.M.B. Govt. College Nathdwara Rajasthan for allowing her to publish this paper. Local tribals and officials of Forest Department on duty acknowledged for their help and support.

#### References

1. Gadgil M and Vartak VD 1975, Sacred groves of India: A plea for continued conservation. *J. Bombay Natural History Society* 72 314 - 320.
2. Gadgil M and Chandran MDS 1992, Sacred Groves. *Indigenous Vision Peoples of India Attitudes to the Environment*. New Delhi. 185-187.
3. Altman N 1994, Trees for Transformation, Sacred Trees; *Sierra Club Books*. San Francisco. 178-199.
4. Andrews N 1998, Conservation of Sacred Groves: Participatory Strategy for the Future, In: *Papers Presented in the National Conference on Conservation of Sacred Groves and Ecological Heritage Sites*, C.P.R. Environmental Education Centre. Chennai. India.
5. Deshmukh S, Gogate MG and Gupta AK 1998, Sacred groves and biological diversity: Providing new dimensions to conservation issues. In: Ramakrishnan PS, Saxena KG & Chandrashekhara UM (Eds.) *Conserving the Sacred for Biodiversity Management*. Oxford and IBH. New Delhi/Calcutta. 415-421.
6. Jha M, Vardhan H, Chatterjee S, Kumar K and Sastry ARK 1998, Status of Orans (Sacred Groves) in Peepasar and Khejarli Villages in Rajasthan. In: Ramakrishnan PS, Saxena KG and Chandrashekhara UM (Eds.) *Conserving the Sacred for Biodiversity Management*. Oxford & IBH. New Delhi/Calcutta. 263-275.
7. Kumar BA 1998, Sacred Groves the Virgin Forests. *Sci. Reporter* 35(10) 10-13.
8. Singh GS and Saxena KG 1998, Sacred Groves in the Rural Landscape: A Case Study of Shekhala Village in Rajasthan. In: Ramakrishnan PS, Saxena KG and Chandrashekhara UM (Eds.) *Conserving the*

- Sacred for Biodiversity Management*. Oxford & IB., New Delhi/Calcutta: 277-288
9. Bhasin V 1999, Religious and cultural perspective of a sacred site - Sitabari in Rajasthan. *J.Hum.Ecol.* **10** 329-340.
  10. Chatterjee S 1999, Groves of Conservation. *WWF-India* **10(2)** 5-9.
  11. Appffel Margalin F and Parajuli P 2000, Sacred grove and ecology: Ritual and Science. In: Sharma A and Chapple C (Eds.) *Hinduism and Ecology - Ecology and World Religions series of the Center for the study of World Religions*. Harvard University.
  12. Amirthalingam M 1998, Sacred Groves of Tamil Nadu - A Survey, *CPR Environmental Education Centre*. Chennai. India.
  13. Bhakat RK 2003, Socio-religious and ecological perspective of a sacred grove from Midnapore district, West Bengal, *Sci. and Cult.* **69(11-12)** 371-374.