

## Bhutan's Emerging Trends in Forest Policy:

From Constitutional Conservation to a Climate-Smart Forest Economy

### BACKGROUND

Few countries have embedded environmental protection as firmly into their national framework as Bhutan. With nearly 70% of its land under forest cover and a constitutional mandate requiring a minimum of 60% forest cover at all times, environmental stewardship is not merely policy, it is a structural commitment. Bhutan is also widely recognized as the world's only carbon-negative country, with its forests serving as a vital global carbon sink.

Yet Bhutan's forest story is entering a new phase. While ecological integrity remains central, the forestry sector contributes only around 2% to national GDP, and just 7.3% of forest areas are under commercial management. At the same time, infrastructure expansion, rural-urban migration, and economic modernization are increasing land-use pressures. The policy question confronting Bhutan is therefore not whether to conserve its forests but how to transform forest stewardship into a driver of resilient economic growth without eroding ecological foundations.

Between 2015 and 2023, Bhutan's forest cover declined modestly from approximately 71% to 69.7%. In global terms, this remains exceptionally high. However, the trend reflects structural development pressures, including infrastructure expansion, agricultural conversion on private lands, and activities within State Reserved Forests.

While these shifts do not threaten the constitutional threshold, they signal the importance of integrated land-use governance. Incremental changes, if unmanaged, can gradually affect ecosystem connectivity, watershed stability, and biodiversity corridors. Bhutan's next policy phase must therefore balance stability with strategic adaptation.

### Key Messages

1. Bhutan is redefining forest policy by balancing strict conservation with a climate-smart, value-added forestry economy that supports sustainable development without compromising its constitutional forest cover mandate.
2. Through large-scale restoration initiatives like Mountains to Mangroves and the 5th National Biodiversity Strategy and Action Plan (NBSAP), Bhutan is shifting from passive preservation to proactive ecosystem rehabilitation and biodiversity integration.
3. Rising climate risks especially forest fires are pushing Bhutan to adopt active forest resilience strategies, including scientific thinning and improved governance, to protect long-term ecological and economic stability.



**Figure 1:** Maintain its negative carbon status and sustainably manage its forests, Bhutan is embarking on creating a climate-smart forest economy Resources Photo by Sanjeev Bhambri on Unsplash

## COUNTRY TREND HIGHLIGHT

### Bhutan Global Position

As Bhutan modernizes, its forests face a new generation of risks less dramatic than large-scale deforestation, yet increasingly complex.

Why Bhutan matters and what this means globally:

- Bhutan presents a rare example of a country blending ecological conservation, economic development, and social welfare (via forestry) rather than treating these as trade-offs. Its push toward a “climate-smart forest economy,” restoration of degraded lands at scale, and biodiversity-first policies make it a potential global model for sustainable forestry and land-use policy.
- The partnership approach combining government agencies, international NGOs, and local civil society (through restoration, conservation, and economic forestry) demonstrates a collaborative, multi-stakeholder governance model for land and forest management.
- Given increasing global interest in nature-based solutions for climate change, biodiversity loss, and sustainable development, Bhutan’s evolving forest policy especially under the “Mountains to Mangroves” and National Biodiversity Strategy and Action Plan (NBSAP) frameworks may serve as a template for other forest-rich but development-constrained.

### Escalating Wildfire Risks

Overlaying development pressures is the intensifying impact of climate variability. Although Bhutan maintains high overall forest cover, changing temperature patterns, prolonged dry spells, and shifting seasonal rainfall are altering forest conditions. In 2023 alone, Bhutan recorded 83 wildfire incidents, burning approximately 8,731.8 hectares. These figures signal not an anomaly, but a structural shift in climate-related risk exposure. (table 1)

Wildfires are no longer isolated seasonal events. Extended dry periods are increasing fuel dryness, while rising temperatures intensify fire spread and severity. The ecological consequences include carbon stock losses, habitat degradation, soil

erosion, and disruption of watershed stability directly affecting hydropower reliability and rural livelihoods.

This trend marks a turning point in forest governance. A protection-only model, reliant on passive conservation, is no longer sufficient. Instead, Bhutan must transition toward proactive resilience-based management, including:

- Climate-informed early warning and monitoring systems to anticipate high-risk periods
- Community-based fire management mechanisms that strengthen rapid response capacity
- Fuel-load reduction strategies to minimize fire intensity
- Pilot scientific thinning programs to improve forest structure and reduce vulnerability

Such measures represent more than technical adjustments. They reflect a broader institutional evolution from preservation toward resilience. As climate volatility increases, forest governance must anticipate disturbance rather than react to it.

By embedding wildfire risk management within long-term forest strategy, Bhutan can safeguard its ecological assets while reinforcing climate resilience at the landscape scale.

Year	Nos of incidents recorded	Area burnt (in Hectares)	Area burnt (in Acres)
2019	40	1992.76	4924.22
2020	29	2388.46	5902.01
2021	46	2200.68	5438.00
2022	38	4501.55	11123.57
2023	83	8731.18	21575.22
2024	22	366.35	905.27

Table 1: Data of burnt area in Bhutan from 2019 - 2024  
Source: Reports from the Department of Forest and Park Services, 2024

## Scaling a Climate-Smart Forest Economy

Bhutan is exploring the potential for a circular/regenerative construction economy using sustainably harvested or engineered wood (e.g. glue-laminated timber) instead of carbon- and energy-intensive concrete. As described by the World Economic Forum in 2024, Bhutan's pilot "climate-smart forest economy" aims to show how timber from responsibly managed forests can fuel sustainable construction.

A 2024 report by the Department of Environment and Climate Change (with support from the World Bank) suggested that despite Bhutan's already high forest cover (over ~69%), there is room to increase wood-based processing and value-added forest products for example via mid-scale charcoal production and scaled-up use of Glulam timber.

## Conservation and Economic Development: A Structured Balance

Bhutan is increasingly exploring how forests can contribute more meaningfully to national development without compromising ecological thresholds. Despite its extensive forest cover, the country remains a net importer of wood-based products. This paradox has prompted renewed attention to domestic value addition and climate-smart timber utilization.

Bhutan's evolving approach rests on maintaining equilibrium between two imperatives:

Conservation:

- Upholding the constitutional 60% forest mandate
- Safeguarding biodiversity and ecosystem services
- Preserving carbon sink functions

Economic Development:

- Expanding value-added timber industries
- Generating rural employment
- Strengthening domestic supply chains
- Supporting climate-smart construction innovation

This is not a shift away from conservation. It is an effort to align conservation with productivity under strict ecological safeguards.

## Restoration as Strategic Infrastructure

In 2025, Bhutan formalized a multi-stakeholder partnership to restore up to 50,000 hectares of degraded land over the coming decade. While restoration is often associated with tree planting campaigns, Bhutan's initiative reflects a broader policy shift. It adopts a landscape-scale perspective, targeting degraded forest patches, fallow agricultural land, and peri-urban areas to rebuild ecological functionality across interconnected systems.

The significance of this initiative extends beyond increasing tree cover. Restoration enhances carbon sequestration capacity, helping safeguard Bhutan's carbon-negative status while strengthening climate resilience. It also reinforces watershed stability critical for hydropower generation, which remains a central pillar of the national economy. Healthy forest landscapes regulate water flows, reduce soil erosion, and minimize sedimentation risks that could compromise energy infrastructure.

At the ecological level, restoring degraded corridors improves biodiversity connectivity, enabling species mobility and strengthening ecosystem resilience in a changing climate. At the socio-economic level, restoration generates rural employment opportunities and supports livelihood diversification through sustainable forest-based activities.

Moreover, active rehabilitation of degraded lands contributes to long-term timber supply stability, reducing pressure on primary forests and enabling a more resilient, value-added forestry sector.

This signals a shift from purely conservation-oriented forest policies to proactive restoration and landscape-scale ecological rehabilitation.

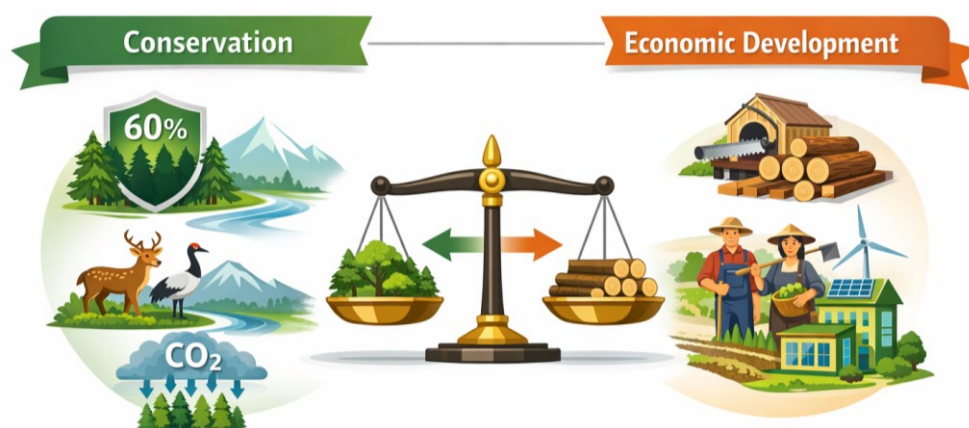


Figure 2: Illustration Conservation and Economic Development A Structured Balance  
Source: Generating AI

## CHALLENGES AND OPPORTUNITIES

Bhutan's forest policy trajectory demonstrates a deliberate shift from viewing conservation and economic growth as competing objectives toward positioning forests as a foundation for climate resilience and green development. With its constitutional forest cover mandate and strong environmental ethos, the challenge ahead is less about expanding ambition and more about institutionalizing coherence, climate integration, and economic alignment.

The table below identifies key governance and implementation challenges that may constrain this transition, alongside strategic opportunities to embed climate risk management, strengthen domestic value addition, institutionalize restoration within national development planning, and reinforce transparency in forest governance.

Challenges	Opportunities
<ul style="list-style-type: none"><li>Climate risks not yet fully embedded in routine forest governance and planning.</li></ul>	<ul style="list-style-type: none"><li>Institutionalize climate-responsive forest management (fire, drought, adaptive silviculture).</li></ul>
<ul style="list-style-type: none"><li>Limited value addition constrains green economic returns from forestry.</li></ul>	<ul style="list-style-type: none"><li>Expand domestic processing to align economic growth with conservation safeguards.</li></ul>
<ul style="list-style-type: none"><li>Restoration initiatives risk remaining project-based rather than development-driven.</li></ul>	<ul style="list-style-type: none"><li>Integrate the 50,000-ha restoration target into long-term national development planning.</li></ul>
<ul style="list-style-type: none"><li>Monitoring and transparency systems require strengthening to sustain public trust and ecological thresholds.</li></ul>	<ul style="list-style-type: none"><li>Strengthen forest inventory, performance-based monitoring, and transparent governance mechanisms.</li></ul>

## CONCLUSION

Bhutan's forest landscape remains one of the most intact in the world. As of 2023, forests cover 69.7% of the country's total land area well above the constitutional minimum requirement of 60%, a safeguard embedded in national law to ensure long-term ecological stability. Despite this extensive forest base, the forestry sector contributes only around 2% to national GDP, reflecting limited value-added processing and relatively low commercial utilization.

Looking ahead, Bhutan has set an ambitious restoration target of 50,000 hectares over the next decade, signaling a shift toward proactive landscape rehabilitation that integrates climate resilience, biodiversity protection, and sustainable economic development. By reframing restoration and sustainable forest management as strategic national investments, Bhutan offers a compelling example of balanced green transformation for forest-rich nations.

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### Asian Forest Cooperation Organization

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