

Balkhila Model Forest

Member of the Regional Model Forest Network–Asia since 2004

Landscape snapshot



Balkhila District

Uttarakhand, India

Home of the Chipko movement in the Indian Himalayas



HUMAN POPULATION

~7,600 inhabitants across 25 villages



AREA

16,000 hectares



Balkhila Model Forest is a high-altitude watershed nestled in the Indian Himalayas. The Balkhila River, part of the upper Ganga basin, sustains biodiversity and agriculture. As a headwater of the sacred Ganga and Yamuna rivers, it holds vital ecological and cultural significance.

- 67% forest cover
- 600–4,500 metres above sea level
- Traditional agroforestry crops like millets, cereals, pulses, oilseeds and tubers sustain food heritage and climate resilience
- History and philosophy rooted in the historic Chipko movement, where women protected forests through non-violent resistance



Forest profile



Forest type:
Himalayan moist temperate forests



Dominant species:
oak and conifers (pine, conifer, spruce)



Forest governance structure:
The landscape contains a mix of reserve forest and community managed forests ('van panchayat').



Reserve forests (2,783 hectares) are managed by the Uttarakhand Forest Department for watershed protection and biodiversity conservation.



Community managed forests (2,906 hectares) are managed by village-level forest councils for sustainable extraction of fodder, fuelwood and non-timber forest products.



Balkhila is part of the historic van panchayat region of Uttarakhand, where forests have been managed collectively by communities for over a century. It is a living model of decentralized, democratic forest governance.

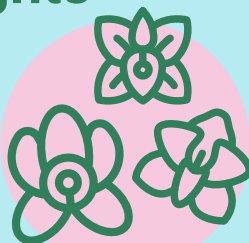


Women welfare groups ('mahila mangal dal') play a central role in nursery management, seed saving and local environmental stewardship.



Biodiversity highlights

Mandal Valley, located within the Balkhila Model Forest landscape, is recognized as one of the richest orchid habitats in Uttarakhand, with 36 documented orchid species.



Known as the '**Cherrapunji of Uttarakhand**', Mandal Valley's high rainfall creates a cool, moist climate that supports dense forests, abundant birdlife and the Rudranath temple trek route.

Balkhila Model Forest lies within the Kedarnath Wildlife Sanctuary, Uttarakhand's largest protected area (97,500 hectares) and the biggest in the western Himalayas.



The Model Forest and the sanctuary shelter several threatened faunal species including:



Notable achievements

Past achievements

Native tree nursery

- run by Jagdamba Women's Self-Help Group
- 30,000 seedlings of 5 fodder plants under cultivation
- saplings are planted in village croplands and nearby reforestation areas
- less time spent on fodder collection
- easier access to fodder for women



Revival of a 'gharat' (traditional watermill)

- milling with clean energy (hydropower)
- less travel time to distant millers
- 80 kg - 300 kg of wheat ground daily



Renewable energy

- 20 biogas units installed and powered by cattle dung
- 61% reduction of household fuelwood consumption
- Reduced GHG emissions from dung
- 5 villages installed with solar streetlights



Ongoing interventions



Natural farming: natural, fermented liquid biofertilizer, known locally as 'jeevamrit' or 'ghanjeevamrit' promoted; 35 bio-input drums and 60 spray machines provided



Agroforestry: adopted by 123 families on farmland



Biofencing: 900 *Zanthoxylum armatum* plants introduced in community fields



Traditional crops revived:

- 62 families cultivating red paddy
- 7 families cultivating proso millet



Seed exchange: strengthening crop diversity among 158 farmers



Sustainable livelihoods:

- local women making eco-friendly cow-dung crafts
- women's groups engaged in millet-based value addition

At Balkhila Model Forest, women lead climate action

Nestled in the Indian Himalayan Region, Balkhila Model Forest lies on a high-altitude watershed in Uttarakhand, North India. It is home to over 7,600 inhabitants from 25 villages, who rely on its forests for fodder, fuelwood and timber. The area forms the headwaters of the Ganga and Yamuna rivers, which are considered holy by Hindus, and is a tourism and pilgrimage destination.

Tourism has been a major driver of unsustainable infrastructure development in the region. Combined with climate change and deforestation, these pressures have led to forest degradation, reduced biodiversity and increased vulnerability in the Balkhila Watershed. The region is also characterized by the outmigration of men for work. Women's groups here have come to play a leading role in its community-based conservation and sustainable resource management initiatives.

The Model Forest is home to the ecofeminist Chipko Movement, a grassroots campaign that started in the 1970s, where rural villagers, predominantly women, organized themselves to protect their local forests. Faced with large-scale deforestation from commercial timber and land clearance efforts, the women literally hugged the trees ('chipko' means attach oneself to in Hindi) to prevent them from being cut down. They were ultimately able to stop the logging and ensure the long-term preservation of the forest ecosystem.

Their legacy continues today. In 2018, the Jagdamba Women's Self Help Group in Bairagana village established a community nursery to address climate-induced and human-made impacts. Fifteen women in the group cultivated over 30,000 seedlings, which were later planted in nearby croplands and forest areas. As these plants have matured, they have provided accessible fodder for the community, reducing pressure on the sensitive forest ecosystem and significantly cutting down the time women spend collecting fuelwood. The native tree nursery was supported by the International Union for the Conservation of Nature and the Uttaranchal Youth and Rural Development Centre, a local non-governmental organization.

The implementation of nature-based solutions is ongoing through the promotion of natural farming using 'jeevamrit' and 'ghanjeevamrit', natural liquid fertilizers, to restore soil health and reduce reliance on chemical inputs. Agroforestry is being expanded onto farmland, and native species such as *Zanthoxylum armatum* are being used in biofencing to reduce crop loss from wildlife. Traditional climate-resilient crops like red paddy and proso millet are being revived, and sustainable livelihoods are being strengthened through millet-based value addition and eco-friendly cow-dung craft products. All the work is done with the involvement of women's groups.

Current work

-  Stakeholder awareness: locals recognize the value of their natural resources and are motivated to protect them
-  Capacity building: central and state agencies, along with non-governmental organizations, have strengthened local skills for sustainable resource management
-  Nature-based solutions: natural approaches to promote climate change and disaster mitigation
-  Community-based governance: recognition and support for local forest councils (van panchayats) in maintaining climate-resilient forests

Future priorities

-  Sustainable livelihoods: promoting tourism and cottage industries using non-timber forest products
-  Strengthening value addition and market linkages: expansion of processing and branding of local products – millets, medicinal plants and traditional foods – through fair market connections (cooperatives and local enterprises) to ensure stable income
-  Water stewardship: protection and sustainable management of water resources
-  Climate-Resilient Agriculture: integrated strategies for human –wildlife conflict, women-led farming, afforestation of degraded lands and quality planting material

IMFN Climate Contribution Agreement 2025-2026

Through collaboration and funding support from the International Model Forest Network (IMFN), the Model Forest is implementing place-based forest landscape restoration with and for local communities, especially women, to improve environmental health, biodiversity and socio-economic well-being.





Vision

A sustainably managed Himalayan landscape that safeguards biodiversity while supporting local well-being.

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