



Documentation of Single Trees Conserved as Culturally Protected Sites

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Abstract

In the days of rapid urbanization it has been seen that sacred sites or culturally protected sites are emerging as a form of conservation. Sometimes just a single tree in an area of human habitation is considered as sacred. Local people often associate these single trees as the abodes of a particular deity. The religious belief of the local community is so strong that measures are taken to conserve that single tree as a sacred site. These sacred sites provide a means of safeguarding of cultural diversity which is essential to remind us of our identities. In a world marred by unprecedented species loss and marked by increasing globalization, the conservation of biological and cultural diversity becomes an imperative. This study is part of a student research project to document single trees conserved as sacred sites that are protected based on the religious belief of the local community.

Keywords: Sacred sites, conservation, religious belief, cultural diversity

Introduction

A new global mission of “sustainable development,” has started these years. The definition is: “Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.” Sustainable development is normally assessed by its “three pillars” - economic growth, human development and environmental protection. Sustainability improves the quality of our lives, protects our ecosystem and preserves natural resources for future generations. Conservation plays a great role in “sustainable development.” Traditional knowledge can make a significant contribution to sustainable development. Many plants are associated with a cultural value based on traditional beliefs. Local communities conserve these plants while following the local traditional rituals.

Religious beliefs are so intricately woven into the cultural fabric of the community that conservation of certain trees becomes a part of life. As the local people go about their lives these plants which are most often trees get automatically conserved. No harm befalls those trees as local communities ensure their survival. Cultural services of urban green spaces can be perceived and are the main contributors to human well-being for urban inhabitants (Bolund & Hunhammar, 1999; Gilbert, 2016; Hartig & Kahn, 2016). So in urban spaces we often encounter pockets of flora conserved due to religious beliefs. In recent times with the increase in urbanization, studies focusing on urban ecology have developed rapidly (Celesti-Grapow 2006).

Urbanisation may cause the plant community composition to be disturbed due to both external and internal factors. Ecosystem recovery from anthropogenic disturbances, either without human intervention or assisted by ecological restoration, is increasingly occurring worldwide. Plant rescue centres are usually areas which are left undisturbed for ecological restoration to take place (Pal *et al*, 2019). These sacred sites often assume the role of plant rescue centres based on religious belief. Sacred groves provide the inextricable link between present society to the past in terms of biodiversity, culture, religious and ethnic heritage (Zeng, 2022). Sacred Groves are the ideal centre for biodiversity conservation preserving the local flora and fauna (Bandyopadhyay *et al*, 2019, Suganya, 2022).

Conservation can be broadly divided into *in situ* and *ex situ* conservation depending on whether the conservation occurs in the area of natural habitat or not. In the days of rapid urbanization it has been seen that sacred sites or culturally protected sites are emerging as a form of conservation (Gopal *et al*, 2019).

Sacred sites

According to M L Khan and co workers Sacred Groves (SGs) provide the inextricable link between present society to the past in terms of biodiversity, culture, religious and ethnic heritage (Khan *et al*, 2008). Sacred groves include natural areas recognized as sacred by indigenous and traditional peoples as well as natural areas recognized by institutionalized religions or faiths as places for worship and remembrance (Oviedo *et al*, 2005).

Conservation of single plants in sacred sites

These culturally protected sites in urban or semi urban spaces may not be large as sacred groves. In fact sometimes the sacred area is often around a single plant. Yet these pockets of conservation in places of human habitation may add up to a considerable area and may encompass several species. Local people often associate these sacred sites as the abodes of a particular deity. The religious belief of the local community is so strong that measures are taken to conserve that single tree as a sacred site. It could be by making a permanent structure around the tree. Daily rituals like daily watering the conserved plant may ensure the well being of that particular tree. Belief and taboos are the constructive tools for conserving the sacred groves, and erosion of belief and taboos has led to deterioration of groves (Vartak and Gadgil 1981; Tiwari *et al*, 1998).

As ecosystem services frameworks have become widely adopted over the last two decades the cultural valuation of biodiversity has taken on renewed importance. The objective the Millennium Ecosystem Assessment which was initiated in 2001, was to assess the consequences of ecosystem change for human well-being and the scientific basis for action needed to enhance the conservation and sustainable use of those systems and their contribution to human well-being (Millennium Ecosystem Assessment (MEA), 2005).

This study is part of a student research project to document the sacred sites that are protected based on the religious belief of the local community. In their student research project the team chose to document sites where only a single tree was conserved as a sacred site. Study sites were chosen from both rural and urban areas.

Materials and Methods

Objective: This student research project wanted to address the question whether plants are conserved based on religious belief both in urban and rural areas.

Study Area: Six areas were chosen for this study. Four were of urban and two rural. The names and coordinates are given in Table I.

Table I. Study Area: Locality, Type and coordinates

Sl. No	Name of Locality	Type	Coordinates
1	Vill- Madhurpur, Block-Joypur, Dist: Bankura, West Bengal: 722154 Madhurpur, Bankura West Bengal 722138	Rural	Latitude: 23.092294°N Longitude: 87.521498°E
2	Vill- Chandipur, Block-Joypur, Dist: Bakura, Pin code: 722154 Pankhi, Keshpara, Joypur, Bankura, West Bengal 722138	Rural	Latitude: 23.09227°N Longitude: 87.526041°E
3	Arjunpur, Baguiati, Kolkata, West Bengal 700059	Urban	Latitude: 22.620592°N Longitude: 88.426695°E
4	Raghunathpur, Baguiati, Kolkata West Bengal 700059	Urban	Latitude: 22.620805°N Longitude: 88.42597°E
5	Raghunathpur, Baguiati, Kolkata West Bengal 700059	Urban	Latitude: 22.620836°N Longitude: 88.425882°E
6	Super Market Bus stop, Durgachak, Haldia, East Midnapore, West Bengal 721606	Urban/Industrial City	Latitude: 22.071444°N Longitude: 88.137766°E

Methods: The plant that was conserved was identified. The local name of the plant, the deity worshipped there, the frequency of worship, name of the locality, type viz. urban or rural were noted down by the students. Any myths which were associated with the place of worship were also documented. Identification of the plant and confirmation of the scientific name was done by the teacher guide.

Results and Discussion:

From this small scale survey it was found that six different plants were conserved based on religious beliefs. The scientific names, family, local names of the plants and type of area where conserved are presented in a tabular form as Table II.

Table II. Details of the plants conserved

Sl. No.	Plant name	Family	Local name (Bengali)	Locality	Type of area
1	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem	Madhurpur. Bankura	Rural
2	<i>Tamarindus indica</i> L.	Fabaceae <i>sensu lato</i>	Tetul	Chandipur, Bankura	Rural
3	<i>Embilica officinalis</i> Gaertn.	Euphorbiaceae	Amlaki	Arjunpur, Baguiati, Kolkata.	Urban
4	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Tulsi	Raghunathpur, Baguiati, Kolkata	Urban
5	<i>Ficus benghalensis</i> L. and <i>Ficus religiosa</i> L.	Moraceae	Both (Banyan) and Ashaswata (Peepal)	Raghunathpur, Baguiati, Kolkata	Urban
6	<i>Ficus benghalensis</i> L.	Moraceae	Both (Banyan)	Durgachak, Super market, Haldia, East Medinipur	Urban

The pictures of these six plants are given as Fig. 1- Different Hindu deities were worshipped at different times of the year. Some deities were part of the daily worship ritual among the local people.



Fig. 1. Neem tree, *Azadirachta indica* in Madhurpur, Bankura.



Fig. 2. Close up of the place of worship at the bottom of the Neem tree, *Azadirachta indica* L in Madhurpur, Bankura.

The neem tree is an important medicinal plant. In the village Madhurpur, Bankura the Hindu goddess Kali is worshipped at the foot of this *Azadirachta indica* A. Juss. (Fig 1 & 2). The height of the tree is medium. The local people reported that worship was done on a monthly basis on the day of 'Amavasya' or the New Moon day in Hindu calendar. On the occasion of Kali Puja following Durga Puja in autumn the scale of the worship is notched up. The worship becomes quite flamboyant

according to the local people, as the space is associated with the Kali worship the tree is automatically conserved.



Fig 3. The tamarind tree, *Tamarindus indica* L. that is worshipped.



Fig 4. Ma Manasha worship site at the bottom of the tamarind tree, *Tamarindus indica* L.

The deity associated with this tree in Chandipur village in Bankura is Maa Manasa, the Hindu goddess of snakes and poison. Worship is done by the local people only on a special day during the rainy season. In this site the place of worship is cemented at the bottom of the tree which seems to be the only indication of worship (Fig. 3 & 4). As the worship is an annual affair it could be a reason why no other concrete structure is associated with this plant or the fact that it is a rural area the place of worship remains discreet.



Fig 5 'Amar gaach' the gooseberry tree (*Embilica officinalis* Gaertn) in Arjunpur, Baguiati, Kolkata that is believed to be 100 years old.

The myth associated with this particular Indian gooseberry tree in Arjunpur, Baguiati, Kolkata is that it is believed to be more than 100 years old. The local people considered the tree as 'Amar Gach' so they worship the tree daily (Fig. 5). Many people tie sacred thread around the branches of this tree and pray so that their heart's desires are fulfilled.



Fig 6. The holy basil or *Ocimum tenuiflorum* L. is conserved in many Hindu households.

The holy basil or *Ocimum tenuiflorum* L. is a common plant that is conserved in many Hindu households (Fig. 6). It is also a common medicinal plant used to cure common cough and cold. *Ocimum tenuiflorum* L. is seen as the embodiment of goddess Tulsi. This plant is worshipped and watered daily as part of the daily Hindu household ritual. This plant is more often found in the courtyard of households. Very often the area around the plant is cemented with space in the middle to contain soil for *Ocimum tenuiflorum* L. to grow. So these religious acts ensure that this plant is conserved.



Fig 7. Conservation of two species viz. *Ficus benghalensis* L. (Banyan) and *Ficus religiosa* L. (Peepal) in Raghunathpur, Baguiati.

In Raghunathpur, Baguiati, Kolkata two species viz. *Ficus benghalensis* L. (Banyan) and *Ficus religiosa* L. (Peepal) happen to grow so close together that it is impossible to separate the two. Both these tree species are conserved together (Fig. 7). The Banyan tree, *Ficus benghalensis* L. is seen as Lord Shiva, a Hindu deity by the local people. The other tree, *Ficus religiosa* L. or the Peepal tree is seen as Lord Vishnu and goddess Laxmi. Though daily worship is done Monday there is a special worship for lord Shiva and on Saturdays the worship is for Laxmi Narayan puja. Marble has been used to form a permanent structure around the trees.



Fig 8. Conservation of *Ficus benghalensis* L. (Banyan) in Haldia



Fig 9. Close up view of the worship site of *Ficus benghalensis* L. (Banyan) in Haldia.

An entire temple has been constructed around the trunk of the *Ficus benghalensis* L., banyan tree in Haldia (Fig. 8). The structure is a room with doors and windows which has been built with the trunk of the banyan tree in the centre. The Hindu god Shiva is worshipped on a daily, both morning and evening at this sacred site. During the month of Sharavan in the Hindu calendar, that falls in the rainy season special worship is done on Mondays. Idols have been placed near the trunk for worship (Fig. 9).

The religious beliefs are very strong among the local people irrespective of whether the study area is in the urban or rural areas. Even in the heart of the metro city, Kolkata sacred areas have been found around certain plants. As that place becomes a place of worship the plant is considered sacred. Local people ensure that the plant thrives as it is often seen as the embodiment of Hindu deities.

Table IV. List of the single plants conserved at sacred sites with their associated mode of worship.

Sl. No.	Plant name	Family	Mode of worship	Deity associated with the tree	Place of conservation
1	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Monthly during New Moon	Hindu goddess Kali	Rural
2	<i>Tamarindus indica</i> L.	Fabaceae <i>sensu lato</i>	Annual during the month of Shravan in the Hindu Calendar during the rainy season	Maa Manasa, the Hindu goddess of snakes and poison.	Rural
3	<i>Embilica officinalis</i> Gaertn.	Euphorbiaceae	Daily	Tree considered as eternal or immortal which the power to grant heart's desire.	Urban
4	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Daily	Maa Tulsi	Urban
5	<i>Ficus benghalensis</i> L. and <i>Ficus religiosa</i> L.	Moraceae	Daily with special worship on different days of the week for different deities	Lord Shiva & Lord Vishnu and goddess Laxmi	Urban
6	<i>Ficus benghalensis</i> L.	Moraceae	Twice daily with special worship during the month of Shravan in the Hindu calendar	Lord Shiva	Urban/ Industrial City

It is interesting to note that among the six plants that were documented as part of the sacred site for the student research project, the four plants viz. *Azadirachta indica* A. Juss., *Embilica officinalis* Gaertn., *Ocimum tenuiflorum* L. and *Tamarindus indica* L. are reported to have medicinal properties. Recent literature review has also reiterated the importance of sacred groves in the conservation of medicinal plants (Ray et al, 2022). Sacred sites or groves of India are the repositories of a rich biodiversity heritage and areas for biodiversity conservation (Sharma & Kumar, 2021). Traditional conservation management of a sacred grove have sparked research interest along with the evaluation of the floristic composition (Sen et al, 2021). Big trees like *Mangifera indica* L. or

Aagle marmelos are often conserved as a single plant. Being large in size they provide shelter to small fauna (Dey et al, 2020). The area is often where small herbaceous creepers thrive climbing along the big tree. So even the conservation of single trees based on religious beliefs have a profound impact on the biodiversity associated with it.

Conclusion

In a world marred by unprecedented species loss and marked by increasing globalization, the conservation of biological and cultural diversity becomes an imperative. These sacred sites provide a means of safeguarding of cultural diversity which is essential to remind us of our identities. Conservation policies should incorporate intangible cultural heritage or symbolic cultural values into their conceptualization of local cultural valuation, along with better known tangible cultural heritage or utilitarian cultural value. The voices of indigenous people and local stakeholders are essential to future conservation strategies, and the recognition of sacred natural sites which form part of their heritage is a crucial part of this.

Conflicts of Interests:

The authors declare that there are no conflicts of interest regarding the publication of this work

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