

Can the Spiritual Values of Forests Inspire Effective Conservation?

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Increasing degradation of tropical forests prompts the consideration of unconventional ideas to promote conservation. In his recent book, E. O. Wilson advocates conserving half of the planet for one species (*Homo sapiens*) and the other half for the remaining millions of species. His list of “best places on the biosphere” worthy of saving includes the church forests of Ethiopia and the sacred groves of Western Ghats in India and Bhutan. Portions of these ecosystems remain intact today in part because they were considered sacred by the indigenous people. Sacred forests are a crucial component of biodiversity conservation, but they remain difficult to account for in most global biodiversity management networks. They have been fiercely protected by cultural and religious beliefs and taboos for many centuries without government or non-governmental-organization oversight. In short, they represent a unique conservation success for the planet, especially in developing countries where conventional economic metrics have a tougher time gaining traction. These sites also house the majority of biodiversity for billions of people in Africa and Asia, and their stewardship has been ensured over time through the respect and leadership of religious stakeholders.

Most recent assessments of forest ecosystems prioritize the economic values of diverse services including freshwater, carbon storage, production of foods and building materials, medicines, gas exchange, productivity from sunlight, soil conservation, shade, and biodiversity habitat. Most ecosystem-services assessments overlook the spiritual value of forests, which is admittedly harder to measure

with economic metrics. Similarly, the success of Bhutan’s “gross happiness index” (GHI), which has led to extensive forest conservation, is also difficult to quantify with Western metrics. The spiritual and cultural value of forests is not only critical in scope but also portends to have the greatest potential for significant international conservation actions, given that several billion people value their forests predominantly on the basis of their spiritual significance. The question remains: How do we translate Western metrics (i.e., dollars and/or consumer products) to accurately measure the spiritual and cultural value of forests, and how do we ensure continued conservation of these forests under a religious and cultural aegis? Although daunting to address, this parameter may have the best chance of success in terms of long-term forest conservation, as compared with economic values.

We cite three case studies on two continents that together comprise almost 1.5 billion people whose forests are conserved because of their spiritual values.

India’s sacred forests

India’s indigenous people predominantly practice Hinduism, in which the *Bhagavat Gita* preaches that nature conservation and nature worship are the important moral obligations. Historically, before the creation of sacred groves and the worship of god in the form of a deity in a constructed temple, the custom of worshipping trees existed. Even today, Hindu households light a lamp in front of one of several sacred trees, or at least a holy basil plant, and worship them. It is difficult to see a temple

without at least one *Ficus religiosa* tree (termed *peepal*), which was the species assumed by Lord Krishna, according to the *Bhagavat Gita*. In other temples, devotees feed wild fishes, which Hindus believe are an incarnation of Lord Vishnu. In Sringeri (a central Western Ghats biodiversity hotspot), over 50 hectares of the River Tunga has been proposed as a fish sanctuary by the temple administrators to protect the flagship fish species mahseer (*Tor khudree*) and over a dozen endemic upland riverine fishes. Hindus believe that all creatures created by the Lord Brahma are equal to humans and that deceased human souls are reborn in the form of other animals, making animals (like trees) very sacred. Historical evidence, however, does not explain how worshipping a few trees expanded into protecting entire forests. It may have been a strategy to stop British rulers from the widespread felling of India’s primary forests. It has been told that the British rulers honored and revered the indigenous community’s belief that some forests house the spirits of the local deities, so they left such forests untouched. This may explain why over 1 million sacred forests remain intact across India. The king cobra (*Ophiophagus hannah*) is a deity of many sacred groves in the states of Kerala and Karantaka that belong to the lower-caste communities, which also demonstrates how the religion is directly involved in the conservation of a threatened species.

Most sacred groves are still managed by the joint Hindu families or temple trusts, unless the joint-family concept disintegrates and the property rights come under dispute. Integration of sacred groves into the state-owned protected areas—by granting



Figure 1. Church forest amid subsistence agricultural land in northern Ethiopia.

operational autonomy to the local communities—is a viable solution to ensure continued forest protection. The Kerala state government offers financial support to fence and protect over 5000 sacred groves in the state.

Ethiopian church forests

In contrast to Hinduism, Christian philosophy traditionally teaches that humanity has dominion over nature and that all other living things have been created for its use. In some of the most productive tropical parts of the world (e.g., Latin America, Asia, and some parts of Africa), Europeans, under the aegis of the Church, colonized and cleared the forests to cultivate rubber, cacao, coffee, tea, pepper, and cardamom. However, the Ethiopian Coptic (Christian Orthodox) leadership conserved forests surrounding every church, because they believed that priests protect the human spirit as well as all of God's creatures (figure 1). Called “church forests,” these small swaths of primary forest (some over 1000 years old) provide important ecosystem services, including freshwater springs, pollinators, honey, medicinal plants, native seed banks, shade, plant materials used for painting murals, firewood, and building materials (Lowman

2011). But the major reason for their protection is spiritual: Church forests are the community hub of every rural district, and the residing priest is a respected community leader. This important religious concept has protected the church forests for many generations, whereas the remaining 95 percent of northern Ethiopia's landscape has been cleared for agriculture. Currently, these church forests are under some threat of shrinkage as a result of encroaching cattle that feed on the seedlings within, children seeking firewood, and surrounding agricultural practices (Reynolds et al. 2017). Efforts to build stone walls, with strong community and religious support, have become an important solution to the conservation of church forests, and because these walls are sanctioned by the priests, they are a desired landscape attribute for the local people (www.treefoundation.org).

India's soppinabetta forests

These forests are under the direct control of a single Hindu family, making the aegis of religion a strong pillar of their conservation. Soppinabetta forests were created by the British rulers of the Madras Presidency as a measure to combat deforestation pressure on the state-owned forests in the

central Western Ghats. Areca growers (*Areca catechu*) were allotted 8 acres of forest per 1 acre of areca orchard. Today, these forests remain sources to collect leaf litter and green foliage for compost at time intervals that constitute a sustainable forestry practice (Sinu et al. 2012). Despite increasing pressures of fragmentation, soppinabetta forests represent about 30 percent of the forest cover in some parts of the Western Ghats, both conserving endemic biodiversity and providing sustainable livelihood options.

While many Western countries follow a lesser religious spirituality in the twenty-first century, the majority of developing countries (which also house the bulk of valuable tropical forests) still prioritize spiritual values concerning their natural resources. These less-developed countries also have lower *per capita* income, slower economic growth, and usually fewer government resources allocated to conservation. Given this imbalance, the 2016 International Union for Conservation of Nature (IUCN) World Congress for the first time introduced two thematic sessions on how religion and spirituality can contribute to biodiversity conservation.

So how can global conservation policies integrate spiritual values into forest economic portfolios? Possible solutions might include expanding the successful GHI of Bhutan, whereby bottom-up or local forest conservation efforts have been adopted by the top-down leadership of an entire country. Another solution could involve ramping up spiritual forest values as a global metric, deployed by the United Nations Educational, Scientific, and Cultural Organization; IUCN; or another international leadership body. And third, perhaps some type of health credits could be issued by groups such as the Gates Foundation to regions where forest conservation leads to improved human health. Or what about the equivalent of carbon credits for religious leaders who promote forest conservation through their spiritual doctrines? Perhaps the number of prayers delivered within

a sacred forest could be translated into dollars and cents. The spiritual value of forests is embraced by billions of stakeholders and deserves greater priority in creating sustainable forest conservation solutions.

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