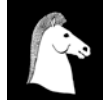




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Sacred Groves and Conservation: The Comparative History of Traditional Reserves in the Mediterranean Area and in South India

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ABSTRACT

Sacred groves in the ancient Mediterranean are compared with surviving groves of South India, particularly Uttara Kannada, to evaluate the roles of these refugia in maintaining balance between human groups and the ecosystems of which they are part. In the Mediterranean written records survive, and archaeological investigation provides some information. In South India, the authors observed a living if declining tradition which has persisted for millennia among village people. Their data come from field surveys, folk traditions, historical documents and literature.

KEYWORDS

Sacred groves, conservation, South India, Mediterranean, refugia, forests, Brahmin

INTRODUCTION

The practice of protection of patches of woods as sacred is ancient. Groves of trees dedicated to the worship of the gods are mentioned by Greek and Latin authors. Ovid said, 'Here stands a silent grove black with the shade of oaks; at

the sight of it, anyone could say, “There is a god in here!”¹ One might think that such a grove, and such an idea, are things that passed away with the ancient world. But scores of sacred groves still persist in many parts of India.² Among those the authors studied was one near Mattigar, a village in Uttara Kannada. In an area largely cleared for agriculture stood a fragment of the original rainforest, tall, cool, dark in colour, about three acres in size. We entered with respect; offerings had been placed, but we could see no temple and no idol. As we left, we met an old man who explained, ‘There is no image. The gods there live among the trees.’



FIGURE 1. Karivokkaliga peasant man worshipping in Devaravattikan. Note the metal tridents planted in the grove as offerings. There is no image or cult figure in the grove, where a mother goddess and father god are honored.

A Comparative Study

This study compares sacred groves in the ancient Mediterranean with surviving groves of South India, especially Uttara Kannada, to evaluate the roles of these refugia in maintaining a balance between human groups and the ecosystems of which they are part. In the Mediterranean written records survive, and archaeological investigation provides some information. In South India, we observe a living if declining tradition which has persisted for millennia. There data come from observations, folk traditions, history and literature.

Sacred Groves in the Ancient Mediterranean Basin

The Mediterranean zone, mountainous and maritime, has a warm dry summer and a cool winter with rainfall totaling 380 to 900 mm per year. The original vegetation was, at low elevations, mainly forests of pines and evergreen oaks, and brushy maquis in dryer locales. Higher, to about 1,400 metres, deciduous forests occurred, and above them a coniferous forest belt up to the treeline at about 2,200 metres. Deforestation was widespread even in ancient times. Sacred groves, 'the first temples of the gods',³ were created by reserving sections of the original forests. Within them the environment was preserved, as a rule, in its natural state.



FIGURE 2. Hill of Kronos, Olympia. This small mountain adjoins the site where the Olympic Games were held in honour of Zeus, the chief Greek god, and his sister/wife; Hera. It was dedicated in antiquity to the father of Zeus, and is a typical natural sacred site. There was undoubtedly a grove here in ancient times, but the pines that presently grace the hill were planted by German archaeologists in the late nineteenth century.

Sacred Groves in Uttara Kannada

We have chosen Uttara Kannada (North Kanara) district towards the centre of South India's west coast for comparative study. The hills of the Western Ghats, seldom rising above 700 metres, cover most of the land. The high humidity and annual rainfall of 2,000 to 6,000 mm, and the conservation ethics of the local

communities, favoured luxuriant tropical forests which, despite nearly two centuries of commercial forestry, cover about 60 per cent of the district.

Coinciding with the decline of the Indus Civilisation, a major vegetational change occurred. Palynological studies indicate that, beginning about 1500 BC, there was an increase in savanna and a decrease in forest, perhaps due to colonisation by agri-pastoral people rather than climatic change.⁴ All the forest species represented by pollen earlier are present today in Uttara Kannada forests, but some occur mainly in sacred groves. Sacred groves probably became more evident with the arrival of shifting agriculture.⁵ As population was thin and the fallow period long, ecological succession on the abandoned slash and burn lands tended to restore the forest vegetation.

Despite the dwindling importance of sacred groves in the practice of today's Hinduism, the Western Ghats have scores of them. This may be due to the difficult terrain and consequently minor influence of Brahminic Hinduism among indigenous communities. These groves, known as *kans* in Uttara Kannada, are distinct patches of evergreen or semi-evergreen forests with lofty trees, in contrast to nearby forests of fire-prone deciduous trees and bamboo. The links of *kans* with the gods of villages were mentioned by a British traveller in 1801:



FIGURE 3. Forest canopy in Devaravattikan sacred grove, Mattigar, North Canara, Karnataka state, India. The mosaic-like pattern is caused by 'crown avoidance', a phenomenon typical of South and Southeast Asian rainforests. Here the sacred grove is a surviving fragment of the original monsoon evergreen forest, and contains species that have disappeared from the surroundings.

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‘The forests are the property of the gods of the villages in which they are situated, and the trees ought not to be cut without having leave from the Gauda or headman of the village ... who here is also the priest to the temple of the village god.’⁶ We may infer that the kans were under the control of pre-Brahmin communities. The survival of evergreens in the kans reflects the high degree of protection which they enjoyed. These are cult centres for village communities comprising a spectrum of Hindu caste groups.

POINTS OF COMPARISON

In the Mediterranean and South India, earlier practices were similar, and some changes that occurred are parallel.

The Genius Loci

The original dedication in both cases is to local deities perceived as dwelling among the trees. In Uttara Kannada, the deities of the groves were not major Hindu gods such as Shiva, Vishnu, Parvati, etc., but indistinct beings represented by vacant spots, crude stones or termite mounds. For instance, in the grove of Mattigar, the female deity Choudamma and the male deity Jatakappa are represented by vacant cult spots. Their presence is perceived in the entire grove by the Karivokkaliga peasants, for whom this grove is the main temple to this day. That nature itself within the grove is sacred is the world-view of pre-Brahminic societies. Some groves are dedicated to animal deities such as serpent and tiger, survivals of an early hunter-gatherer period. Some deities here received animal and human figurines as offerings.

Aniconic worship of indistinct beings well describes early Roman religion. Deities (*numines*) were felt to be inherent in aspects of the landscape. Every notable spot had its *genius loci*, or spirit of the place. An image was not necessary. One famous grove was dedicated to Bona Dea, or ‘good goddess’, not otherwise named. Diana Nemorensis, or ‘Goddess of the Grove’ was a local spirit of Nemi.

Classical Greece reflects a late stage in evolution toward representation of gods by artistic images, but there are survivals of earlier stages. It appears that a sacred grove was first dedicated, and a cult figure added afterwards. Images in many places, such as that of Artemis of Icaria, were uncarved blocks of wood.⁷ Regulations concerning hunting indicate an origin in hunter-gatherer society. Of groves dedicated to major gods, most were of Artemis, goddess of hunting, and her twin brother Apollo, who also carried a bow and was titled ‘hunter’.⁸ There were many to Pan, hunter and herder, especially in forested Arcadia. Archaeology shows that deities received animal figurines as offerings.⁹

Protective Traditions and Regulations

Practices controlled in the groves were strikingly similar, the idea being to honour the gods by keeping the original forest as undisturbed as possible. Around Mediterranean and Indian groves, borders were distinct. Tree felling, collection of biomass, removal of earth, hunting, fishing, farming, grazing of domestic animals, and use for residences or other buildings were forbidden. Specific rules varied from grove to grove, but in general the biota was protected. Exceptions might be allowed in times of need.

An inscription from the city of Magnesia says, 'By the sacred laws, prohibitions and censures, it is forbidden for anyone to pasture or stable or saw or cut wood in the sanctuary of ... Zeus.'¹⁰ Groves were often walled to mark the boundary between holy and ordinary space.



FIGURE 4. Samos, *temenos* wall in the island city. The wall probably dates from the seventh century BC, under the tyrant Polycrates. The nearby town is now called Pithagoreio, in honor of the mathematician Pythagoras.

In the Western Ghats, smaller groves function entirely as the abodes of gods with a taboo on biomass removal, but larger groves served as safety forests offering sustenance and ecological security. In the kans villagers could gather fruits and tap toddy from palms. They cared for wild pepper within the kans, until the British takeover of the forests.

Whereas domestic animals were excluded from Mediterranean groves, in the Western Ghats they do enter the groves. Brandis and Grant, however, noted the remains of barrier trenches bordering kans in Shimoga.¹¹ In Greece and Rome there were penalties for trespassers. In India, large groves were open to the men and women of their villages for gathering non-wood produce, but only to men for worship. The gathering of fallen deadwood in the evergreen kans seems to be the consequence of state monopoly of the timber-rich deciduous secondary forest.

Administration of the Groves

Responsibility for protecting them and enforcing rules was almost always assumed by the local community. In the Mediterranean, the responsible entity was the city; the *polis* in Greece or municipality in Roman dominions assigned jurisdiction over groves to officers, usually religious magistrates.¹² Penalties for miscreants could be severe fines. The land of the community was delineated in part by the location of its groves; a recent study of the Greek polis maintains that its borders were demarcated by sacred enclosures.

In Uttara Kannada the grove was an integral part of village life, and decisions regarding it were made by the community.¹³ In theory the state owned the kans but local committees fined the offenders, a system prevailing to this day in Halkar. The village headman supervised the safety of the grove and obtained 'permission' from the god before cutting down any tree.

Both in the Mediterranean and India, protection was believed to be enforced by the gods. On a Greek mountain, if a hunter saw his quarry go into the precinct of Zeus, he waited outside, believing that if he entered he would die within the year.¹⁴ Hunting was community-regulated and season-bound in pre-colonial Uttara Kannada. The first hunting is carried out to this day ritually by the peasants before the rice harvest, and the quarry is sacrificed to the grove gods. Any appeal to the gods for favours goes with sacrifice of a fowl or goat. No hunting, normally, is conducted in the groves. In the Mediterranean too, animal sacrifice was customary for any appeal to the gods of groves.

Refugia

A 'mosaic landscape' is noted in both cases; the groves formed 'islands' of variable size within a pattern of other land uses. Greek and Roman landscapes included categories such as city, cultivated land, pasture, and woodland.¹⁵ Beyond these lay wilderness, with resources such as wildlife or metallic ores. Another land use was sacred space (*temenos* or *templum*), including groves. Aristotle says the land was 'divided ... into three parts: one sacred, one public, the third private: the first was set apart to maintain ... worship of the gods, the second was to support the warriors, the third was the property of the husbandmen'.¹⁶

In pre-colonial Uttara Kannada people gathered biomass routinely from ordinary forest (*kadu* or *adavi*).¹⁷ Shifting cultivation (*hakkalu* or *kumri*) was widely practised. Sacred groves were prominent in the village landscape. Havik Brahmans raised spice gardens close to evergreen forests including the kans, which assured water supply, shade and leaf manure for their crops of pepper, cardamom, cinnamon, ginger, arecanut, and recently, also clove, cocoa and nutmeg. Villages, groves, other forests, cultivation fallows in varied stages of forest succession, pastures, fields and gardens, in totality, form a mosaic. Landscape heterogeneity and biodiversity are positively correlated.¹⁸ Groves formed part of a landscape of well-connected natural elements and functioned as refugia for many species of plants and animals.¹⁹ The connectivity of the landscape elements, allowing the mobility of species, would make the groves free from some limitations of small islands.²⁰ Groves are 'specimens' of the original ecosystems of the areas where they exist.

The Mediterranean groves gave refuge to many species. Some sheltered wildlife from hunting, except rarely for sacrifice. Fish survived in their waters.²¹ Species were becoming extinct elsewhere due to hunting, demands of the Roman arenas, and habitat destruction, but survived longer in the sanctuaries.²²



FIGURE 5. Grove of evergreen plane trees in a churchyard at Gortyna, Crete. The existence of this unusual variety of a tree that is ordinarily deciduous may well have caused it to be regarded as sacred, and it is not impossible that this Christian sacred grove may be the descendant of an earlier grove dedicated to one of the ancient gods or goddesses.

Sacred groves belong to a variety of cultural practices that helped Indian society maintain an ecologically steady state.²³ The kans of Uttara Kannada, though on the wane, remain centres of biodiversity. From a distance, these fragments of climax forests appear distinguished from surrounding woods by their darker foliage and emergent trees over thirty metres tall. The least disturbed kans have greater biomass. The trees in a one-hectare sample of one of the finest kans comprise a basal area of about 63 square metres, comparable to the best of tropical forests. The kans are centres of plant endemism of the Western Ghats, considered as one of the eighteen biodiversity 'hot spots' on earth. One hectare in Kallabbe kan has 83 per cent endemic trees, but endemism is just 15 per cent in secondary forest near the kan. The kans, mostly evergreen, are richer in species than the deciduous forests: 30 to 50 in a hectare in the former and less than 30 in the latter. The sacred grove at Mattigar has about 60 tree species in one hectare.²⁴

Groves shelter rare habitats and endangered species. For example, the mighty *Dipterocarpus indicus* has the isolated north end of its range in some of the fine kans of southern Uttara Kannada. The latter is also the location of a threatened ecosystem, a *Myristica* swamp. A notable species of wild nutmeg tree²⁵ and a rare palm²⁶ are sheltered here. Groves could be valuable gene banks for restoration of natural ecosystems around them. As they diminish in size, habitat types and rare species in them are in jeopardy.

Commercial forestry which did not spare the kans caused a general decline in the rich wildlife of Uttara Kannada; tigers, leopards, elephants, gaur, and other large mammals are seldom or never seen. However, the endangered lion-tailed macaques still occur in Katelekan.²⁷ Many interior forest birds occur in the groves in the midst of populated villages. A survey showed that half the bird species in Siddapur taluk occur in sacred groves.²⁸

Water

The characteristic image of a sacred grove includes a source of water quite as much as a stand of trees. In the Mediterranean and in India, groves protected watersheds and springs. Ancient writers knew that dense forests regulate runoff of precipitation. Like a sponge, the plants and soil hold water, preventing floods and releasing a year-round supply to streams. Plato said that when mountains were deforested, springs dried up, and the sad bits of evidence were shrines at spots where they formerly existed.²⁹

The Bombay Government in 1923 highlighted the watershed value of the kans: 'Heavy evergreen forests hold up several feet of monsoon rain ... If evergreen forest is felled in the dry season the flow of water from any spring it feeds increases rapidly though no rainwater may have fallen for some months.'³⁰ It is, of course, the last such; a case of killing the goose to get the golden eggs.

The government made this a reason for reservation of the kans, ordering that they never be cut for timber. Unfortunately this wise prescription was later forgotten.

Peasants believe, with some justification, that forests bring rain. Watershed forests in every village have sanctity attributed to them. Sometimes the only source of water in a village is the grove's spring. Groves can supply fresh water in regions where other water is saline.³¹ Indian tradition considers rivers and springs as divine, and many are places of tirthayatra, meaning 'pilgrimage to sacred water'.

The Process of Religious Change

Cultural change presents interesting parallels. In both cases, local deities of the groves were identified with the great gods of the pantheon, due to the influence of a literary tradition dominated by epics and priestly rituals. These resulted in the erection of temples and the use of materials from the groves for construction and sacrifices. The rules protecting the groves got relaxed as the centre of ritual moved away from the trees toward the temple building.

Greek and Latin literature abound in evidence that local deities were subsumed into the state pantheon. Early temples in Greece and Rome were of wood, later of stone but requiring timber beams for roofs. Temple builders looked to large trees which survived in the groves, as elsewhere they had been cut. A tall cypress was felled in the precinct of Apollo on Carpathos and used in rebuilding a temple in Athens.³² Priests were political officers, members of urban elites desirous of enhancing their power and the prestige of their communities.

The decline of groves in India was a gradual process linked to the absorption of local cults by text-based Brahminism. In the cultural complex of Hinduism two major coalescing traditions are discernible. The 'Little Tradition' is the unwritten lore of people who remain outside the fold of organised religion. Its origins are lost in prehistory. The other, known as the 'Great Tradition', can be traced to the Vedas and other scriptures. The religion of the followers of the textual tradition is more institutionalised than that of the folk cults. Through millennia, Hinduism has absorbed scores of village cults. Sacred groves formed an integral part of folk religion. Although groves steadily lost importance as worship places with the spread of the Great Tradition, there was nothing in the latter which opposed nature cults. Interestingly, the Dharmasastras, which prescribe a code of righteous life, attach great importance to planting trees. However, the planted trees could never match the primeval sacred groves in species diversity and ecological functions.³³

Incorporation of deities of the Little into the Great Tradition involves sanskritisation of their names and building of temples. The groves continued to coexist for a time with the temples, but diminished in importance. The trees were cut, initially for the temple and its repairs and subsequently for commercial and subsistence needs. Significant among the local cults to merge with Hinduism were fertility cults, especially those of the Mother goddess and Shiva.



FIGURE 6. A small temple in Karikan, a sacred grove near Kumta, North Canara. The grove is dedicated to Karikanamma, 'The Mother of the Dark Forest'. Inside the temple are a spring of water and two lingas (stone phallic symbols). Temples are often built in or beside sacred groves, but the groves existed before the temples.

In areas of Brahminic influence the Mother goddesses often got identified with Parvati, consort of Shiva, or her incarnations. This involves housing the Mothers of the groves in temples or small shrines. Karikanamma, the 'Mother of the Dark Forest', who hails from a beautiful hilltop grove of dipterocarps, now has a temple nearby, and is sanskritised as Parameshwari, a consort of Shiva. The uncarved rock that embodies her is covered by a metallic mask. The local lore, authored by a Brahmin, narrates how the Mother was 'saved' from the clutches

of barbarians, evidently referring to the indigenous people of the woods, and housed in the temple by the Brahmins. Similar processes are seen all over India.

Archaeologists trace Shiva to the Indus Culture. An abstraction from nature, he was the lord of mountains, watershed, vegetation and animals. The male gods of the groves of Uttara Kannada, represented by vacant spots, stones or termite mounds, may well be Shiva's prototypes. He resembles Pan of late classical Greco-Roman religion. Pan was recognised as universal god of nature, primal god of herds, streams, thickets, and rocky peaks. An Orphic Hymn calls Pan 'green power in all that grows, procreator of all'.³⁴

Just as local Greek gods were identified with Olympian deities, many village gods were amalgamated into the Hindu pantheon. 'The enlistment of Hanuman in the service of Rama signifies the meeting point of early nature worship and later theism.'³⁵ In this process, an older religion that valued nature was spiritualised, and worship that brought people directly before many forms of nature was replaced by a more sophisticated iconography. The wooded, hilly hinterlands are in the throes of a process that swept through the Indian plains in early historic times. Although Hindu tradition exhorts its followers to protect several plants as sacred and to raise groves of sacred trees in temple premises, housing of the sylvan deities in temples leads to neglect of the groves. Traces of groves are seldom seen around temples of Uttara Kannada where termite mounds stand for the original deities. An architectural environment similar to the groves is represented in temples by the dendritic form of columns, just as in Greece.

Sacred Groves in the Market Economy

Apart from changes in religion, the demands of an economy beyond local ecosystems was deleterious to preservation of the groves. Greek and Roman entrepreneurs exerted pressure for use of the resources of the groves. In spite of rules against grazing, art and literature abound in pictures of domestic animals foraging in them. Xenophon mentioned that people lease 'enclosures and sanctuaries' for removal and sale of wood and other products.³⁶ Strabo noted that some sanctuaries had lost their trees.³⁷

Appropriation of resources by colonial exploiters, and by proponents of economic growth since independence, has damaged or destroyed many groves in India. As early as 1633, the Portuguese in Goa made a treaty with rulers of Uttara Kannada to cut timber free of charge. British conquest in 1799 opened a period of unbridled exploitation. Uttara Kannada was well stocked with forest resources at the time of their occupation. The Indian Forest Act of 1865 asserted British ownership of forest resources. 'Reserved' forests were closed to all uses of the public. By the turn of the century, working plans were initiated for their utilisation, though lip service was given to sustained yield.³⁸ Local people were restricted to gather fuel and leaves and graze cattle only in the degraded 'minor forests', hastening their ruin. The Government added 769 hectares of kans in

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Sirsi to minor forests. In the revenue yielding spice garden villages, dominated by Havik Brahmins, the state allotted nine acres of forest per acre of garden as soppinabetta, or leaf manure patches. Some of these were kan forest. Other villagers, left to gather biomass or graze cattle in open access minor forests, lost power to protect their hitherto community forests, including many kans, from outsiders, and failed to regulate harvests by their own members. Thus former communal properties became open access resources liable to exhaustive usage, a classic case of 'the tragedy of the commons'.

Brandis noticed the widespread occurrence of the groves, calling them 'the traditional form of forest preservation':

Sacred groves in India ... are, or rather were very numerous. I have found them in nearly all provinces ... These sacred forests, as a rule, are never touched by the axe, except when wood is wanted for the repair of religious buildings ...³⁹

The state did not treat the kans as sacred, and some colonialists considered them a 'contrivance' to prevent the government from claiming its 'rightful' property. Since kans were fine patches of evergreen forest, they were often included in reserved forests. The state introduced a destructive contract system for extraction of nonwood resources. As R.T. Wingate observed,

I am still of the opinion that the system of annually selling by auction the produce of the kans is a pernicious one. The contractor sends forth his subordinates..., who hack about the kans just as they please, the pepper vines are cut down from the root, dragged from the trees and the fruits then gathered, while the cinnamon trees are all but destroyed... I was greatly struck with the general destruction among the Kumta evergreens; they were in a far finer state of preservation fifteen years ago.⁴⁰

Wingate noted that a proper demarcation of the kans was not conducted by the state, implying that they were merging with ordinary forests and losing their identity. The restrictions on biomass removal from reserved forests faced by the common people resulted in heavy pressure on the village kans. Felling of trees opened the rainforest canopy and permitted the spread of introduced, light-loving weeds like lantana. Encroachment on the kans by land-hungry farmers reduced their area. In Sorab in the central Western Ghats the town is expanding into the nearby kan. With increased light and heat reaching the forest floor, wild pepper has almost vanished from the Sorab kans.

Since the kans contained mostly softwoods, unmarketable at the time, they were not much exploited for timber almost to the end of the British period. Resource emergencies of the Second World War, however, prompted 'war fellings' in evergreen forests including the groves. Use for *Dipterocarpus indicus*, which survived only in a few kans, was found in the railroads and the new plywood industry.

With Indian independence in 1947, the Forest Department continued the methods of professional forestry it had inherited, so centrally directed state

management continued. It was a disastrous model. In a major drive to industrialise, reserved forests were leased out to companies producing plywood, paper, matches and packing cases for heavily subsidised extraction of timber and bamboo.⁴¹ Large tracts were submerged in hydroelectric projects or leased out to mining companies. These leases and projects adversely affected kans. A forest working plan for Sirsi and Siddapur in 1966 organised 4000 hectares of kans for extraction of industrial timbers. Another plan for Sirsi included for timber extraction 672 hectares of kans belonging to ten villages. The working plans often prescribed 'improvement felling' in kans of large trees regarded by foresters as 'overmature' specimens. A kan was clear cut and converted into a Eucalyptus plantation in Menasi village of Siddapur taluk. In 1976, with industrial demand at its peak, despite protests from the villagers, the kan of Kallabbe, which had been in an excellent state of preservation by the people, was leased to a plywood company which extracted hundreds of logs with attendant damage. Due to a series of such invasions, the area covered by kans in Siddapur taluk declined by 94.9 per cent from an estimated 6 per cent of the total area to 0.3 per cent. The sacred ponds associated with the groves are mostly silted up and covered with rank growth of plants. In some native fishes are poisoned and carp restocked.

Exclusion of local residents from the reserved forests, bans on shifting cultivation and other restrictions were seen as attacks on the community-based system of use, and provoked the first case of forest resistance in the district in 1886. The agitation for ancestral rights of forest use continued in the 1920s, and was coopted into the Gandhian Satyagraha of the 1930s. In a few cases, groves became rallying points in movements for local rights.⁴² A demonstration against deforestation and commercialisation of the forests called Appiko began near Salkani, 'goddess forest'.⁴³ Inspired by Chipko (the 'tree hugging' movement in the Himalayas), in August 1983 the villagers of Sirsi

requested the Forest Department to halt tree felling. When their requests failed, they marched into the forest and physically prevented the felling from continuing. They also extracted an oath from the loggers (on the local forest deity)... that they would not destroy trees in the forest.⁴⁴

CONCLUSION

The practice of honouring sacred groves occurred for similar purposes in widespread parts of the world. This practice was part of a pattern that made possible a sustainable human way of life within forest ecosystems. This positive function has not disappeared; it is more important today. It is mostly too late to save sacred groves in the Mediterranean, although a few survive in the precincts of monasteries and churches. Certain surviving refugia are protected by national



FIGURE 7. Church and cemetery, Messenia, Peloponnesos. The appearance of a sacred grove is suggested by the small Orthodox church, which would have been a temple in ancient times, and the grove of planted cypresses surrounded by a wall.

laws or international agreements as biosphere reserves, making them modern secular equivalents of ancient sacred groves. Places where ecosystems are relatively intact are ‘holy’ in the sense of possessing integrity, or natural wholeness, and are more valuable because so many groves are gone.

Sacred groves, wherever they still exist, as in India, should be preserved and restored for many reasons, including their value as historical evidence for the relationship of human beings to natural ecosystems. The groves of Uttara Kannada are living ecosystems, even if fragmentary, that



FIGURE 8. Two young men of Mattigar constructing a fence to demarcate and protect their grove of Devaravattikan. The barrier will prevent the entry of grazing animals; gates allow access to worshippers.

relate to people of the local communities that once protected them, and can once again if they are respected as partners in the conservation effort.⁴⁵ To quote Madhav Gadgil,

For local people, degradation of natural resources is a genuine hardship, and of all the people and groups who compose the Indian society they are the most likely to be motivated to take good care of the landscape and ecosystems on which they depend. The many traditions of nature conservation that are still practiced could form a basis for a viable strategy of biodiversity conservation.⁴⁶

NOTES

¹ Ovid, *Fasti* 3. 295–6.

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³ Pliny, *Natural History* 12.5 (9).

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⁶ Francis D. Buchanan, *A Journey from Madras through the Countries of Mysore, Canara and Malabar*, Madras, Higginbothams and Company, 1970, vol. 2.

⁷ Richard Farnell, *The Cults of the Greek States*, Oxford, Clarendon Press, 1896, vol. 2, pp. 520–521.

⁸ Authors such as Darice Elizabeth Birge, 'Sacred Groves in the Ancient Greek World', University of California, Berkeley, Department of Ancient History and Philosophy, 1982, Ph.D. Dissertation, p. 27, have noted the great number of groves dedicated to Apollo, but have missed Apollo's connection to hunting.

⁹ François de Polignac, *Cults, Territory, and the Origins of the Greek City-State*, Chicago, University of Chicago Press, 1995, p. 26.

¹⁰ W. Dittenberger, *Sylloge Inscriptionum Graecarum* 3, 1924, 685, A.III.81–82.

¹¹ D. Brandis and Grant, Joint report No. 33, 11th May, 1868, on the kans in the Sorab taluka. Forest Department, Shimoga, India.

¹² James George Frazer, *The Golden Bough: The Magic Art and the Evolution of Kings*, 3rd edn (12 vols), New York, Macmillan, 1935, Vol. 2, pp. 121–2. The work was first published in 1890.

¹³ Madhav Gadgil and M.D. Subash Chandran, 'Sacred Groves', *India International Quarterly*, vol. 19, nos 1–2 (spring-summer 1992), pp. 183–7.

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