

# RESTORE BHUTAN



“

The preservation of our environment is a duty that transcends generations; we must act today for tomorrow.

- *His Majesty The Fifth King  
Jigme Khesar Namgyel Wangchuck*

“

Bhutan's happiness depends on our forests, our clean rivers, and the preservation of all living beings. Protecting them is protecting ourselves.

- *His Majesty The Fourth King  
Jigme Singye Wangchuck*

# RESTORE BHUTAN

The Royal Government of Bhutan has partnered with Conservation International, Bhutan Trust Fund for Environmental Conservation, and Bhutan Ecological Society to advance nature restoration and conservation under the Mountains to Mangroves initiative, contributing to **Bhutan's national priorities for climate resilience, biodiversity protection, and sustainable development**. The protection of the environment and safeguarding of forests and wildlife is at the heart of the nation. This collaboration sits within the larger ambitions of the Royal Government of Bhutan to maintain a minimum of 60% forest cover at all times as part of its constitutional mandate and its global commitment to remain carbon neutral. This partnership is now embarking on its mission: **Restore Bhutan**.

Taking a forest landscape restoration and 'whole of Bhutan' approach, Restore Bhutan will enable the country's restoration needs through a roadmap to restore **50,000 hectares** of degraded land across forests, fallow drylands, and urban lands over the next decade. Using a diverse range of restoration interventions and strategies, Restore Bhutan aims to increase resilience to forest fires, enhance biodiversity and freshwater availability, provide carbon sequestration benefits, and empower local communities and smallholder farmers. An innovative results-based financial instrument is proposed to deliver the initial phase of restoration.

A ROADMAP FOR  
**50,000 ha**

#### *Insight Corner*

*Located in the Eastern Himalayan biodiversity hotspot, the Kingdom of Bhutan has maintained nearly 70% of its land area under forest cover (2.68 million ha) and boasts the largest area under protection of any Asian country, with 52% of its land area under the Protected Areas Network (NFI, 2023).*



# RESTORATION PATHWAYS

Nation-wide consultations across Dzongkhags (districts) with local institutions and communities in Bhutan have identified community needs and priorities for restoration. These consultations have provided a platform to assess local planting capacities, land availability, and long-term management support, ensuring that the initiative is aligned with community aspirations and local ecological conditions.

Using mapping and analysis by the Department of Forests and Park Services and recent data from the Department of Agriculture, Restore Bhutan will target restoration across three pathways.



© Bhutan Ecological Society

## Insight Corner

Pressures from climate change and land degradation are intensifying. Forests in Bhutan are subject to a range of challenges including **climate change, pest and disease infestation, and forest fire**, while also experiencing **increasing demand for timber and other wood products** (NFI, 2023).

Revive Vital  
Forests

# 28,000 Hectares

of degraded fire-burnt and  
open or low-tree cover lands

Regenerate  
Farmlands

# 21,000 Hectares

of fallow agricultural drylands

Restore Urban  
Resilience

# 1,000 Hectares

of urban lands



# REVIVE VITAL FORESTS

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## RESTORATION OPPORTUNITIES AND MAPPING

Data from the Department of Forests and Park Services reveals a significant opportunity for forest restoration: more than 150,000 hectares of lands have been mapped nation-wide as having low or no tree cover. Of this, excluding areas above 3,000 meters to avoid counting the native grassland biome, leads to approximately 50,195 hectares suitable for forest landscape restoration.

Within these suitable restoration sites, around 23,600 hectares are **fire-impacted forests**, losing partial or full tree cover over the past 10-15 years, 31,900 hectares are **open or low-tree cover lands** located below 3000 meters in the forest biome, and there is an overlap of approximately 5,300 hectares between fire-impacted and low-tree cover areas (Figure 1).

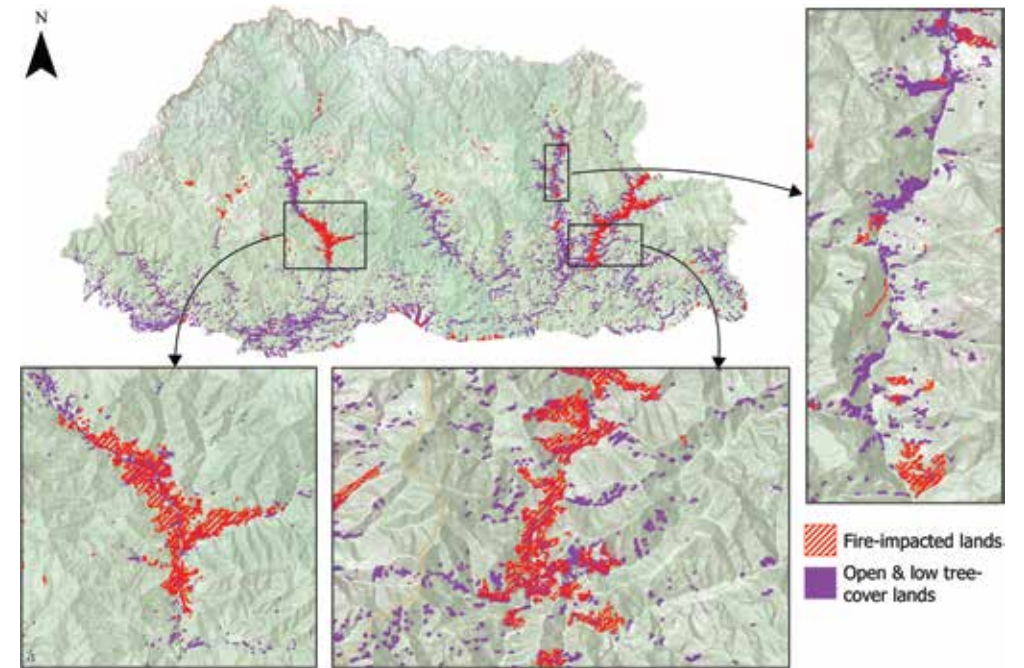


Figure 1: Areas identified for restoration (total: 50,195 ha)

Source: Department of Forests and Park Services, Ministry of Energy and Natural Resources, Royal Government of Bhutan. Esri. "Environment base" [basemap]. Accessed: 21 Nov 2025

Total  
Potential

50,195 ha

Target

28,000 ha

### Insight Corner

Forest fire is one of the major forest disturbances in Bhutan, with records showing on an average more than 7,000 ha of forest were burnt every year from 1994-2020 (NFI, 2023). The cost of these forest fires is also significant – the Department of Forests and Park Services estimated that forest fires cost over US\$5.89 million in timber losses in five months during November 2024 - March 2025. Restoring fire-impacted lands will support carbon, biodiversity and the economy.

## CURRENT EXPERIENCE

Under the Mountains to Mangroves initiative, implementing partners are restoring 734 hectares of degraded forests. Bhutan Ecological Society (BES), in collaboration with the Department of Forests and Park Services, is restoring 519 hectares of degraded forest land using wild native trees. In addition, Bhutan Trust Fund for Environmental Conservation (BTF) is implementing a plantation drive across seven districts restoring approximately 215 hectares of degraded forests. BTF is targeting restoration on springsheds to improve springs and groundwater recharge, and in turn minimize the risks of flashfloods and landslides.

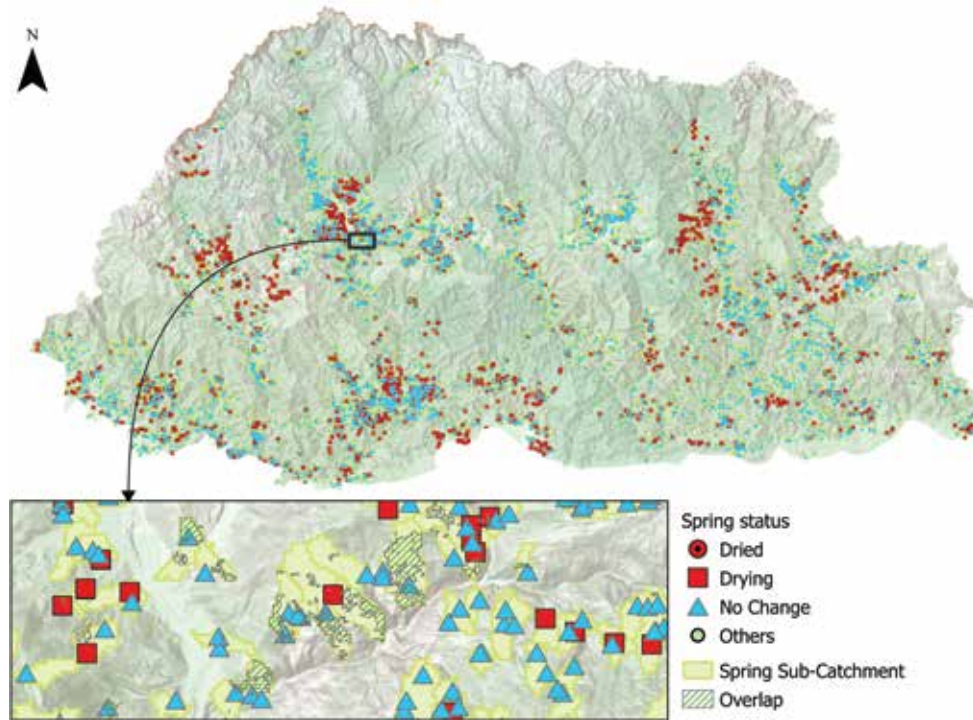


Figure 2: Spring status with overlap of areas identified for restoration

Source: Department of Forests and Park Services, Ministry of Energy and Natural Resources, Royal Government of Bhutan. Esri. "Environment base" [basemap]. Accessed: 21

### Insight Corner

Despite having one of the highest rates of water per capita in the world, Bhutan's land and its people face water scarcity. Mountain springs are a critical component of water supply security. But Bhutan's springs are drying up. A recent government-led survey found that 25% of the 7,000+ monitored springs are drying up. Restoring the degraded recharge areas of these springs will support water security.

## RESTORATION STRATEGY & INTERVENTIONS

Restoration interventions will include wide-scale restoration through reforestation with native and fire-resistant species and assisted natural regeneration. Implementing partners will undertake validation, site prioritization through further mapping and modelling of impacts, species selection and full cost-benefit analysis in consultation with the Department of Forests and Park Services. This will include engaging with Community Forests. The current suitable sites show some proximity to springs, vital to water security in Bhutan (Figure 2). Restore Bhutan will build on this to systematically include elements of springshed management.





# REGENERATE FARMLANDS

# REGENERATE FARMLANDS

## RESTORATION OPPORTUNITIES AND MAPPING

Bhutan's agricultural landscape offers another restoration pathway. Of the 72,000 hectares of arable dryland, an estimated 30% (~21,600 hectares) lie fallow and could be revitalized (Figure 3).

## CURRENT EXPERIENCE

Bhutan Ecological Society (BES) in collaboration with rural communities is restoring 515 hectares of arable fallow land using high value fruit trees. BES is establishing state-of-the-art nurseries in partnership with the Department of Forests and Park Services and Department of Agriculture to produce and source upwards of millions of saplings per year to deliver restoration at scale. BES has introduced an online sapling requisition dashboard, enabling individuals, community groups, and institutions to request saplings directly. To date, over 1000 individuals have registered through the platform.

## RESTORATION STRATEGY & INTERVENTIONS

Restoration interventions will include mosaic restoration following regenerative agriculture principles including agroforestry and improved fallow management. Implementing partners will undertake validation, site prioritization through further mapping and modelling of impacts, species selection and full cost-benefit analysis in collaboration with smallholder farmers building on BES's crowdsourcing and co-design model.

Total Potential  
 ~21,600 ha  
 Target  
 21,000 ha

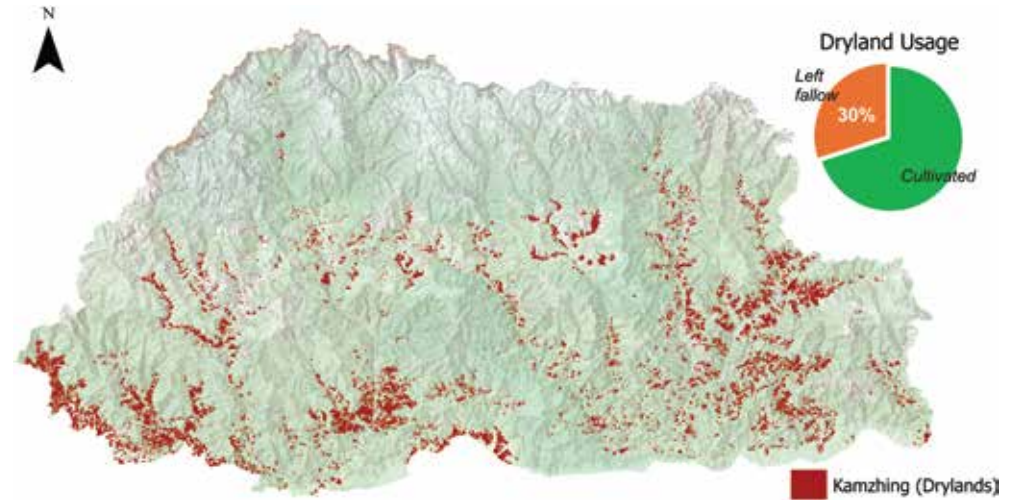


Figure 3: Total Kamzhing (Drylands) in Bhutan and Dryland Usage  
 Source: Ministry of Agriculture & Livestock, Royal Government of Bhutan, Esri, "Environment base" [basemap]. Accessed: 21 Nov 2025



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### Insight Corner

Bhutan's agricultural drylands are facing challenges from **human-wildlife conflict**, **lack of adequate water supply and access to markets**, with smallholder farmers leaving these lands fallow.



# RESTORE URBAN RESILIENCE

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## RESTORATION OPPORTUNITIES AND MAPPING

It is estimated around 1,000 hectares of degraded lands in and around urban areas could benefit from restoration and enhanced urban resilience.

## CURRENT EXPERIENCE

Bhutan Trust Fund for Environmental Conservation is collaborating with more than 535 schools for plantations in schools and with the monastic body to plant native and fruit trees in their institutional land throughout Bhutan.

## RESTORATION STRATEGY & INTERVENTIONS

Implementing partners will undertake validation, site prioritization, species selection and full cost-benefit analysis in collaboration with local communities (schools, monastic institutions) to offer benefits including protection from urban heat and flooding, additional livelihood sources, and reviving cultural traditions.

Total Potential

~1,000 ha

Target

1,000 ha

### Insight Corner

*Bhutan's leadership in environmental stewardship is rooted in its cultural values. Community-led tree plantations empower urban residents, especially women and youth, to contribute to urban resilience.*



A tiger with orange fur and black stripes is walking from left to right across a grassy area. The background is a soft-focus forest with tall trees and dappled sunlight. The text 'INNOVATIVE BLENDED FINANCE' is overlaid in the bottom left corner in a large, white, sans-serif font.

# INNOVATIVE BLENDED FINANCE

# INNOVATIVE BLENDED FINANCE

The IPCC estimates that **nature-based solutions (NbS) could deliver up to 30% emissions reductions** to meet the Paris Agreement targets. Yet, according to UNEP's State of Finance for Forests Report, in 2023, only around 1% of impact investment (approximately \$1.7 billion) was allocated to forests, a figure 21 times lower than the energy sector. NbS – particularly those led by local NGOs and communities – face significant barriers to early-stage financing and working capital to scale.

Despite its outsized commitment to nature and climate, Bhutan faces significant climate finance gaps with **national plans estimating that the country needs \$7.7–14 billion by 2030** for climate mitigation and adaptation (World Bank, 2025). At the same time, significant progress in Bhutan's development journey, which has enabled the country to graduate from the 'Least Developed Country' category in 2023, is likely to limit access to concessional financing, demonstrating the **urgent need for innovative approaches**.

Globally, there is growing demand for social impact investments that generate positive, measurable biodiversity, climate, and development outcomes along with financial returns. Under Restore Bhutan, we are exploring a **results-based blended finance instrument to kick-start restoration in 5,000–8000 hectares**. This instrument will blend philanthropic, public and private capital to advance climate resilience and deliver positive, measurable outcomes for carbon, freshwater, and livelihoods. Upon establishment of the proof of concept, this will be scaled up to the 50,000 hectares.

## Insight Corner

*Bhutan's forests provide critical ecosystem services to its people – including climate regulating services through **carbon sequestration, erosion control, and freshwater regulation**; provision services through **timber and non-timber forest products**; and **cultural services** reflecting Bhutan's deep connection to nature. Benefits from Bhutan's forests are **not just local** - estimates suggest approximately 53% of total benefits accrue to people outside Bhutan, indicating the global importance of these ecosystems (World Bank, 2025).*



A group of five people, three women and two men, are standing in a line in a lush green forest. They are dressed in traditional Bhutanese clothing. The woman on the far left is wearing a pink jacket and a patterned skirt, holding a small sapling in a black pot. The man next to her is wearing a striped jacket and a patterned skirt, also holding a sapling in a black pot. The woman in the middle is wearing a light-colored jacket and a light-colored skirt, holding a bamboo tool. The woman on the far right is wearing a light-colored jacket and a light-colored skirt, holding a sapling in a black pot. The man on the far right is wearing a light-colored jacket and a light-colored skirt, holding a sapling in a black pot. The background is a dense forest with tall trees and green foliage.

# IMPACT & GOVERNANCE

# IMPACT & GOVERNANCE

Guided by a Project Steering Committee and supported by experts through Technical Working Groups, Restore Bhutan will deliver measurable benefits for people, climate and nature. Estimated impacts\* of the 50,000-hectares restoration plan include:

- Enhanced capacities and livelihoods for 30% of Bhutan's population, enabling more than 250,000 people to thrive
- Freshwater benefits with approximately 133,000 megaliters of Volumetric Water Benefits over a 15-year period, contributing to water for all
- Increased resilience to forest fires, supporting climate resilience and biodiversity
- Carbon sequestration benefits of approximately 1.96 million metric tons of CO<sub>2</sub> equivalent over a 30-year period
- Enhanced biodiversity and improved habitats across 50,000 hectares

*\*These impacts have been estimated based on results seen over the first phase of restoration work in Bhutan with Bhutan Ecological Society (BES) and the Bhutan Trust Fund for Environmental Conservation (BTF) along with geospatial modelling using published research. Exact numbers will be confirmed when the restoration strategies and interventions have been designed and given full approval by the Project Steering Committee in 2026.*



© Pexels photo by Diego F. Parra

## Alignment with National Priorities

As the world's first carbon-negative country, Bhutan is committed to conserving forest ecosystems through both legal protections and restoration efforts. **Restore Bhutan** will support the **constitutional mandate** to maintain a minimum of 60% forest cover at all times and contribute to the country's Nationally Determined Contributions and commitment to remain carbon neutral. By restoring degraded forests and farmlands, it will enhance biodiversity and support the Fifth National Biodiversity Strategy and Action Plan. Restore Bhutan will bring **added value** and **complement other major initiatives** in the country such as Bhutan for Life, JREDD+, BIOFIN, CARE-LG and ECRUL programs. It will also contribute to the 2030 Sustainable Development Agenda and SDGs related to Life on Land, Climate Action, and Sustainable Cities and Communities.

# A “WHOLE OF BHUTAN” APPROACH TO RESTORE 50,000 HECTARES

## VISION AND EXPECTED IMPACT

### CLIMATE RESILIENCE

Carbon sequestration benefits of approx. 1.96 million metric tons of CO<sub>2</sub>e  
Increased resilience to forest fires

### THRIVING COMMUNITIES

Enhanced capacities and livelihoods benefits for 250,000 people

### WATER FOR ALL

Freshwater benefits with ~133,000 Mega Litres Volumetric Water Benefits

### ECOSYSTEM BIODIVERSITY

Enhanced biodiversity and improved habitats across 50,000 ha

## DELIVERY ROADMAP

### PATHWAY 1: Revive Vital Forests

Restoration Opportunities Mapping

### PATHWAY 2: Regenerate Farmlands

Community Engagement

Innovative Blended Finance

### PATHWAY 3: Restore Urban Resilience

Scale Support

Monitoring and Evaluation

## GOVERNANCE

Project Steering Committee  
Technical Working Groups

Royal Government of Bhutan

Conservation International

Bhutan Trust Fund for Environmental Conservation

Bhutan Ecological Society



## Royal Government of Bhutan

The Ministry of Energy and Natural Resources of the Royal Government of Bhutan is responsible for sustainable development of energy and natural resources while ensuring optimal contribution to national welfare. Under the Ministry, the Department of Forests and Park Services (DoFPS) is responsible to protect, conserve, utilize and manage the forestry resources of Bhutan. Founded in 1952, DoFPS is one of the oldest government departments in Bhutan, and its mission is to conserve and manage Bhutan's natural resources through the adoption of innovative technologies to ensure socio-economic and environmental wellbeing, while maintaining a minimum 60% of the land under forest cover for all times to come.



## Bhutan Trust Fund for Environmental Conservation

Bhutan Trust Fund for Environmental Conservation is the world's first environmental trust fund, established in 1991 as a collaborative venture between the Royal Government of Bhutan, United Nations Development Program, and World Wildlife Fund. The growth of the original trust fund capital increased from US\$ 21.3 million in 1992-98 to over US\$ 86.1 million by September 2025, with donors including WWF, Global Environment Facility, the governments of Bhutan, Denmark, Finland, the Netherlands, Norway and Switzerland. BTF is the only accredited entity in the country to the Green Climate Fund and the Adaptation Fund.



CONSERVATION  
INTERNATIONAL

## Conservation International

Conservation International protects nature for the benefit of humanity. Through science, policy, fieldwork and finance, we spotlight and secure the most important places in nature for the climate, for biodiversity and for people. With offices in 30 countries and projects in more than 100 countries, Conservation International partners with governments, companies, civil society, Indigenous peoples and local communities to help people and nature thrive together. Mountains to Mangroves is an ambitious partnership, led by the people of the Eastern Himalayas and catalyzed by Conservation International, to protect and restore the connected ecosystems of Bhutan, Bangladesh, India, and Nepal in response to the shared challenges to climate change and biodiversity loss.



## Bhutan Ecological Society

Bhutan Ecological Society is a nonprofit organization that connects science, business and policy, with the goal of building and sustaining resilient communities and functional landscapes. BES aims to create and sustain functional physical environments (built and natural) that provide for human needs and foster prosperity, while ensuring the integrity of ecosystems. Underpinned by science and evidence, BES restore landscapes, champion renewables, help secure water and food, and reduce waste and GHG emissions.

