

Study of sacred groves of Mandvi forest range of Kachchh district, Gujarat state, India

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Abstract: *The concept of sacred grove and conservation of nature has long been interlinked. Various age old religious practices, practices, traditions, believes of local people, bring them closer to nature and biodiversity. Sacred groves are the forest patches managed and conserved by local people who intertwined with their socio-culture and religious practices. Sacred grove harbor rich biodiversity, indigenous culture and ritual practices of the local people. Sacred plants are generally endemic species and having one or more therapeutic uses. Today, due to development of science and technology, various industries were developed and expanded to meet the increasing demands of the people and take care of various developmental activities. Over increasing population, use of non-renewable energy sources and various kind of pollution have harmed the nature well. Furthermore, habitat alternation, over exploitation, pollution, introduction of exotic species has also threatened the global biological resources. Due to holistic structure and function, sacred grove and sacred plants can serve as tools for conservation of nature as well as biodiversity. An extensive field survey was undertaken for inventories the sacred groves and sacred plants of Mandvi forest range- Kachchh district Gujarat state. Total 12 sacred groves are recorded. Their historical and biological background, religious believe, mythological aspect, and information regarding sacred plants were collected from local people and recorded.*

Key word: *sacred groves, sacred plants, folk, Mandvi forest range – Kachchh - district Gujarat state India.*

1. INTRODUCTION:

The concept of biodiversity has been known to man ever since he began to observe the minute living beings around him. Biodiversity, the umbrella term for the degree of nature's variety, including both the number and frequency of ecosystem, species or genus in a given assemblage, encompasses all species of plants, animals, and microbes and the ecological complexes in which they occur (McNeely et al, 1990).

The degradation of tropical forest and destruction of habitat due to anthropogenic activities are the major causes of decline in the global biodiversity. Therefore in many areas of the reconstruction of a disturbed ecosystem is being taken up on a priority basis, both for biodiversity conservation and for maintaining landscape productivity (Solbrig 1991). One of the challenging tasks before the ecologist is to understand the relationship between biodiversity and the functioning of ecosystems (Younes 1992, Davis and Richardson 1995). The high rate of extinction of tropical species is aggravated by the conservation of forest land for agriculture, harvesting non timber forest products, extraction of mature trees, collecting fuel wood plantation which threatens to erode the biodiversity seriously (Mishra et al. 2004, Laloo et al. 2006). In this context, conservation of biodiversity call for reorientation of strategies where culture tradition is also incorporated (Ramkrishna et al 1998.)

The concept of sacred groves is Prilimarily mythical and theological. Sacred Groves are patches of forests those are usually devoted to local deities. These are protected by communities over generations because of their religious beliefs and traditional rituals. Sacred Groves are (small or large) patches of vegetation of various sizes and conserved on the basis of the religious beliefs of the community. Such Groves may consist of a multispecies forestry; a clump of trees belonging to one species or even a single old tree depending on the history of the vegetation and local culture. Sacred faith and human faith are mutually correlated.

In many parts of the world, conservation of living resources has been deeply associated with nature worship. There are a number of societies that practice many of traditional nature worship and share a close relationship with the forests since time immemorial. One such significant tradition of nature worship is that of providing protection to patches of forests dedicated to the divinity, ancestral spirits and deities. These landscapes have been conserved by the indigenous societies according to their unique belief systems and have proved a very effective tool towards global biodiversity conservation. This has lead to evolution of strong traditional conservation ethics by these societies over the years.

India is a land of diverse natural resources. It is also country with the strongest tradition of nature conservation anywhere in the world. There is vast diversity among Indian's sacred groves. Some contain only a few trees, while other is hundred of areas in size. Sometimes groves overlap with larger forested, while others exist as island in open plains or desert. Even their names vary from region to region. There are also large "pan-India" groves that involve people from many parts of the country. In some groves, all form of resources extraction are strictly prohibit, while in others people may collect material such as fallen branches and leaves from the forest floor or fruit from the trees. In Indian nature worship dates back to the Vedic period (5000B.C.) and is based on the premise that all creation nature has to be protected. Several plants species such as Pipado (*ficus religiosa*), Tulsi (*Ocimum sanctum*), Rudrasha (*Eleocarpus ganitrus*) Biliptra (*Aegle marmelos*) Ashok (*Saracaahoka*) have been considered sacred.

Around 14,000 SGs have been reported from all over India, which act as reservoirs of rare fauna, and more often rare flora, amid rural and even urban settings. Experts believe that the total number of sacred groves could be as high as 100,000. (Ramachandra, 2000 and Malhotra, 2001). Twenty nine SGs have been reported from Gujarat. (Gupta et al., 2000). Twenty eight SGs have been reported from Sabarkantha district, North Gujarat. (Mehta 2011).

The paper records the sacred groves of Mandvi forest range of Kachchh district of Gujarat state India.

2. STUDY AREA :

Mandvi is located in the Kachchh district which is located at western part of Gujarat state. It is located between 22.81 N and 69.36 E. Mandvi was developed by Rop of Kachchh state, Khengarji in 1580. It is about 56 km south of regional capital of Bhuj and 446 km from major Gujarat Mega city of Ahmadabad.

The maximum and minimum temperatures recorded in the area are 2 C in the winter and 4C to 45C in summer. June to September is monsoon period. The Average annual rainfall is approximately 14 inches.

3. METHOD:

Frequent study trips were arranged in the various areas of Mandvi Forest range. In the course of investigation, total 12 sacred groves were surveyed and information was gathered on sacred groves, sacred trees, taboo, deities, festival and culture aspects through personal contacts and questionnaires and by interviewing local caretaker of grove and local people. Specimens of plants were identified with the help of local flora (Shah, 1978).

4. OBSERVATION:

4.1. Goga Maharaj Sacred grove.

The grove is located in Makada rakhhal of the Makada village. The grove is approximately 400 to 500 year old and is spread over the 0.25 hectares of land area. According to local people, the grove is established by their ancestors. Local people represent Coconut fruit to the deity, before performing any task related to forest. They prey deity for better completion of work. They believed that the deity surely fulfill their wish. Annually a ceremony is held on Kali-chaudash (Diwali) and fifth day of Gujarati month "Shravana". On that day local people gathered near the grove and worshipped the deity.

The grove is surrounded by *Clerodendrum multiflorum* (Burm. F.) O. Ktze., *Acacia nilotica* (L.) Del., *Azadirachta indica* A. Juss.

4.2. Ashapura sacred grove.

The Ashapura sacred grove is located in Makada rakhhal of the Makada village. This 150 year old grove is spread over approximately 0.0004 hectors of land area. The new temple constructed and developed by local forest department before 50 years. A bentonite mine is present near the grove. Local tribes have great faith on the deity; they worshipped the deity before starting of any new work. Annually, on diwali and Nutan varsh , all the villagers gather inside grove and worship the deity by representing fruit of coconut and Agarbati to deity.

The grove is surrounded by *Acacia catechu* Willd., *Commiphora wightii* (Arn.) Bhandari, *Acacia nilotica* (L.) Del.

4.3. Aai Shri Vakol Maa sacred grove.

The sacred grove is located in Poladiya rakhhal of Mandvi range forest. The grove is approximately 400 years old and is spreaded over the 0.0005 hectors of land area. According to local people, in ancient time, there was a village called Meghpar. The present sacred grove is built by the villagers of Meghpar village. Local people added that before 400 years, by any unknown natural calamities. All the villagers have left the village. The village was destroyed but this sacred grove is remain as it is local people have great faith on the deity, they believed that the deity surely fulfil their wish. Local people take wov for good health and wealth, on completion of their wish, the deity is represented by a local sweet dish "lapasi". Annually on Diwali and on eight day of gujarati month Aaso, local people gather inside grove and worshipped the deity.

The grove is surrounded by *Acacia leucophloea* (Roxb.) Willd., *Zizyphus nummunaria* (Burm.f.) W.&A., *Euphorbia neriifolia* L.

4.4. Surabapa sacred groves.

The sacred grove is situated in Poladiya rakhhal of Mandvi forest. This grove is approximately 400 – 500 years old. The grove is situated under the tree of *Acacia leucophloea* (Roxb.) Willd. Local people mainly local cast Maldhari and Rabari have great faith on deity. They take wov for good health of cattle. On completion of their wish the deity is represented by coconut fruit. Annually on Diwali, all the villagers gather inside the grove and worship the deity.

The grove is surrounded by *Accacia leucophloea* (Roxb.) Willd., *Zizyphus nummunaria* (Burm.f.) W.&A., *Balanites aegyptiaca* (L.) Delile.

4.5. Aas bai Mataji sacred grove.

This grove is situated in Poladiya rakhhal of Mandvi forest range. The grove is spreaded over approximately 0.004 hectors of land area. According to local people, the Aasbai Ma deity is mainly worshipped by local Brahmin community they gather inside the grove and worship the deity on diwali. Local people added that it is a tradition that local tribes worships the deity during rearing of their cattle. There is an interesting belief added by local people, a feeding mother cannot feed her infant inside grove.

The grove is surrounded by *Acacia nilotica* (L.) Del., *Butea monosperma* (Lam.), *Prosopsis cineraria* (L.) Druce.

4.6. Namoro pir Mahadev sacred grove.

This sacred grove is located in Shirdi rakhhal of Mandvi forest range. This grove is approximately 500 years old. Local people have great faith on the deity, they believe that the deity surely fulfil their wish. Weekly, on Friday annually on Eid and in the month of Mohram. A local person of Muslim community gathers inside the grove and worships the deity.

The grove is surrounded by *Accacia nilotica* (L.) Del., *Acacia leucophloea* (Roxb.) Willd., *Azadirachta indica* A. Juss.

4.7. Ashapura sacred grove.

Ashapura sacred grove is located in Mau rakhhal of Mandvi forest range. The grove is approximately 150 – 200 years old and spreaded over 0.5 hectors of land area. A local person worships the deity for good rain in monsoon season. A part of daily prayer, the deity is worships annually on Diwali and Holi. On that day a villager gathers inside grove and worships the deity, they also take wov and on competition of their wish the deity is represented by Coconut fruit and Agarbati. There is an interesting belief that local people make small.... using small grovel and on completion of their wish they destroyed it.

The grove is surrounded by *Catharanthus roseus* (L.) G. Don., *Azadirachta indica* A. Juss., *Ficus bengalensis* L., *Plumeria rubra* forma tricolour (R. & S.) Woodrow, *Salvadora persica* L., *Thevetia peruviana* (Pers.) Merrill, *Moringa oleifera* Lam., *Thespesia populnea* (L.) Sol. Ex correa.

4.8. Chirag pir sacred grove.

The grove is situated in Gonyasar rakhhal of Mandvi forest range. This grove is approximately 500 years old and spreaded over 0.0006 hectors of land area. Local people believe that the deity surely fulfil their wish. Weekly, on Friday, local villagers mainly people of muslim community worships the deity. Annually, once in a year, people of muslim community gather inside grove and perform a ritual called “Peli” (in which local people gather and eat lunch together).

The grove is surrounded by trees of *Prosopsis cineraria* (L.) Druce., *Commiphora wightii* (Arn.) Bhandari, *Acacia catechu* Willd.

4.9. Jakhada sacred grove.

This grove is located in Guniyasar rakhhal of Mandvi forest range. The grove is approximately 500 years old and spreaded over 0.0005 hectors of land area. According to local people, in the ancient time, there was a village called Devariya Kas. This sacred grove was built by the people of that village. The ancient village was destroyed such during the time period but the sacred grove remains as it. Annually once in year a ritual called “Peli” (in which local people gather and eat lunch together) is performed. Local people also added that it is a family deity of local people of “Sanghar” community.

The grove is surrounded by *Prosopsis juliflora* (Sw.) DC.

4.10. Harupir sacred grove

This grove is situated in Gundiari rakhhal of Mandvi forest range. The gove is approximately 200-300 years old. Local people have great faith on the deity surely fulfil their wishes. Local people added that the forest area is protected from all the natural and manmade calamities by the deity. Weekly, on Thursday, local people mainly people of Muslim community worships the daily. A part of deity and weekly prayer, the deity is worships on Eid annually. On that day, local people gather inside grove and worship the deity. The deity is represented by coconut fruit, “Chadar” (A bedsheet is made up of flower or silkcloth) and agarbati on that day. Annually, rituals called “Peli” (in which local people gather and eat lunch together) perform once in a year.

The grove is surrounded by *Prosopsis juliflora* (Sw.) DC.

4.11. Pir baba sacred grove.

This grove is located in Jakhaniya rakhhal of Mandvi forest range. The grove is approximately 300 – 400 years old. Local people have great faith on the deity. They believe that their farm and cattle are protected by the deity. The local people take vow for the protection of their crop and well being of their cattle's. Daily, the deity is represented by agarbati. A part of daily prayer, annually, on Eid, local people gather inside grove and worship the deity and presents coconut fruit, agarbati and Chadar” (A bedsheets is made up of flower or silkcloth). There is an interesting belief that local people blow horn when passing through the grove.

The grove is surrounded by tree of *Prosopis cineraria* (L.) Druce.

4.12. Ya-wali Pir sacred grove.

This sacred grove is situated in Gundiyari rakhhal of Madvi forest range. It is approximately 300 – 400 years old. Local people have great faith on the deity. Local people take vow for well being and health of their cattle. On completion their wish, the deity is represented by agarbati, coconut fruit and “Chadar” (A bedsheets is made up of flower or silkcloth). A part of daily prayer the deity is worships annually on Eid. On that day, a local person gathers inside grove and worships the deity.

The grove is surrounded by tree of *Prosopis cineraria* (L.) Druce.

Table: 1 Plants present near the Sacred grove.

Sr. No	Name of Plant sp.	1	2	3	4	5	6	7	8	9	10	11	12
1	<i>Acacia catechu</i> Willd.		√						√				
2	<i>Acacia leucopholea</i> (Roxb.) Willd.			√	√		√						
3	<i>Acacia nilotica</i> (L.) Del.	√	√			√	√						
4	<i>Azadirachta indica</i> A. Juss.	√					√	√					
5	<i>Balanites aegyptiaca</i> (L.) Delile.				√								
6	<i>Butea monosperma</i> (Lam.)					√		√					
7	<i>Catharanthus roseus</i> (L.) G.Don												
8	<i>Clerodendrum multiflorum</i> (Burm. F.) O. Ktze.	√											
9	<i>Commiphora wightii</i> (Arn.) Bhandari,		√						√				
10	<i>Euphorbia neriifolia</i> L.			√									
11	<i>Ficus bengalensis</i> L.							√					
12	<i>Moringa oleifera</i> Lam.							√					
13	<i>Plumeria rubra</i> forma tricolour (R. & S.) Woodrow							√					
14	<i>Prosopis juliflora</i> L.									√	√		
15	<i>Prosopis cineraria</i> (L.) Druce.					√			√			√	√
16	<i>Salvadora persica</i> L.							√					
17	<i>Thespesia populnea</i> (L.) Sol. Ex correa.							√					
18	<i>Thevetia peruviana</i> (Pers.) Merrill							√					
19	<i>Zizyphus nummunaria</i> (Burm.f.) W.&A.			√	√								

Name of Sacred grove

1. Goga Maraj sacred grove
2. Aashapura Sacred grove
3. Aai Shri Vakol Maa sacred grove.
4. Surabapa sacred groves.
5. Aas bai Mataji sacred grove.
6. Namoro pir Mahadev sacred grove.
7. Ashapura sacred grove.
8. Chirag pir sacred grove.
9. Jakhada sacred grove.
10. Harupir sacred grove
11. Pir baba sacred grove.
12. Ya-wali Pir sacred grove.

Table: 2 Total information of Sacred groves of Mandvi forest range.

Sr. No.	Name of the Sacred grove	Name of village	Area in hactares (Approximety)	No. of Species	
				Dicot	Monocot
1	Goga maraj sacred grove	Makada	0.25	3	-
2	Ashapura Mataji sacred grove	Makada	0.004	3	-
3	Aai shri Vakol Maa sacred grove	Poladiya	0.005	3	-
4	Surbapa sacred grove	Poladiya	-	3	-
5	Aas bai mataji sacred grove	Poladiya	0.004	3	-
6	Namoro pir sacred grove	Sherdi	-	3	-
7	Aashapura Mataji sacred grove	Mau	0.5	7	-
8	Chirag pir sacred grove	Guniyasar	0.0006	3	-
9	Jakhdada sacred grove	Guniyasar	0.005	1	-
10	Harupir sacred grove	Gudiyari	-	1	-
11	Ya-wali pir sacred grove	Gudiyari	-	1	-
12	Pirbaba sacred grove	Jakhaniya	-	1	-
			0.7686	32	-

5. RESULT AND DISCUSSION:

Total 12 sacred groves were recorded in Mandvi forest range, which cover approximately 0.768 hectars of total land area. Total 19 species of 16 genera belonging to 11 families are recorded. Out of 19 species, 11 species belonging to trees and 8 species belonging to shrubs. All the 19 species belonging to dicotyledones and absence of the monocotyledon. Among dicotyledon, polypetalae is dominated by 12 species followed by gemopetalae (5 species) and monoclamodae (2 species). Mimosaceae is the most dominant family having 2 genera and 5 species. While *Acacia* is the most dominant genus having 3 species. Total 32 individuals of 19 species are recorded.

Maximum number of species (i.e. 8 species) were recorded in Aashapura sacred grove in Mau rakhil, followed by Goga Maraj (Makada) sacred grove, Aashapura (Makada) sacred grove, Vakol maa (Poladiya) sacred grove, Sura bapa (Poladiya) sacred grove, Aas bai Mataji (Poladiya) sacred grove, Chirag pir (Guniyasar) sacred grove, Namorpo pir Mahadev (Sherdi) scared grove (3 species each.), Haru pir (Gudiyari) sacred grove, Ya – wali (Gudiyari) sacred grove, Pir baba (Jakhaniya) sacred grove, Jakhdada (Guniyasar) sacred grove having only 1 species.

Acacia nilotica (L.) Del. and *Prosopis cineraria* (L.) Druce. Were the dominant species, found in 4 sacred groves out of 12 sacred grove, followed by *Acacia leucophloea* (Roxb.)Willd. (3 sacred grove) *Azadirachta indica* A. Juss. (2 sacred grove).

Local people have great faith on locally residing deity. They held daily, monthly or yearly ceremonies or festival in respect of the deity. Sometimes, they also held a fair in respect to the deity. On that day, all gather inside grove and worshipped the deity. They take wow for their wish. On the complication of their wish, the deity is represented by coconut fruit, agarbati and different types of sweet. Some deities are worshipped for prosperity and well being of village and some deities are worshipped for good health of cattle and human. Local people believe that the plants grow near the sacred grove are considered as garden of deity, where cutting of tree, climbing on tree, even pickling of fallen leaves, fruits, and flowers is taboo. They can use them during religious ceremonies and festivals.

Due to strong religious beliefs local people respect the nature well. Their religious myths and taboos, directly or indirectly protect the nature. Hence, it is said that sacred grove may play an important role in conservation of biodiversity. Performing these types of tasks, can be helpful to us to solve the burning question of biodiversity conservation

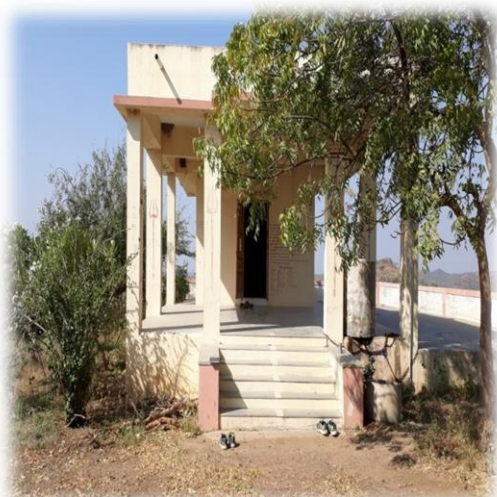
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7. REFERENCE:

1. Davis, G., Richardson, D., (1995). Mediterranean Type Ecosystems: The Function of Biodiversity. Springer, Berlin.
2. Gupta, A., Shukla, S., Koradiya, D., Bhavsar, P., Anil., Ramji., Patel, P. and Taviyad, R. (2000). A cultural and ecological study of sacred groves in Balaram Ambaji and Jessore sanctuary in Banaskantha district of Gujarat. Abstract. National Workshop on Community Strategies on the Management of Natural Resources. Bhopal.
3. Laloo RC, (2006) Status of medicinal plants in the disturbed and the undisturbed sacred forests of Meghalaya, northeast India: population structure and regeneration efficacy of important tree species. *Current Science* 90, 225-232.
4. Malhotra, K. C., Ghokhale, Y., Chatterjee, S. and Srivastava, S. (2001). Cultural and Ecological Dimensions of Sacred Groves in India, INSA, New Delhi.
5. Malhotra, K. C., Ghokhale, Y., Chatterjee, S. and Srivastava, S. (2001). Cultural and Ecological Dimensions of Sacred Groves in India, INSA, New Delhi.
6. McNeely, J.A. (1990). Conservation the World's biological Diversity. IUCN. Gland, Switzerland. 193 pp.
7. Mishra, B.P., 2004. Effect of anthropogenic disturbance on plant diversity and community structure of a sacred grove in Meghalaya, north east India. *Biodiversity and Conservation* 13: 421-436
8. Ramakrishnan PS, Saxena KG, Chandrashekara UM (1998) Conserving the Sacred for Biodiversity Management. Oxford and IBH Publication Co. Pvt. Ltd., New Delhi.
9. Ramachandra Guha (2000). *The Unquiet Woods*, University of California Press, (ISBN 978-0520222359).
10. Shah, G. L. (1978). *Flora of Gujarat state*. Vol.I and II, University press, Vallabh Vidhya Nagar., Gujarat.
11. Solbrig OT (1991) *From Genes to Ecosystems: A Research Agenda for Biodiversity*. IUBS-SCOPEUNESCO, Harvard, Cambridge, Massachusetts.
12. Younes, T., (1992). Ecosystem function of biodiversity: a progress reports on the IUBS-SCOPEUNESCO programme. *Bulletin International* .24: 16 -21.
13. Mehta, P.K., (2011) Ph.D. thesis, Phytosociological study of Poshina forest range of Sabarkantha district, North Gujarat, Thesis submitted to Hemchandracharya North Gujarat University, Patan

8. PHOTOS:



(i) Aashapura Sacred



(ii) Chirag pir sacred grove



(iii) Goga Maharaj Sacred grove



(iv) Ashapura sacred grove



(v) Aas bai Mataji sacred grove



(vi) Surabapa sacred groves.

Plate: 1 Sacred grove of Mandvi forest range



(i) Namoro pir Mahadev sacred grove



(ii) Haru pir sacred grove



(iii) Aas bai Mataji sacred grove



(iv) Pirbaba sacred groves



(v) Jakhdada sacred grove



(vi) Ya-wali sacred groves

Plate: 2 Sacred grove of Mandvi forest range