

Sacred Groves: Traditional Way of Conserving Plant Diversity in Garhwal Himalaya, Uttaranchal

Ashish Anthwal *, Ramesh C. Sharma **, Archana Sharma **

* G. B. Pant Institute of Himalayan Environment and Development, Garhwal Unit, P. O. Box-92, Srinagar Garhwal, Uttaranchal 246174, INDIA

** Department of Environmental Sciences, H. N. B. Garhwal University, P. O. Box-67, Srinagar Garhwal, Uttaranchal 246174, INDIA

Abstract: India has a rich tradition of nature conservation as well as a vigorous official program of nature reserves developed over the last 40 years. Sacred groves are forest patches conserved by the local people intertwined with their socio-cultural and religious practices. These groves harbour rich biodiversity and play a significant role in the conservation of biodiversity. Indigenous cultural and rituals practices of the local people in sacred groves serve as a tool for conserving biodiversity. Sacred groves are distributed over a wide ecosystem and help in conservation of rare and endemic species. Various indigenous communities all over the world lived in harmony with nature and thus conserved biodiversity. In the course of time, science and technology developed and industries were established and expanded to meet the increasing demands of the people and to take care of various developmental activities. Over increasing population and growth of infrastructural facilities has resulted in the decline of sacred groves. Furthermore, habitat alternation, overexploitation, pollution and introduction of exotic species also threatened the global biological resources. Modernization and commercialization of agriculture in order to increase productivity are the cause of disappearing traditional knowledge among the people. There is strong need to initiate people's participation, training for promoting the indigenous traditional knowledge and conserve the biodiversity through this traditional knowledge. Well-preserved sacred groves are storehouses of valuable medicinal and other plants having high economic value, and serve as a refuge to threatened species. [The Journal of American Science. 2006;2(1):35-38].

Keywords: sacred groves; traditional knowledge; Garhwal Himalaya; conservation

Introduction

India is one of the world's top 12 megadiversity countries with rich variety of biological community types that includes coral reefs and alpine meadows, rain forests and desert scrub (McNeely *et al.*, 1990). Many traditional societies all over the world value a large number of plant species from the wild for a variety of reasons, for food, fibre, shelter or medicine. The practice of nature conservation is a very ancient tradition. The practice of conservation of plant species by the traditional societies of Garhwal Himalaya dates back to millennia. The people of Garhwal Himalaya have a rich tradition of nature conservation through socio-religious constraints on profligate use of common property resources. The ancient ethics changed by rejection and replacement of traditional practices under the influence of western cultures and by the advent of modern industry. Sacred groves are one of the first instances of traditional conservation. Increasing threats to biodiversity loss, demands new conservation approaches enabling fair share of the wider values of conservation to the local communities and positive local attitudes towards conservation goals. Nature worship has been a key force of shaping the human attitudes towards conservation and sustainable utilization of natural resources. Such traditional practices

have been invariably operating in different parts of India. Sacred groves are the repositories of rare and endemic species and can be regarded as the remnant of the primary forest left untouched by the local inhabitants and protected then due to the belief that the deities reside in these forests. Many people have described sacred groves in different ways. However, there is an evident fact that wherever sacred groves existed, indigenous traditional societies have spiritual relationships with the existing physical environment sustained them. The role of sacred groves in the conservation of biodiversity has long been recognized (Kosambi, 1962; Gadgil and Vartak, 1976; Haridasan and Rao, 1985; Khan *et al.* 1997). All forms of vegetation in the sacred groves are supposed to be under the protection of the reigning deity of that grove, and the removal of even a small twig is taboo (Vartak and Gadgil, 1973). It is believed that sacred virgin forests date back to several thousands of years when human society was in the primitive state. Gadgil and Vartak (1973) have traced this historical link of the sacred groves to the pre-agricultural, hunting and gathering societies. Hughes and Chandran (1997) have presented an overview on the distribution of sacred groves around the earth in Asia, Africa, Australia, Europe and America. A report of Man and Biosphere (1995)

has described sacred groves in Ghana, Senegal and Sumatra. In India, the earliest documented work on sacred groves is that of the first Inspector General of Forests, D. Brandis (1897). After this, in the year 1973, Prof. Madhav Gadgil and Dr. V.D Vartak conducted floristic and ethnobotanical studies on the sacred groves of Maharashtra. Burman (1992) has reported the existence of sacred groves all along the Himalaya from the northwest to northeast, western Himalaya of Kumaun and Garhwal, Darjeeling and Meghalaya. Ramakrishnan (1996) has also reported sacred groves from different parts of India, known by different names given to them in ethnic terms. Many scholars have been working on conservation of sacred groves through socio-cultural practices in different parts of India (Gadgil and Vartak, 1975 and 1976); Boojh and Ramakrishnan, 1983; Khiewtam and Ramakrishnan, 1989; Rodgers, 1994; King *et al.*, 1997; Tiwari *et al.*, 1998; Sinha and Maikhuri, 1998; Sunitha and Rao, 1999; Basu, 2000; Kushalapa *et al.*, 2001).

However, little information is available on sacred groves and conservation of the biodiversity in Garhwal Himalaya (Sinha and Maikhuri, 1998). People of Garhwal follow ancestral worship and animism in the form of deity worship, with the central focus of worship on forest patches, which

signify sacred groves. Affection towards nature was a zoolatry (worshipping of animals), totem (considering plants and animals sacred), *etc*, which in turn led to a sort of prudent conservation. Religious beliefs, traditions and customs of Indians bear an allegiance in restricting the exhaustive use of natural resources.

ANCIENT ETHICS OF CONSERVATION

Garhwal Himalaya is referred to as land of gods as many important religious shrines are located besides the confluence of five tributaries of sacred river Ganges. Although, biological diversity of Himalaya is very rich, however, very little is known about the sacred groves of this region. The Hindu community regards a variety of natural objects sacred. These include the river Ganges and its tributaries and their confluence amongst the religious shrines, Badrinath, Kedarnath, Yamunotri and Gangotri. The sacred mountain peaks are Nanda Devi, Trishul, Chaukhamba, Kailash, Binsar and Syahi Devi. Trees have been regarded as an indispensable part of life and their importance described in the epics has had great impact on mankind. They maintained equilibrium for the subsistence of life till the last century, when the increase in population and the tendency towards industrialization started to

disturb this equilibrium. Natural resources like land, water, air and plants can no longer be considered free and inexhaustible resource. The basic elements of nature in the form of *Prithvi* (Earth), *Agni* (Fire), *Jal* (Water), *Vayu* (Air) and *Akash* (Space) were always worshipped or revered in one or the other form from the ancient times as per the Hindu mythology. These elements of nature were visible in the form of air, water, soil, flora and fauna that came to be regarded as the abodes of God and as a result, got protection for spiritual, religious cultural and social reasons. An ancient quote says "It was through the worship of trees that man attempted to approach God". Multiple utility of plants was realized from early times and this made these as one of the oldest forms of veneration. The plant species considered sacred in the Himalaya are *Ficus benghalensis*, *Ficus religiosa*, *Ocimum sanctum*, *Cynodon dactylon*, *Mangifera indica*, *Astromonium* spp, *Azadirachta indic*, etc (Table 1). The sacred trees are not revered or worshipped, but there are some specific festivals associated with the specific reasons. People use to have fasts on those particular days (Table 2). There are some revered species that have medicinal values and are used to cure various ailments. Some of such medicinal plants which are used in Ayurvedic medicines are

given in Table 3. Among the animals considered sacred are Tiger, Cow, Bullock, Cobra, Rat, Cat, etc. As Himalaya is considered to be the home of gods, it is believed that the forests are the part of their house. The landscape around temple is considered sacred and is preserved as temple grove. The tree of *Cedrus deodara* is believed to be the tree of God and is planted around temples. Many times, the entire landscape represented by a variety of species and ecosystems has been considered sacred and conserved in their pristine condition by forbidding the use of any resource from it. Any sort of damage to vegetational sanctities was considered a sin by the people of that locality.

IMPORTANCE OF SACRED GROVES

The traditional Hindu society recognizes individual species as objects of worship, based on accumulated empirical knowledge and their identified value for one reason or the other. The sacred groves are multifaceted social institutions and symbolize the dynamic social forces linked with access and control over resources. They possess a great heritage of diverse gene pool of many forest species having socio-religious attachment and possessing medicinal values. Sacred groves are ecologically and genetically very important. They are the abodes of

rare, endemic and endangered species of flora and fauna. The socially worshipped multipurpose tree, *Quercus* spp (Oak) is an important fodder and fuelwood species. It is also considered to serve a variety of functions and as an important component of the mountain forest ecosystem. It helps in improving the soil fertility through efficient nutrient cycling, conserving soil moisture through humus build up in the soil and partly through a deeply placed root system which has root biomass

uniformly distributed throughout the soil profile. The value of sacred groves is immense as they are good sources of a variety of non-wood products, fatty oils, species like pepper, cinnamon and nutmeg, medicinal plants, *etc.* The faunal wealth of sacred groves is also worth mentioning. Besides these, the amenity value, role of sacred groves in water conservation and their effect on microclimate of the region, *etc* are also important and deserve special attention in future studies.

Table 1. List of Sacred plant species of Garhwal Himalaya

Scientific Name	Vernacular Name	Beliefs/Uses
<i>Cynodon dactylon</i>	Doob	Used in rituals
<i>Ficus religiosa</i>	Peepal	A sacred tree
<i>Ficus benghalensis</i>	Bargad	A sacred tree
<i>Ocimum sanctum</i>	Tulsi	A sacred herb
<i>Artemisia</i> spp.	Dhoop or Kunju	Used in rituals
<i>Musa paradisiaca</i>	Banana	Used in rituals
<i>Desmostachya bipinnate</i>		Used in rituals
<i>Aegle marmelos</i>	Bail	Sacred plant
<i>Emblica officinalis</i>	Amla	Sacred tree
<i>Mangifera indica</i>	Mango	Used in rituals
<i>Pinus roxburghii</i>	Pine	Used in rituals
<i>Prunus cerasoides</i>	Paiya	Used in rituals
<i>Cedrus deodara</i>	Deodar	Sacred tree
<i>Xanthoxylum achanthopodum</i>	Timroo	Sacred tree
<i>Azadirachta indica</i>	Neem	Sacred tree
<i>Quercus</i> spp	Oak	Sacred tree

Table 2. Religious festivals associated with sacred trees

Festivals	Month of festival	Species associated
Sheela Asthami	March	<i>Azadirachta indica</i>

Nimb Saptami	April	<i>Azadirachta indica</i>
Vat Savitri	May	<i>Ficus bengalensis</i>
Bilvamengal	May-June	<i>Aegle marmelos</i>
Sawan ke Somvaar	Mid July-Mid August	<i>Bail</i>
Kadii Vrat	September	<i>Musa paradisica</i>
Somvari Amavasya	15 of all months	<i>Ficus religiosa</i>

Table 3. List of Medicinal plants used in Ayurvedic medicines

Vernacular Name	Botanical Name
Kalonji	<i>Nigella letiva</i>
Neem	<i>Azadirachta indica</i>
Dhatura	<i>Dhatura fastuosa</i>
Tulsi	<i>Ocimum sanctum</i>
Anar	<i>Punica granatum</i>
Khajoor	<i>Phoenix dectylifera</i>
Methi	<i>Trigonella foenum</i>
Paiya	<i>Prunus cerasoides</i>

PRESENT STATUS

Earlier sacred groves were indicator of the phenomenon of ethno-environmental management. Our ancestors were fully aware that the natural resources that sustained them must be conserved for the sustenance of future generations. But, at present, fast growth of infra-structural facilities and on-farm activities are the prime cause of deteriorating quality status of the groves. As in the forest, many of the tree species are valuable timber species, they have been largely extracted for timber during the past few decades and thus, subsequently replacing the climax forests (Oak) to early successional pine forests. This has done considerable ecological damage in the region, making the soil more acidic and adversely

affecting nutrient cycling and soil fertility. Growth of tourism industry is also deteriorating the faith towards deity and groves. Sacred groves are the victims of this grim tragedy. The groves located near the settlements are disappearing at a faster rate. Only few sacred groves are in their pristine condition. These are Hariyali, Tapovan, Binsar and Tardkeshwar in Garhwal Himalaya. Other groves are disappearing, as the forests are being cleared and utilized for construction and repairing of deity houses. Most of the temple groves are seen disappearing due to inevitable factors like animal grazing and human interference.

Sacred groves are a social institution, which permits management of biotic resources

through people's participation. A scientific understanding of the sacred groves would be significantly important for designing strategies for rehabilitation of degraded landscapes, involving local people's participation, and training for promotion of traditional and social norms. There is a need of preservation, restoration and proper management of existing groves. Various traditional approaches to conservation of nature require a belief system, which includes a number of prescriptions and proscriptions for restrained resource use (Gadgil and Berkes, 1991). These forestlands need proper conservation and protection by formulating consistent conservation strategies in order to save them from the verge of further degradation. Proper legislative support and specific policies should be provided. Mushrooming infrastructure facilities in the area are deteriorating the proper functioning of social institutions, which reflect that sacred groves are no longer getting the privilege they had in the past. Human interference should be regulated by encoding various indigenous practices along with scientific implications rather than only old religious prescriptions and proscriptions.

Correspondence to:

Prof. Ramesh C. Sharma

Head, Department of
Environmental Sciences
H. N. Bahuguna Garhwal
University, P. O. Box-67
Srinagar Garhwal, Uttaranchal
246174, India
Telephone: +91-1370-267740(O)
+91-1370-267314 (R)
Fax: +91-1370-267740
Email:
drrameshcsharma@yahoo.com
ashishaanthwal25@rediffmail.com

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