

Western Ghats Dilemma: Conservation Vs Livelihood

Jenni K. Alex¹ and Arunkumar T.A²

¹*Post Graduate Department of Economics, Newman College Thodupuzha, Kerala, India*

²*Department of Economics, Government College, Kattappana, Kerala, India*

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ABSTRACT

One of the world's biodiversity hotspots and a UNESCO World Heritage site, the Western Ghats offer a special and challenging task at the nexus of livelihood and conservation. This study examines the difficult balancing act of meeting the socioeconomic requirements of the communities living in the environmentally rich Western Ghats while also protecting the region's ecological integrity. The study examines the consequences for sustainable development, biodiversity conservation and the welfare of local communities while illustrating the competing demands of livelihood and conservation.

Key words: *Western Ghats, Conservation, Livelihood, UNESCO World Heritage site*

Introduction

The Western Ghats are known worldwide as the Ghats include regions with exceptional geological, cultural and aesthetic significance. The Ghats are a range of mountains that transverse through the Indian states of Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra, and Gujarat. They run parallel to the country's western coast and are about 30 to 50 kilometers inland. With the exception of the 30 mile Palghat Gap at approximately 11°N, this 1,600 km long range of mountains covers an area of over 140,000 km² (MoEF, 2009; UNESCO, 2024). Peninsular India's rainfall regime is mediated by the Western Ghats mountains, whose highest point, Anaimudi Peak, at 2,695 meters, intercepts monsoon storm systems. The greatest yearly rainfall occurs in the areas west of the highest peaks, where it averages 3,000 mm. Eighty percent of this rainfall occurs during the south-west monsoon season (June-September), with the remaining portion falling during the retreating north-east monsoon (October-November). Lower annual precipitation amounts are found

along the Eastern Ghats' slopes. Moreover, less rain falls in the north as it moves northward, particularly north of the Palghat Gap (Gunnell, 1997; Bawa *et al.*, 2007).

The Western Ghats are well known for their distinctive ecosystems, rich cultural heritage, and varied flora and fauna. A vast mountain range on India's western coast, the Western Ghats is listed as a UNESCO World Heritage site because of its exceptional biodiversity and distinctive ecosystems. Maintaining ecological equilibrium is crucial for the region, which is home to several species that are unique on Earth. But growing human activity and developmental pressures are threatening this natural oasis, creating a difficult choice: livelihood or conservation? The region is thus facing an enduring conundrum: how to maintain the livelihoods of the communities that depend on the region's unique biodiversity while also protecting it?

Therefore, the goal of the study is to examine the various issues faced by the Western Ghats and to provide viable solutions that achieve a sustainable equilibrium between the needs of conservation and

(¹Associate Professor and Head, ²Assistant Professor)

the needs of the local population. The discussion of this complex relationship between nature and society is relevant not only to the Western Ghats but also to other similar locations throughout the world that are facing the dilemma of livelihood against conservation.

Western Ghats: The epitome of biodiversity

The Western Ghats run parallel to the coast that borders the Arabian Sea and are a part of the Western Ghats-Sri Lanka global hotspot. The known inventory of its plant and animal groupings, as well as the degrees of endemism in these species, demonstrates the significance of the Western Ghats in terms of biodiversity. There are 7388 species of blooming plants in the Western Ghats. Of these, 1427 are planted or farmed, 377 are foreign species that have been naturalized, and 5584 are native species. Of the native 5584 species, 1261 are endemic to the Western Ghats and 2242 are endemic to India. In addition to the aforementioned, 586 taxa have variety and sub-species status, making a total of 7974 taxa in the Western Ghats (Nayar *et al.*, 2014).

Within the invertebrate kingdom, this area has yielded descriptions of approximately 350 endemic ant species (20%), 330 endemic butterfly species (11% endemic), 174 odonate species (damselflies and dragonflies, 40% endemic), and 269 endemic mollusk species (land snails, 76% endemic). Of the 288 species of fish that are known to exist in the Ghats, 41% are endemic to the area. With over 220 species, 78% of which are indigenous, the amphibian fauna of the Western Ghats is very noteworthy. Recently, in the Southern Western Ghats, a frog of Indo-Madagscan affinities was found, named *Nasikabatrachus sahyadrensis*. This frog's finding, which places it in a genus unknown to science, confirms the region's significance in supporting extinct Gondwana lineages. With 16 of the 20 known species of caecilians in the country found in the Ghats, all 16 species are endemic, making them unique in the country's caecilian variety. 62% of the 225 species of reptiles that have been described are endemic. The Uropeltidae family of burrowing shield tail snakes, which are primarily found in the Southern hills of the Western Ghats, deserve special attention. There are over 120 species of animals and over 500 species of birds known to exist in this area.

The Asian elephant and other mammals like the tiger, dhole and gaur have the biggest global populations across the Western Ghats region. A variety of

wild relatives of cultivated plants, including pepper, cardamom, mango, jackfruit and sandal are also maintained by the Western Ghats. Considering their exceptional universal value and high levels of endemism, thirty-nine sites across the Western Ghats of the States of Kerala, Karnataka, Tamil Nadu, and Maharashtra were added to the UNESCO World Heritage List in 2012 (WHC, 2011).

Threats to biodiversity

The rich biodiversity of the Western Ghats faces severe threats primarily attributed not only due to anthropogenic activities but also due to climate change. These threats jeopardize the delicate ecological balance and pose a significant challenge to the conservation efforts in the region.

- **Deforestation:** There has been significant deforestation in the Western Ghats as a result of logging, infrastructure development and the growth of agriculture. Ecosystems become more fragmented and biodiversity is lost when virgin forests are converted to agricultural land (Jha *et al.*, 2000).
- **Habitat Loss:** Rapid industrialization and urbanization have led to habitat loss, which has an effect on the wide variety of species that are dependent on different ecosystems across the Western Ghats. Critical habitats are being invaded by roads, industry and human settlements, which has an impact on the local flora and fauna (Mahanti and Kumar, 2018).
- **Climate Change:** The Western Ghats are not immune to the impacts of climate change. Variations in temperature and precipitation can upset the delicate ecological balance, which can have an impact on species distribution and behaviour. The existence of numerous plant and animal species is directly and indirectly threatened by altered rainfall patterns, extreme weather events and rising temperatures (Pramanik *et al.*, 2018; Veerabhadranavar and Venkatesh, 2022).
- **Invasive Species:** Native plants and animals have more difficulties when invasive species are accidentally introduced. Native species may become extinct or in decline due to competition with invasive species for resources, ecosystem disruption and other factors. Such ecological succession of invasive plants are common in Western Ghats region (Rao and Sagar, 2012; Raj *et al.*, 2021).
- **Anthropogenic Pressures:** Degradation of natural ecosystems, pollution and soil erosion due to mining, infrastructural development and agricul-

ture exerts profoundly on the Western Ghats fragile ecosystem. Unsustainable resource extraction for wood, fuel and medicinal plants has a direct negative effect on biodiversity and jeopardizes ecosystems' capacity to recover (Nageeb *et al.*, 2009).

- **Fragmentation:** Because habitat fragmentation obstructs gene flow and migration paths, isolated populations become more susceptible to illness and other environmental stresses. It also has an impact on the resources available to species that need more expansive, connected habitats (Roy *et al.*, 2013).

It is essential to comprehend these threats in order to create conservation methods that work without crippling the socioeconomic dynamics and customary means of subsistence of the communities across the Western Ghats.

Conservation, socio-economic dynamics and livelihood

The Western Ghats are home to indigenous groups whose lives are deeply knit into the fabric of these mountains, making them more than just a reservoir of wildlife. These groups have coexisted peacefully with the natural riches offered by the Western Ghats for decades, despite having varied cultures and customs. Indigenous communities in the Western Ghats have long depended on a variety of customary means of subsistence, such as farming, fishing, hunting and gathering non-timber forest products (Basavarajaiah *et al.*, 2020). Many indigenous cultures place great spiritual significance on the Western Ghats, with sacred trees and shrines scattered throughout the mountain ranges. These communities help to safeguard certain locations because they frequently include conservation measures into their religious systems (Ray *et al.*, 2016).

Although the goal of government regulations and conservation efforts is to preserve biodiversity, there are occasions when these indigenous tribes' access is restricted, as does the population living in the periphery. Due to their reliance on the Western Ghats, indigenous tribes are susceptible to alterations in the environment, climate and conservation strategies. The social and economic well-being of these communities might be adversely affected by disruptions to conventional livelihoods. Understanding the deep-rooted connections between indigenous communities and the Western Ghats is crucial for formulating conservation strategies. According to the fact-

finding study by Survival International (2022) which shed light on the hardships and struggles faced by the Adivasi communities like Jenu Kurubas, Betta Kurubas, and Yeravas residing in the Nagarhole forests are who have been fighting for their rights by opposing the violence and rights violations perpetrated by the National Tiger Conservation Authority (NTCA) during the construction of the Nagarhole Tiger Reserve (NTR). Similar such incidents were reported from many sanctuaries/national parks/tiger reserves across the Western Ghats in the past few decades (Fanari, 2019). In addition, Bathija and Sylvander (2023) conglomerated that the NGOs and their role of discourse in legitimizing dispossession of indigenous communities from protected areas across India with cultural and economic erosion.

Impact of conservation policies on local economies

Although conservation measures are essential for safeguarding the Western Ghats' biodiversity, they frequently have a significant impact on the local economy of the communities living in this environmentally delicate area. It might be difficult to strike a balance between the need for conservation and the socioeconomic well-being of the local population. The designation of protected areas may restrict local residents' access to resources, even while it is necessary to preserve important habitats. Restrictions on customary activities such as farming, grazing and gathering non-timber forest products can have an immediate effect on the way of life for local and indigenous people.

Resettlement and rehabilitation of communities residing in environmentally sensitive areas are occasionally part of conservation programs. Relocating from ancestral lands can cause disruptions to customary means of subsistence, resulting in social and economic hardships for the impacted populations. Initiatives centred around ecotourism and conservation may open up financial prospects for nearby communities. Uncontrolled tourism, however, has the potential to damage the environment, alter local way of life and produce unequal economic gains. Conservation initiatives may include compensation plans for populations that abstain from specific activities. In order to lessen the financial burden on communities that are requested to give up customary means of subsistence, it is imperative to provide equitable and prompt compensation. Conservation objectives can be matched with regional economic interests through collaborative conservation ap-

proaches that include local communities in decision-making. Encouraging communities to take an active role in conservation initiatives can help them develop a sense of accountability and ownership. Incorporating substitute means of subsistence, like environmentally conscious crafts, sustainable farming or enhancing non-timber forest products, can lessen the financial effects of conservation measures. Programs aimed at enhancing capacity can give communities the tools necessary to implement these alternatives.

Ethical solutions that take into account the demands of the environment and its human inhabitants are crucial as the Western Ghats struggle with issues of livelihood and conservation. Although conservation measures are essential for safeguarding the Western Ghats' biodiversity, they frequently have a significant impact on the local economy of the communities living in this environmentally delicate area. It might be difficult to strike a balance between the need for conservation and the socioeconomic well-being of the local population. It should be noted that displacement from ancestral lands can disrupt traditional livelihoods, leading to economic insecurity and social challenges for the affected communities and there are chances that these social discontent will join together and will emerge as anti-conservation movements grounded on survival instincts as in the case of public ire against world heritage site declaration, implementation of Western Ghats Ecology Expert Panel report, Eco-Sensitive Zone demarcation etc. (Kurian and Vinodan, 2023).

Displacement and Resettlement

Large-scale conservation initiatives may require the uprooting and resettlement of communities, which can cause a rift in established livelihoods and communal cohesiveness by severing ties to ancestral lands. Conservation policies that prioritize the protection of habitat may have an impact on agricultural practices, which are essential to the livelihoods of numerous populations. Farmers may face financial difficulties as a result of limits on traditional farming methods, cropping patterns or land use restrictions. Initiatives promoting tourism with a focus on conservation might provide difficulties for nearby communities even as they present financial opportunities. Increased tourism, even ecotourism could result in cultural disturbances, environmental deterioration and an unfair distribution of financial gains (Kurian, 2021). Policies that restrict cattle graz-

ing in protected areas may have a direct effect on communities that depend on customary pastoral traditions. Due to restricted access to grazing areas, pastoralists may see a drop in the health and income of their livestock. It's probable that the compensation schemes intended to alleviate the financial burden on neighboring areas are insufficient or distributed inequitably. The economic disparities experienced by the affected communities may give rise to social unrest and grievances.

Conflicts between conservationists and local communities

The Western Ghats are home to a complex web of competing interests between local communities who depend on the natural resources for their livelihoods and conservationists who fight to preserve biodiversity. It is essential to comprehend these tensions in order to develop inclusive tactics that take into account the worries of both groups. The protection of natural ecosystems and limited land use are often the top priorities of conservationists, which may conflict with the needs of nearby people for housing, grazing and agriculture. When conservation policies are viewed as being imposed from above without meaningful community input, they can incite hostility among the local populace. Opposition to conservation efforts may result in unprecedented reverberations across the Ghats. Local people may view conservation measures that limit access to grazing areas, water sources, or woods as a threat to their survival. When conservationists push for strict protection that restricts traditional resource exploitation, conflicts result.

Local communities could feel left out of conservation initiative decision-making procedures. Reducing conflicts and improving the acceptability of conservation efforts can be achieved by ensuring meaningful participation and representation. In order to resolve disputes between local people and conservationists, a cooperative and participatory strategy that upholds cultural diversity, recognizes traditional knowledge and guarantees fair benefit sharing is needed. The State of Kerala highlights the plight of the 640 innocent people who have been killed in wild animals attack in human settlements in Kerala during the last 7 years. 90% of these attacks were outside the forests, and Kerala is one of the most populous states in India where the density of population is 859 compared to 555 of Tamil Nadu, 319 of Karnataka and 308 of Andhra Pradesh.

The quantum of wildlife attacks on people is on the rise which will develop an anti-conservation mind among general public which is well illustrated as attitudinal change by Yazezew (2022). Negative attitudes toward wildlife often encourage people to kill wild animals (Oli *et al.*, 1994; Williams *et al.*, 2002; Bagchi and Mishra 2006) which takes a toll on conservation efforts.

Conclusion

The ability to successfully manage the intricate relationship between livelihood and conservation will determine the Western Ghats' future and the long-term health of local communities and ecosystems. Encouraging environmental activism grounded on livelihood and nature to instil in the next generation a sense of care and responsibility but eradicating a fanatic conservation mind will only a success. The outlook for the Western Ghats requires an adaptive and holistic approach that acknowledges the interdependence of human and natural systems. The region can work toward a sustainable future that uplifts the lives of those who depend on its natural resources while protecting its distinctive biodiversity by embracing creative solutions, inclusive policies, and cooperative initiatives. The complex interrelationship between livelihood and conservation is best exemplified by the Western Ghats issue. Maintaining distinctive ecosystems while meeting the socio-economic requirements of adjoining population requires striking a balance. Through the implementation of solutions that are inclusive, adaptable and sustainable, policymakers may steer the Western Ghats towards a sustainable future while simultaneously advancing the welfare of its residents. The study intends to add to the current conversation on the tenuous balance that exists globally between livelihood and conservation in biodiversity hotspots.

Conflict of Interest- None

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