

Sacred Groves: Traditional Ecological Heritage

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ABSTRACT

Patches of forest have been preserved by the local communities in the form of Sacred Groves. Taboos and social sanctions protect the sacred groves from deterioration due to human interference. Several relict, endemic and endangered species have been recorded from sacred groves. Sacred groves which form examples of *in situ* conservation, also act as refugia for such species, and should be protected.

Key Words : Keystone species, Sacred groves, Sthala vrikshas, Relict species.

INTRODUCTION

The traditional Indian society have evolved many conservation practices such as restriction of exploitation of a resource only to a certain season, restriction of exploitation to certain stages of life history, limited exploitation of certain resources, protection of certain 'sacred' species, and protection of entire ecosystem. The most notable among such traditions are 'sacred groves' totally inviolate to any human interference and 'village groves' where only limited and regulated use by members of a local community is permitted. Today, such groves occur in many parts of India, both in tribal tracts and outside of it. Sacred groves are a group of trees or a patch of vegetation protected by the local people through religious and cultural practices evolved to minimise destruction.

SACRED ELEMENTS, SACRED GROVES IN TAMIL

The period between the sixth and ninth century A.D. in the south had witnessed the emergence and growth of Hindu religion. Great saints 'Nainmars' and 'Alwars' were born during this period and undertook the mission of propagating the two main cults of Hindu philosophy, 'Saivism' and 'Vaishnavism' respectively. Their literary scholarship and poetic expressions were so excellent that they could achieve their task with ease. They went around the nearest villages and towns of the Tamil country and sang beautiful verses in praise of the presiding deities of various temples and their surroundings. These verses that run to several thousands represent the masterpieces of Tamil music and poetic

skill of Tamil literature of medieval period entirely devoted to express the cultural and spiritual values of Hindu religion. An analysis of the Bhakti literature reveals the excellent treatment of nature in the verses. The saints while visiting several temple towns on religious mission had composed verses on the deities of many temples which are known as 'padal petra talangal'.

There are 383 temple sthalas in Tamil Nadu of which 275 represent 'Siva sthalas' and 108 the 'Vaishnava sthalas'. Besides the architectural and sculptural values of these sthalas, their most significant feature is the maintenance and conservation of 'sthala vriksha' (sacred temple trees). Though tree worship had been common practice of Hindu religion in India, the worship and conservation of a specific tree or plant species in each temple and sanctity attributed to these sacred trees are unique to the temples of Tamil Nadu and its neighbourhood (Appendix 1). The significance attached to these unique sacred trees can be visualised by the fact that several of the temple towns in Tamil Nadu and their deities derive their names from their specific 'sthala vriksham'; for example, Thiruarasili after Arasu (*Ficus religiosa*); Thiruppaluvur, Thiruanbilandhurai, Thirualangadu and Thirualampolil after Aal (*Ficus benghalensis*); and Thirukkadambur and Thirukkadambandurai after Kadambu (*Neolamarckia cadamba*).

The sacred trees are very good examples of *ex-situ* conservation where a single plant is conserved and worshipped. Such sacred trees are either medicinal plants, or a representative element of respective ecological region or a source of edible parts of a plant. (Table 1).

These plants are conserved and have been considered sacred because of their cultural, religious and economic importance. However, these sacred trees have less intimate relationship with the people who worship them as they are restrained from collecting parts of these trees for medicinal or other purposes. Besides these, many plants introduced from other countries have also been worshipped as 'sthala vrikshas'. (Table 2). However, due to the cultural diffusion and social changes, few 'sthala vrikshas' have undergone major degradation and depletion. This suggests that the people are getting alienated from nature and its worship.

In contrast to 'Sthala vrikshas', certain patches of forests, ponds, and stretches of river are protected by the local community by giving them a sacred status. Sacred groves are usually dedicated to a deity, very often a local deity.

More often the conservation of sacred groves is practised by the lower strata of the social order. These people are economically poor, often landless and homeless. The deity worshipped by the people is usually represented by a stone kept under a robust tree or in the open space without any shelter and unprotected. It is believed that any attempt to build a 'home' for the deity would attract punishment as the people who worshipped are themselves homeless. This clearly gives us a message that the forests have been almost regarded as their homes and is given a holy status to protect for the future generation. The taboos, values and belief system associated with the groves have been the prime reason in preserving the sacred groves in pristine condition.

In contrast, sacred groves are an ingenious method of *in-situ* conservation where the entire ecosystem with varied populations of different species is conserved by the social sanctions. Conservation of populations is definitely advantageous where different genotypes are conserved, and here exists a strong emotional bond between the sacred groves and local community.

Table 3. Introduced plants as sthalavrikshas

District	Place	Deity	Sacred Tree	Botanical name	Nativity
Nagai Quaid Millet	Velvikudi	Gowdhageswaran	Nagalingam (Canon ball tree)	<i>Couroupita guineensis</i>	Native of Tropical America, Cultivated in Indian gardens
Trichy	Tirunedungalam	Nedungaladhanadhar- Swamy	Alari (Indian Oleander)	<i>Nerium odorum</i>	Naive of Mediterranean region
Chidambaranar	Azhvar Thirunagatt	Adhinadha Alwar	Puli (Tamarind)	<i>Tamarindus indica</i>	Native of Africa, very early introduced species
Coimbatore	Puravar Panangattur	Panangattur Eswar	Panci (Palmyra palm)	<i>Borrassus flabellifer</i>	Native of tropical Africa

Table 1. Common sthalavrikshas and their uses

Use	Common name (Botanical name)
Medicinal	Kiluvai (<i>Commiphora caudata</i> (Wt. & Arn.) Engl.)
	Mathavi (<i>Hiptage benghalensis</i> Kurz.)
	Parijatham (<i>Nyctanthus arbortristis</i> Linn.)
	Serundhi (<i>Ochna obtusata</i> DC)
	Thulasi (<i>Ocimum tenuiflorum</i> L.)
	Uthalum (<i>Garcinia gambogia</i> Desr)
	Vembu (<i>Azadirachta indica</i> A.Juss.)
	Vilvam (<i>Aegle marmelos</i> (Linn.) Correa)
	Vizhudichedi (<i>Cadaba fruticosa</i> Forssk.)
	Edible Fruits
Kal-Athi (<i>Ficus tomentosa</i> L.)	
Karai (<i>Canthium parviflorum</i> Lam.)	
Pala (<i>Atrocarpus heterophyllous</i> Lamk)	
Flowers	Arali (<i>Nerium oleander</i> L.)
	Alari (<i>Plumeria rubra</i> Linn.)
	Chenbagam (<i>Michelia chambaga</i> Linn.)
	Erukku (<i>Calotrophis gigantea</i> R.Br.)
Representative of dryland ecosystem	Oomathai (<i>Datura metal</i> L.)
	Ilandai (<i>Zizyphus mauritiana</i> Lam.)
	Soorai (<i>Zizyphus oenoplia</i> . Mill)
	Kottei (<i>Zizyphus xylopyrus</i> Willd.)
	Udai (<i>Acacia planifrons</i> W. & A.)

SACRED GROVES AS REFUGIA OF ENDANGERED OR RELICT FLORA

The sacred grove at Suriampettai village, Cuddalore district, is situated near the village boundary, covers eight acres (3.3 ha) of natural vegetation. Ayyanar is the aboding deity of this sacred grove. At Suriampettai, a large Banyan tree Aal (*Ficus benghalensis* L.), a key-stone species, is found inside the sacred grove providing a niche for the large number of birds and plants.

Interestingly this sacred grove has a few evergreen elements such as Malaikuligai (*Dimorphocalyx lawianus* HK.f) and *Tricalysia sphaerocarpa*. Gamble, which could be seen above 900-1200 m in Western Ghats and these species do not occur anywhere else outside the grove in this area. Palynological and fossil evidence prove that this geographical area was covered by lush evergreen forests during Lower Cretaceous period. Though there are many Ecological factors governing the existence of these species in the area, the social sanctions, strong taboos attached to the grove keep protecting the entire Ecosystem. Hence this sacred grove act as a refugium for these relict evergreen species.

The sacred grove present at Pasamur village near Vedanthangal bird sanctuary is situated on a low hillock composed of rock boulders. The deity residing in the grove is Ponniamman. Local community occasionally visits the grove and celebrates the festival

on 18th of Tamil month Adi. They offer sacrifice of animals such as he-goat and fowl to please the deity and for the peace and well-being of all the people of the community. Underneath the keystone species, Kal-ichi (*Ficus mollis* Vahl.), with in the rocky crevices grow flourishing population of Kattukkarunaikzhilangu (*Amorphophallus sylvaticus* (Roxb) Kunth), an Araceae member which is considered a rare species (IUCN 1994). Its tubers are used for the treatment of piles.

The slightly elevated hillocks, the rock boulders that form the hillock, the naturally cut crevices, the thorny bushes around the hillock and most important of all, self-imposed social restriction by the people have almost insulated the grove from any kind of sinistral influence. This has provided the most ideal micro-environment for *Amorphophallus sylvaticus* (Roxb) Kunth and about 120 species of Angiosperms to grow harmoniously. Thus, the hillock with the keystone species of *Ficus* is functioning like a refugium for this rare, medicinal plant.

Gudiam caves near Thiruvallore are an important archaeological site in Tamil Nadu. The occurrence of Palaeolithic stone tools bear the evidence for the presence of *Homo sapiens* more than 70,000 years ago. The cave harbours a few species such as *Morinda umbellata* L. and *Miliusa eriocarpa* Dunn. as well as several ferns which do not occur in other parts of Thiruvallore and adjacent Kanchipuram district. These floristic elements are protected by the special niche provided by the cave and by the prevailing religious believes associated with the deity, Mannatchiamman that is installed in the cave.

COMMON TABOOS AND BELIEFS ASSOCIATED WITH SACRED GROVES OF TAMIL NADU

The following are common taboos and beliefs in Tamil Nadu:

- * The felling of tree is strictly prohibited.
- * Footwear is to be removed at the entrance of the path leading to the deity.
- * Women are not allowed to enter into the Sacred Groves at certain places and time.
- * Animals are not to be harmed.
- * It is believed that the God will punish the offender by bringing illness to him/her.
- * It is believed that any disturbance to sacred grove causes failure of agricultural crops and disease to livestock.

In certain cases, sacred groves do function as watersheds and as a life support system for the associated local community and not just a religious monument.

Most of the groves in Tamil Nadu are associated with the village deities. The mythological stories, staunch belief systems and taboos associated with the deities preserve a large number of forest patches. This '*in-situ*' conservation practices of our tribal and local communities is our ancient traditional ecological heritage. which conserves the population of varied species in its habitat and not just an individual element. Experience throughout the world has proved that conserving the biodiversity in its habitats is the best method of conservation. Conserving and promoting this heritage is vital as it in turn protects many endemic, endangered and relict biological species as well as keeps the habitat as a whole protected for future generations.

ACKNOWLEDGEMENTS

We are grateful to Prof. M.S. Swaminathan for his keen interest and constant encouragement. We are thankful to Dr. Livingstone of Madras Christian College, and Dr. Ravishankar of MSSRF, for going through the manuscript. We thank Sunder Vadivelu of MSSRF, for typing the manuscript.

REFERENCES

- Anonymous, 1988. Sacred Plants, Karnataka Forest Department, Bangalore. 145 pages.
- Anonymous, 1995-1996. Reviving and Strengthening the *in-situ* Conservation of Biodiversity by Tribal Women. Technical Report, M.S. Swaminathan Research Foundation, Taramani, Chennai (Madras). 140 pages.
- Gadgil, Madhav. 1983. Forestry with a social purpose. In: Fernandes, W. and Kulkarni, Sharad (Editors) Towards a New Forest Policy People's Rights and Environmental Needs. Indian Social Institute, New Delhi.
- Gadgil, Madhav. 1989. The Indian heritage of a conservation ethic. pages 111-133, In: Allchin, B., Allchin, E.R. and B.K. Thapared, B.K. (Editors) Conservation of the Indian Heritage. Cosmo Publication, New Delhi.
- Mabberley, D.J. 1993. The Plant Book A Portable Dictionary of Higher Plants. Cambridge University Press, Cambridge, United Kingdom. 705 pages.
- Maheswaran, D., Narasimhan, D., and Dayanandan, P. 1995. Miniature Sacred Grove near Vedanthangal Bird Sanctuary. In: Abstracts of 2nd Congress on Traditional Science and Technology of India, December 26-31, Madras.
- Narasimhan, D. 1991. A Floristic Study of Flowering Plants of Chengalpattu District, Tamil Nadu, Ph.D. Thesis, University of Madras, Madras. 455 pages.
- Nayar, P.K.B. 1987. Religion, Mythology and the Ecosystem. A Report. Department of Environment and Forest, Government of India, New Delhi. 114 pages.
- Pandey, Brahma Prakash. 1989. Plants for Human Kind: Sacred Plants of India. Shree Publishing House, New Delhi.
- Santapau, H. and Henry A.N. 1983. Dictionary of Flowering Plants in India. Kapoor Art Press, New Delhi. 198 pages.
- Scott Mills L., Soule, M.E. and Doak, Daniel F. 1993. The keystone species concept in ecology and conservation. *Bioscience* 43 (4):
- Sinha, Binod Chandra. 1979. Tree Worship in Ancient India. Books Today, New Delhi. 103 pages.
- Sundara Sobitharaj, K.K. 1994. Thala Marangal. Sobitham, Madras. 100 pages.

Appendix I. Shtala Vrikshas of Tamil Nadu Temples (from Sundara Sobitharaj 1994)

Tamil Name	Botanical Name	Family	Place
Aal	<i>Ficus benghalensis</i> L.	Moraceae	Thirupuzhavur
Amanakku	<i>Ricinus communis</i> Linn.	Euphorbiaceae	Thirukottaiyur
Arali	<i>Nerium oleander</i> L.	Apocynaceae	Thirukkaruveeram
Alari	<i>Plumeria rubra</i> L.	Apocynaceae	Thirunedumkalam
Arasu	<i>Ficus religiosa</i> L.	Moraceae	Thiruadudurai
Assokam	<i>Saraca asoca</i> (Roxb.) de wilde	Caesalpiaceae	
Chenbagam	<i>Michelia champaca</i> L.	Magnoliaceae	Thirusivapuram
Dharppai pullu	<i>Imperata cylindrica</i> (Linn.) Beauv. var. <i>major</i> Nees	Poaceae	Thirunallaru
Earuku	<i>Calotropis gigantea</i> R.Br.	Asclepiadaceae	Thiruerukkathampulliyur
Ilanthai	<i>Zizyphus mauritiana</i> Lam.	Rhamnaceae	Thiruomampulliyur
Ilumichai	<i>Citrus aurantifolia</i> L.	Rutaceae	Thirumakaral
Iluppai	<i>Madhuca longifolia</i> (J.Koenig) Macbride	Sapotaceae	Thiruchengodu
Kaattaathi	<i>Diospyros malabarica</i> (Desr.)Kostel	Ebenaceae	Thiruappadi
Kadambu	<i>Neolamarckia cadamba</i> Bossler	Rubiaceae	Thirukkadambanthurai
Kadukkai	<i>Terminalia chebula</i>	Combretaceae	Thirukkurukai
Karai	<i>Canthium parviflorum</i> Lam.	Rubiaceae	Thirukkacherikarai-Kadu
Karunkali	<i>Acacia catechu</i> Willd.	Mimosaceae	Thiruambaramakkam
Kiluvai	<i>Commiphora caudata</i> (Wt.&Arn.) Engl.	Burseraceae	Thirukkadaimudi
Kodi	<i>Cocculus cordifolius</i> DC	Menispermaceae	Thirukkaruranilai
Konrai	<i>Cassia fistula</i> Linn.	Caesalpinaceae	Thiruakkur
Korai	<i>Cyperus rotundus</i> Linn.	Cyperaceae	Thirusaikadu
Kurundhu	<i>Atalantia racemosa</i> Wt. & Arn.	Rutaceae	Thirupperundururai
Maa	<i>Mangifera indica</i> Linn.	Anacardiaceae	Thirumayiladudurai
Maavilangam	<i>Crateva magna</i> (Lour) DC	Capparidaceae	Thirukkurai
Maghizham	<i>Mimusops elengi</i> L.	Sapotaceae	Thiruneedur
Malligai	<i>Jasminum</i> sp.	Oleaceae	Thiruilmabayankottur
Marudham	<i>Terminalia arjuna</i> Wt. & Arn.	Combretaceae	Thiruvidadimarudur
Mathavi	<i>Hiptage melblota</i> Gaertn.	Malpighiaceae	Thirumurugan pundi
Mullai	<i>Jasminum auriculatum</i> Vahl.	Oleaceae	Thirukkarukkavur
Mungil	<i>Bambusa arundinacea</i> (Retz.)	Gramineae	Thiruvatkadam
Nagalingam	<i>Couroupita guianensis</i> Abul.	Lecythidaceae	Thiruvetikudi
Nandhiyavattai	<i>Tabernaemontana divaricata</i> (L.) R.Br.	Apocynaceae	Thiruvennyur
Naratthai	<i>Citrus</i> sp.	Rutaceae	Thirupparayil
Naval	<i>Syzygium cumini</i> Skeeis	Myrtaceae	Thiruvanaikaval
Nelli	<i>Phyllanthus emblica</i> Gaertn	Euphorbiaceae	Thirunelvayil
Notchi	<i>Vitex negundo</i> Linn.	Verbenaceae	
Pala	<i>Artocarpus heterophyllus</i> Lann.	Moraceae	Thirukkaruvizhi
Palai	<i>Wrightia tinctoria</i> R.Br.	Apocynaceae	Thiruppalaithurai
Panai	<i>Borassus flabellifer</i> Linn.	Palmae	Thirupanandal
Panneer	<i>Guettarda speciosa</i> Linn.	Rubiaceae	Thirushrotruthurai
Pirasamaram	<i>Streblus asper</i> Lour.	Moraceae	Thiruparaithurai
Phadhiri	<i>Stereospermum suaveolens</i> cham.	Bignoniaceae	Thiruvarur
Parijadam	<i>Nyctanthus arbor-tristis</i> Linn.	Oleaceae	Thirukkalar

Tamil Name	Botanical Name	Family	Place
Phulai	<i>Aerva lanata</i> (Linn.) Juss.	Amarantaceae	Thiruirumpuzhai
Pingilam	<i>Jasminum grandiflorum</i> L.	Oleaceae	
Pirambu	<i>Calamus rotang</i> Linn.	Palmae	Thirukkodika
Puli	<i>Tamarindus indica</i> Lin.	Caesalpinaceae	Thiruengoimalai
Pungam	<i>Pongamia pinnata</i> (Linn.) Pierre.	Papilionaceae	Thirupunkoor
Punnai	<i>Callophyllum inophyllum</i> Linn.	Guttiferae	Thiruambarthirukoil
Purasu	<i>Butea monosperma</i> (Lam.) Taub.	Papilionaceae	Thiruthalaishangadu
Sadhurakalli	<i>Euphorbia antiquorum</i> Linn.	Euphorbiaceae	
Sandanam	<i>Santalum album</i> Linn.	Santalaceae	Thiruazhundur
Serundhi	<i>Ochna obtusata</i> DC	Ochnaceae	Thiruppayattur
Thazhai	<i>Pandanus odoratissimus</i> Linn. f.	Pandanaceae	
Thengu	<i>Cocos nucifera</i> Linn.	Palmae	Thirurvedakarangaduthurai
Thetramaram	<i>Strychnos potatorum</i> Linn. f.	Pogoniaceae	Thirukozhil
Thillai	<i>Excoecaria agallocha</i> Linn.	Euphorbiaceae	Koil
Thulasi	<i>Ocimum tenuiflorum</i> Linn.	Labiatae	Thirveerkudiu
Umathai	<i>Datura metal</i> L.	Solanaceae	Thiruerukathampuliyur
Vaagai	<i>Albizia lebbek</i> (Linn.) Benth.	Mimosaceae	Thiruvalkozhimuthur
Vanni	<i>Prosopis cineraria</i> (Linn.) Druce.	Mimosaceae	Thirumudhukundram
Vazhai	<i>Musa paradisiaca</i> Linn.	Musaceae	Thiruthayur
Velvalam	<i>Acacia leucophloea</i> A.Juss.	Mimosaceae	
Vembu	<i>Azadirachta indica</i> A.Juss.	Meliaceae	
Vilvam	<i>Aegle marmelos</i> (Linn.) Correa.	Rutaceae	Thiruidambavanam
Vila	<i>Limonia acidissima</i> Linn.	Ritaceae	Thirumarperu
Vizhuthichedi	<i>Cadaba fruticosa</i> Forssk.	Capparidaceae	