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Cultural beliefs protect snakes in the dwindling sacred groves of southwestern India

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Underlying cultural and religious beliefs in serpent deities has played a role in protecting iconic animals such as snakes and other species dwelling inside the Western Ghats' sacred groves. But these beliefs are eroding among youth and economic pressures are eating into the groves, threatening their very existence. Experts call for greater state government protection to preserve the groves' legacy for the benefit of posterity.

For millennia, local communities in India have maintained sacred groves where they managed natural resources and many of these are tied to their cultural and religious beliefs. In the Western Ghats, such groves are relatively undisturbed patches of evergreen forests that sometimes have a pond, stream, or well that ensures perennial water supply. Often located outside of protected areas, sacred groves are rich in biodiversity, housing many threatened and endemic species of plants and animals. In many cases, these fragments are the only relict forests that remain outside the protected area system.

The mountain chain of the Western Ghats along the western coast of India is older than the Himalayan mountains; in 2012, 39 sites in the region were inscribed on the World Heritage Sites list by the United Nations Educational, Scientific and Cultural Organization (UNESCO). While India boasts the highest number of sacred forests globally, with estimates suggesting at least 100,000, the Western Ghats is endowed with a large concentration. Although many are undocumented, Kodagu district in the southern state of Karnataka alone was estimated to have 1200 sacred groves.

Many of these verdant groves are associated with gods and are named after deities. The worshipping of serpent gods known as nāga plays a central role in many groves in Kerala known as sarpakaavu in Malayalam (snake garden or grove), and often house idols of serpent deities.

Worshipping involves unique rituals that are performed in sarpakaavu and temples with serpent deities. One common ritual involves pouring a preparation of water, milk, rice powder, and turmeric on the deities and devotees call this offering as 'Noorum palum', said Dileepkumar R., director of Indriyam Biologics Pvt. Ltd., Jayakumari Kunjamma, senior research fellow at the University of Kerala who has also authored a book on snake worship in Kerala, and Divya S. chief scientific officer of Indriyam Biologics Pvt. Ltd.

Worshipping rituals of serpent deities involves bathing them in different ingredients such as milk and turmeric for example. Photo by U. Prashanth Ballullaya.

Sacred groves: a refuge for snakes

In a study published last year, researchers surveyed visitors of 30 sacred groves in Kannur and Kasaragod districts in the state of Kerala and Kodagu (Coorg) in Karnataka. They found that visitors were less likely to harm snakes inside the groves than outside. And, a large proportion of visitors who did not harm snakes even outside of the groves worshipped snake deities.

Felix Yuan, the lead author of the study and doctoral student at the University of Hong Kong had expected a "fair number of people would not harm snakes inside the groves" given the role of snake deities in the region, but he was surprised by the results. An overwhelming 96 percent of the visitors surveyed showed pacifist attitudes towards snakes encountered inside the groves, whereas only 60 percent had the same reaction outside of the groves. The reverence towards snake deities and pacifism towards snakes pervaded all the sacred groves regardless of whether they had idols of snake deities present or not.

"The broader implications of this study lie in the intricacies of the relationships between sacred natural sites and local communities," explained Yuan, "where the reverence for a specific plant or animal can potentially result in its protection despite the ongoing degradation of other 'natural' qualities of these sites."

Visitors tend to live in harmony with snakes inside the groves (sarpakaavu). Dileepkumar, who frequently visited sarpakaavu in Kerala since childhood, said that if people spotted snakes, they would not touch the creatures, leaving them to slither around the groves freely.

V.C. Balakrishnan, who has also grown up in Kerala, had on some occasions, encountered snakes in the sarpakaavu. “I will just wait for them to pass away,” he said.

Serpent god worship and the role of taboos

At the heart of the conservation of snakes in the groves lie taboos, which are essentially an interplay of devotion and fear, according to U. Prashanth Ballullaya, co-author of the study and a doctoral student at the Central University of Kerala. Local communities believe that their ancestors created the sarpakaavus to provide shelter to snakes, he said, adding that snakes, especially cobras, were considered divine.

King cobras are worshipped in sacred groves with serpent deities or sarpakaavus. Photo by Vivek Sharma.

Fear also plays a prominent role. Harming snakes is a sin, Ballulaya gleaned from the surveys. If anyone harms snakes inside the groves, they will be cursed and more snakes will emerge, said some visitors. One of the repercussions of killing snakes according to traditional beliefs is that the family could be deprived of progeny and hence there is a cultural practice of worshipping the habitats of snakes among communities in the Western Ghats, explained T.V. Ramachandra, professor at the Indian Institute of Science (IISc), Bengaluru. “Later, gradual transitions to worshiping idols with snake inscriptions happened and eventually, temples with concrete structures replaced these,” he said.

Shonil Bhagwat, professor at the Open University, United Kingdom said “a ‘healthy’ fear of wild animals is good because that discourages people from going to parts of sacred groves, naturally creating ‘no go’ areas.” He believes that “these so-called ‘fences of fear’ can help protect biodiversity within sacred groves by simply keeping people out of the groves, or at least some parts of the groves.”

Communities in the rural highlands of the Western Ghats in Kodagu and adjoining urban lowlands in Kasaragod were surveyed and the results were published in 2019. Researchers found that both urban and rural communities did not abuse the groves by cutting trees, dumping waste, hunting small animals, taking soil and foliage, and damaging termite mounds. And those with nāga deities, who are not only highly revered but also feared, were rarely abused.

The protection of snakes was extended to other taxa as well. Palatty Allesh Sinu, assistant professor at the Central University of Kerala and co-author of the community perception study was surprised to learn that "even taking a leaf from the sacred groves is considered a taboo or abuse of the land." Believers told him that "the organic matter is food for insects, which is food for frogs and snakes!" Because of this snake-centric food chain, Sinu and his team were forbidden from collecting insects from the groves.

Rural communities had stronger cultural and religious beliefs than their urban counterparts, who valued groves also for their environmental benefits. Although the reasons for this are difficult to answer, said Sinu, one farmer told him "our agriculture, economy and lives are bound to these forests around us … When there was no access to a temple, these forests and local deities living inside the forest were the resort for us. When the upper castes have direct access to Gods, the backward caste people did not have."

Erosion of beliefs

Community-preserved sacred groves in the Western Ghats are facing mounting pressures over the past decades. Many are shrinking in size or have disappeared altogether. At the time of its formation in 1956, Kerala boasted more than 10,000 sacred groves, but in 2015, only around 1200 remained, according to a report prepared by the Kerala State Assembly Committee on Forest, Environment, and Tourism. A global Nature study published in May reported that reptilian phylogenetic diversity in the Western Ghats is under very high levels of human disturbance.

"Earlier the sarpakaavu was a symbol of divinity and sanctity and it was with only utmost reverence that one was allowed to enter its premises," said Dileepkumar, Kunjamma and Divya. "People were afraid to touch the trees let alone cut it. But the scenario has almost completely changed with the term 'sarpakaavu' being reduced to a mere social terminology. The infuriating demand for more land to accommodate the growing population coupled with the placid attitude of today's generation has diminished the values of biodiversity and conservation," they rued, adding that most people view the groves as wastelands, which could be used for construction.

Researchers have observed that youths are losing interest in sacred grove traditions. The loss of oral traditions that narrated stories behind the groves has been cited as one factor. Bhagwat believes that awareness of sacred groves and nature conservation should start early. “If children are

introduced to the creepy crawlies that live in sacred groves and maintain a healthy forest ecosystem, they will learn to like this real, everyday nature that is found in landscapes where people farm, live and work,” he said.

V.C. Balakrishnan, who is the secretary of the NGO Society for Environmental Education in Kerala (SEEK), also stresses the role of educating youth to ensure the protection of the groves. SEEK, he explains, holds many camps on the importance of the sacred groves and biodiversity.

Deities in an ancient serpent grove at Shaktan Thampuran Palace, Thrissur, Kerala. Photo by Bavish K.B.

On 25 September, Dileepkumar R. joined forces with a group of snake experts and developers and launched a mobile app called SnakeHub, which is dedicated to education and conservation. Currently, the app is a social responsibility initiative of Indriyam Biologics Pvt. Ltd., a Department of Scientific and Industrial Research recognised medical startup working on snakebite management and mitigation, but the group plan to register a society and keep it as an independently functioning body under the organisation. With 114 snake species, Kerala is the top three states in India in terms of species number (after Tamil Nadu, which has the highest, followed by West Bengal) and more than half of these are endemic to the Western Ghats, said Vivek Sharma, head of SnakeHub App.

In both English and Malayalam, the app is the first on snakes in the state of Kerala. Apart from providing biological and ecological information on all of the species, the app also covers snakebites including a list of hospitals equipped to treat bites. “Snakebite is an important objective in our work and based on requirements, we will add facilities to provide snakebite-related solutions and education materials,” said Sharma.

Their goal is to expand the scope of the app to the rest of India in other regional languages to cater to rural communities. India accounts for almost half of the total number of annual deaths from snake bites worldwide. Earlier this year, a study estimated that over the last 20 years, 1.2 million

people died from snake bites nationwide. Most of the deaths occurred in rural areas and farmers were most at risk especially during the monsoon season.

“Sanskritisation”and commercialisation

Over the years, there has been a trend towards “Sankritisation” of the groves, which involves the conversion of animistic deities in the sacred groves to mainstream Hindu gods and goddesses, explained Bhagwat. This phenomenon, he said, paves the way for cement structures such as temples and other buildings to be constructed in the groves, which compromises the conservation value of the groves because natural features such as trees disappear. “The only way to solve this problem is to make the custodians of sacred groves aware that trees are important to protect biodiversity within the groves,” Bhagwat said.

“The sacred groves are losing their sanctity and some of the groves are becoming temples for commercial purposes,” said Balakrishnan, explaining that the owner can earn an income through money offered to the deities.

A serpent deity outside a temple in Kodagu. Photo by U. Prashanth Ballullaya.

Market forces are taking over in urban areas and even creeping into the hinterlands. According to Sinu, some sacred groves are under the direct control of the state while others are privately owned. “Sadly, both want to generate money out of it,” he lamented. “Selling the land is a way,” he said. “So, they first relocate the deities including snake god through a ceremonial ritual and free the land.” Many owners are in the process of relocating deities, noted Sinu, adding that the ceremony is a costly affair amounting to about Rs. 4 lakh (Rs. 400,000).

Ramachandra of IISc echoes these concerns. Cemented buildings have become commercial spots, he said, revealing that many sacred groves that are under the revenue department have undergone large-scale conversion to other land uses such as villas and resorts in Kodagu. He attributes these conversions to a lack of knowledge among the bureaucracy of the ecological and hydrological significance of the groves, which has sustained the livelihood of communities in the region for centuries. Dileepkumar, Kunjamma and Divya believe that people fail to realise that their exploitation of the groves could pave the way for their own doom. “With the sacred groves being

deconstructed, the snakes that were taking refuge in the grove vegetation enter into human colonies leading to a conflict between snakes and humans thereby posing a threat to both snakes and humans alike," they warned.

How to protect the sacred groves?

Apart from cultural beliefs, the coexistence of snakes and humans hinges on the preservation of the ancient sacred groves of the Western Ghats.

Experts believe that state governments must play a greater role in protecting the sacred groves of the Western Ghats. Earlier this year, the Kerala state government launched a program "Pachathuruthu" to cultivate 'green islands' in degraded land in a bid to preserve biodiversity. For the initiative, "they are planting trees that can give shade, shelter, and food for birds and other animals," Sinu said. "We have over 1500 sacred groves in Kerala along the west coast. Why not declare them as natural sanctuaries?"

Ramachandra proposes that the Karnataka and Kerala Forest Department should assign heritage status to all the sacred groves of the Western Ghats under section 37(1) of the Biological Diversity Act 2002. Such a move, he argues, will ensure the conservation of these ecologically fragile regions.

Conservation of the groves should be initiated at both the community and government level, according to Dileepkumar, Kunjamma and Divya. "Snake groves are an inherent part of Kerala culture and conserving them must be our obligation. For implementing the conservation strategies initiated by the government, a special task force must be employed to ensure the protection and maintaining the status quo of the snake groves."

Balakrishnan said that the forest department had funded building fences around the sacred groves a few years ago. "These sacred groves are to be protected surely because they are rich in biodiversity and they are the wealth of our future generations."

CITATION:

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Banner image: A sacred grove in Thiruvananthapuram, Kerala. Photo by Sugeeth S.

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