

ROLE OF INDIVIDUALS IN CONSERVATION OF NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT

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ABSTRACT: Conservation of nature and natural resources has been a much challenging task in the present state of affairs where economy prevails over ecology. International treaties and conventions are signed and policies have been enacted by the countries across the world, however, hostilities remain while applying the protected area policies which largely deprive indigenous communities from their traditional rights. Historically, religion being a product of feelings and beliefs has been used as a powerful tool for nature conservation. Making age-old religious entities such as sacred landscapes, sacred groves and sacred species by various cultural groups are the live manifestations of historical, cultural and emotional attachment of human beings with nature and natural resources. The philosophy of religion can continue to be used as a powerful tool for mitigating negative impacts of current anthropogenic pressures on the nature and its resources. With this background, the present review aims to analyse various practices of nature and natural resource conservation as embedded in the religions.

KEYWORDS: nature, natural resources, conservation, religion, sacred landscape, sacred grove.

INTRODUCTION: Feelings and desires are the motivational forces behind all human endeavors and human creation [1], and the similar forces are believed to evolve the process of nature conservation [2,3]. Religion being a product of feelings and beliefs, historically this instrument is used as a powerful tool for nature conservation. The sense of belonging in nature has been created by performing various rituals, and many of them are still practiced today by various religious sects [4]. The diverse components of nature, whether living or non-living, have been attracting human curiosities since time immemorial that is reflected in the religious symbols of such components. Being a source of joy and inspiration for inquisitive minds, from poets to philosophers and knowledge-seekers to knowledge-providers, the nature's components have been defined in different perspectives. There are ample examples which indicate that not only plant and animal species but also water, air and land represent various gods and goddesses, apart from their materialistic uses. In traditional landscape, the sacred areas act as de facto protected areas [5]. However, it is felt that the religious norms and ways of nature conservation have often been neglected, misunderstood, or purposefully misrepresented with due course of time [6,7].

The increasing disconnection from nature due to urbanization and exponential growth of human-induced stresses on natural ecosystems cause severe environmental degradation and loss of biodiversity [8,9,10]. The ongoing climate change related impacts on various ecosystems are also the subject of grave concern when the nature is already reeling under various stresses [11]. The philosophy of religion and its belief system that helped in saving the world in the past can continue to be used as a powerful tool for mitigating the negative impacts of current anthropogenic pressures. There are reports which indicate that cultural and religious values are often more acceptable to the society in comparison to the legislations or regulations. The growing interests among society in spiritual ecology, which focuses on the interrelationship between religions and environment, may help to address various environmental issues and problems within the realm of religion [12].

Nature worship as a predominant form of religion is not yet studied well with respect to conservation of natural resources. The concept of nature conservation is embedded in many religions, including Hinduism and Buddhism. In the era of climate change and degradation of nature and natural resources due to several reasons, predominately anthropogenic, it is necessary to explore ways for their conservation for posterity. Besides, the long-established belief systems need to be critically analysed for their better understanding and applications across the board. With this background, the present study aims to analyse various practices of nature and natural resource conservation as embedded in the religions. The study further focuses on the ways to simulate the biodiversity conservation model institutionalized on the religious philosophies [13].

CULTURES AND CONSERVATION: Each cultural group shares a common religion, moral values, belief systems and relationship to the territory they inhabit. Interestingly, most of the biodiversity rich areas, which hold almost 80% of the world's biodiversity, coincide with areas occupied by these indigenous communities. Nearly 20% of world populations live within the biodiversity hotspots, which span over 12% of Earth's terrestrial surface. These communities have their own institutions of knowledge on natural resources and ways to transfer of such knowledge through generations. Biodiversity conservation may not be an isolated or segmented concept to these people rather it is tangled in their lives. The conservation areas such as sacred groves are integral parts of their homeland. Respecting their organizational structure that provides answers through keen observations of specific localities and resources along with philosophies and methods of acquiring and communicating knowledge helps in maintaining nature and natural resources [14]. The practices of shifting cultivation, which is also known as 'jhum' or slash and burn agriculture and still practiced by many indigenous communities, anchor rich traditional ecological knowledge within the forested landscapes. Small scale slash-burn disturbances under shifting cultivation not only help to maintain but also enhance the forest biological diversity. Diverse human-managed agricultural systems along with associated natural ecosystems such as home gardens and traditional multi-species plantation systems provide a unique ethnic-specific identity to the landscape. However, the shortening of agricultural cycles

due to external pressures on the forests not only declines the system's stability and resilience but also disrupts social system and biodiversity.

Indigenous communities, worldwide, follow many traditional practices for collection of natural resources, which remain important tool for conservation. Depending on the availability of plant parts due to various phenophases the harvesting mechanism is designed. Traditional herbal healers in most of the communities mainly adopt religious approaches and selective harvesting of plants used as medicine. Before collection of many plant species for therapeutic purpose special rituals are performed by the practitioner of Ayurveda, the well-known herbal system of medicine in India.

Conservation of energy:

1. Switch off light, fan and other appliances when not in use.
2. Use solar heater for cooking.
3. Dry the cloth in the sun light instead of driers.
4. Use always pressure cookers
5. Grow trees near the house to get cool breeze instead of using AC and ai cooler.
6. Ride bicycle or just walk instead of using scooter for a short distance.

Conservation of water:

1. Use minimum water for all domestic purposes.
2. Check the water leaks in pipes and repair them properly.
3. Reuse the soapy water, after washing clothes for washing courtyard, carpets etc.
4. Use drip irrigation.
5. Rain water harvesting system should be installed in all the houses.
6. Sewage treatment plant may be installed in all industries and institution.
7. Continuous running of water taps should be avoided.
8. Watering of plants should be done in the evening.



Conservation of soil:

1. Grow different type plants i.e trees, herbs and shrubs.
2. In the irrigation process, using strong flow of water should be avoided.
3. Soil erosion can be prevented by sprinkling irrigation.



Conservation of food resources:

1. Cook required amount of food.
2. Don't waste the food; give it to someone before spoiling.

3. Don't store large amount of food grains and protect them from damaging insects.



Conservation of forest:

1. Use non timber product.
2. Plant more trees.
3. Grassing must be controlled
4. Minimise the use of paper and fuel.
5. Avoid the construction of dam, road in the forest areas.



RELIGION-BASED CONSERVATION MODEL: In Uttarakhand state of India, the Badrinath is one of the most sacred shrines of Hindus located at 3100 m a.m.s.l. More than 600,000 pilgrims visit annually to the Lord Vishnu in Badrinath shrine, which is almost in the middle of 4 km² Badrinath valley. The natural and anthropogenic disturbances had declined the vegetation wealth in this valley and at the end of 20th century tree species had vanished from most parts of this valley. Loss of tree species has not only adversely

affected the scenic beauty and aesthetic values attached with the Badrinath shrine but also has invited calamities in the form of heavy soil erosion, flooding, and environmental degradation. Many sacred plant species, including *Origanum vulgare*, which is offered to the Lord Badrinath and *Betula utilis*, grow in this valley but due to rampant collection it was declined severely.

The reciprocal relationship between humans and the rest of the nature, especially in terms of nature conservation, may be further explored by applying psychological principles and theories in order to comprehend and to apply diligently the human aspects of nature conservation. The conservation philosophy, which demands constructive approach in dealing with communities, may be applied through religious beliefs as such beliefs are inseparable from the communities. After all the fate of conservation is in the hands of all social groups, especially the indigenous communities who still live in remote and wilderness areas and have been the custodian of such resources, historically. Respecting and recognizing their knowledge and belief systems may help to conserve the nature and natural resources. The present forms of various landscapes across the world are the products of social and economic systems. In the race of increasing forest productivity and high value timber production, the native biodiversity is being adversely impacted due to promotion of monoculture plantations. With the development of methodically designed silvicultural theory, which advises to manage forests primarily based on natural principles, provides space for cultural values apart from achieving the economic and ecological targets. Many traditional practices of forest management and nature conservation, including long rotation ages and selective harvesting practices, are being included in the government policies realizing the merits of such practices. The argument which suggests that if the forests are left undisturbed they will certainly regenerate undermines the importance of extinct, near extinct and restricted range species. It is obvious that attempts can only be made for the conservation of such species which exists. If the species is no more the theory which suggests that 'let the nature takes its course' will not help in returning the extinct species. It is, therefore, good to keep open mind for analysing all approaches for long-term conservation.

CONCLUSION: The importance of sacred groves, sacred landscapes and sacred species should not be viewed merely in the economic and livelihood perspectives but these entities need to be respected as the historical evidence of human relationship with nature and its components. At present, many causes of biodiversity loss are discovered, which include increasing disconnection of urban population from nature. Revitalizing traditional human connections with the natural world is a need of hour in view of respecting and conserving nature. Since religion changes and influences fundamental values of human beings, it has been supporting nature conservation since antiquity. As Albert Einstein believed that the serious scientific workers are profoundly religious people in the present materialistic age, the religion-based belief system can save our planet from the ongoing degradation. The spiritual context of nature conservation, which is ignored in satisfying human needs and quality of life, must be recognized without further delay. There are numerous

temples, gurudwaras, churches and mosques across the countries in the planet earth. A large number of devotees visit these sacred places every day to pay homage. If the priests, clerics, granthi (sikh priest), molvi (Muslim cleric) and Dalai Lama issue decrees to their respective devotees for nature conservation, it is expected that the outcome will be fruitful. The religion-based conservation models need to be developed. In the present era of global warming and anthropogenic climate change the values of religion, if injected wisely, can help to resolve the problems and facilitate in maintaining the nature and natural resources.

REFERENCES:

1. Kala, C.P. 2010. Ethnobotanical and ecological approaches for conservation of medicinal and aromatic plants. *Acta Horticulturae*, 860: 19-26.
2. Brandt, J.S., Butsic, V., Schwab, B., Kuemmerle, T. And Radeloff, V.C. 2015. The relative effectiveness of protected areas, a logging ban, and sacred areas for old-growth forest protection in southwest China. *Biological Conservation*, 181: 1-8
3. Barlow, J. Gardner, T.A., Lees, A.C., Parry, L., Peres, C.A. 2012. How pristine are tropical forests? An ecological perspective on the pre-Columbian human footprint in Amazonia and implications for contemporary conservation. *Biological Conservation*, 151: 45-49.
4. Mori, A.S., Spies, T.A., Sudmeier-Rieux, K. and Andrade, A. 2013. Reframing ecosystem management in the era of climate change: Issues and knowledge from forests. *Biological Conservation*, 165: 115-127.
5. Li J, Wang D, Yin H, Zhaxi D, Jiagong Z, Schaller GB, Mishra C, McCarthy TM, Wang H, Wu L, Xiao L, Basang L, Zhang Y, Zhou Y, Lu Z. 2014. Role of Tibetan Buddhist monasteries in snow leopard conservation. *Conservation Biology*, 28 (1): 87-94
6. Sponsel, L.E. 2012. *Spiritual Ecology: A Quiet Revolution*, ABCCLIO Publication, 284 pages
7. Kala, C.P. 2014. Deluge, disaster and development in Uttarakhand Himalayan region of India: Challenges and lessons for disaster management. *International Journal of Disaster Risk Reduction*, 8: 143-152.
8. Yardenit 2015. The Jordan River. Yardenit - Kibbutz Kinneret Jordan Valley, Israel. <https://www.yardenit.com/baptism/jordanriver>.
9. Becker, N., Helgeson, J. and Katz, D. 2014. Once there was a river: a benefit–cost analysis of rehabilitation of the J

10. Kala, C.P. 2015. Revitalizing sacred groves. Down to Earth. <http://www.downtoearth.org.in/content/revitalising-sacred-groves>.
11. Kala, C.P. 2015. Nanda's Neelkanth. Partridge Publishing, Bloomington, USA. 340 pp.
12. Chambers, B. 2014. Religion and Conservation Do Mix. Inter Press Service News Agency. <http://www.ipsnews.net/2014/03/religion-conservation-mix/>.
13. Cairns, M. 2015. Shifting Cultivation and Environmental Change: Indigenous People, Agriculture and Forest Conservation. Routledge, New York.
14. Dhyani, P.P. 2016. Badrivan programme at Badrinath Dham: An innovative model for restoration of degraded lands and biodiversity conservation. p. 387-405. In: GBPIHED, Research for Mountain Development: Some Initiatives and Accomplishments. Gyanodaya Prakashan, Nainital, India.

