



GROUP 3
THE WESTERN GHATS

Cultural Heritage of India: Western Ghats



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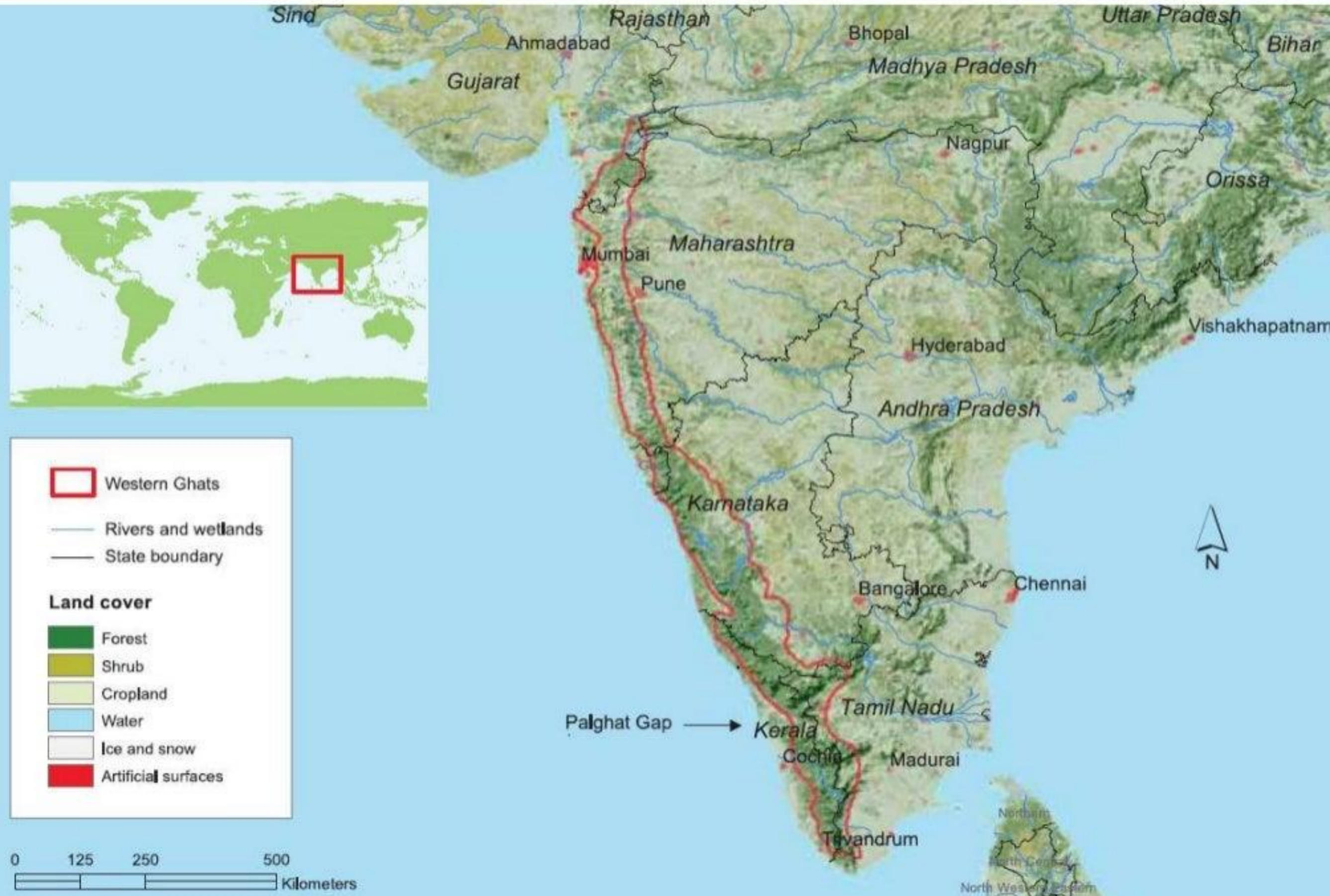


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Introduction: Western Ghats

- The **Western Ghats**, also known as the **Sahyadri Hills**, are well known for their rich and unique assemblage of flora and fauna.
- It is recognized as a **UNESCO World Heritage Site**.
- Western Ghats is a magnificent mountain range next only to Himalayas and is an biological treasure trove with a high degree of endemism {**11% to 78%**} and scenic beauty.
- It is one of the **eight hotspots** of biological diversity in the world due to its high level of biological diversity and endemism.

Location of western ghats on map



Basic Topography of Western Ghats

- Western Ghats extend from the Satpura Range in the north, go south past Goa, through Karnataka and into Kerala and Tamil Nadu end at Kanyakumari.
- A chain of mountains runs parallel to India's western coast, approx. 30-50 km inland and these mountains cover an area of around 160,000 km² in a 1,600 km long stretch.
- The Niligiri ranges southeast of Mysore in Karnataka, meet the Shevaroy's and Tirumala range farther east, linking the Western Ghats to the Eastern Ghats.
- The peak of Anamudi in Kerala is the highest peak in the Western Ghats, as well as the highest peak in India outside the Himalayas.
- **Famous hill station:** Many hill stations like Matheran, Lonavala-Khandala, Mahabaleshwar, Panchgani, Amboli Ghat, Kudremukh and Kodagu are lying in this region.

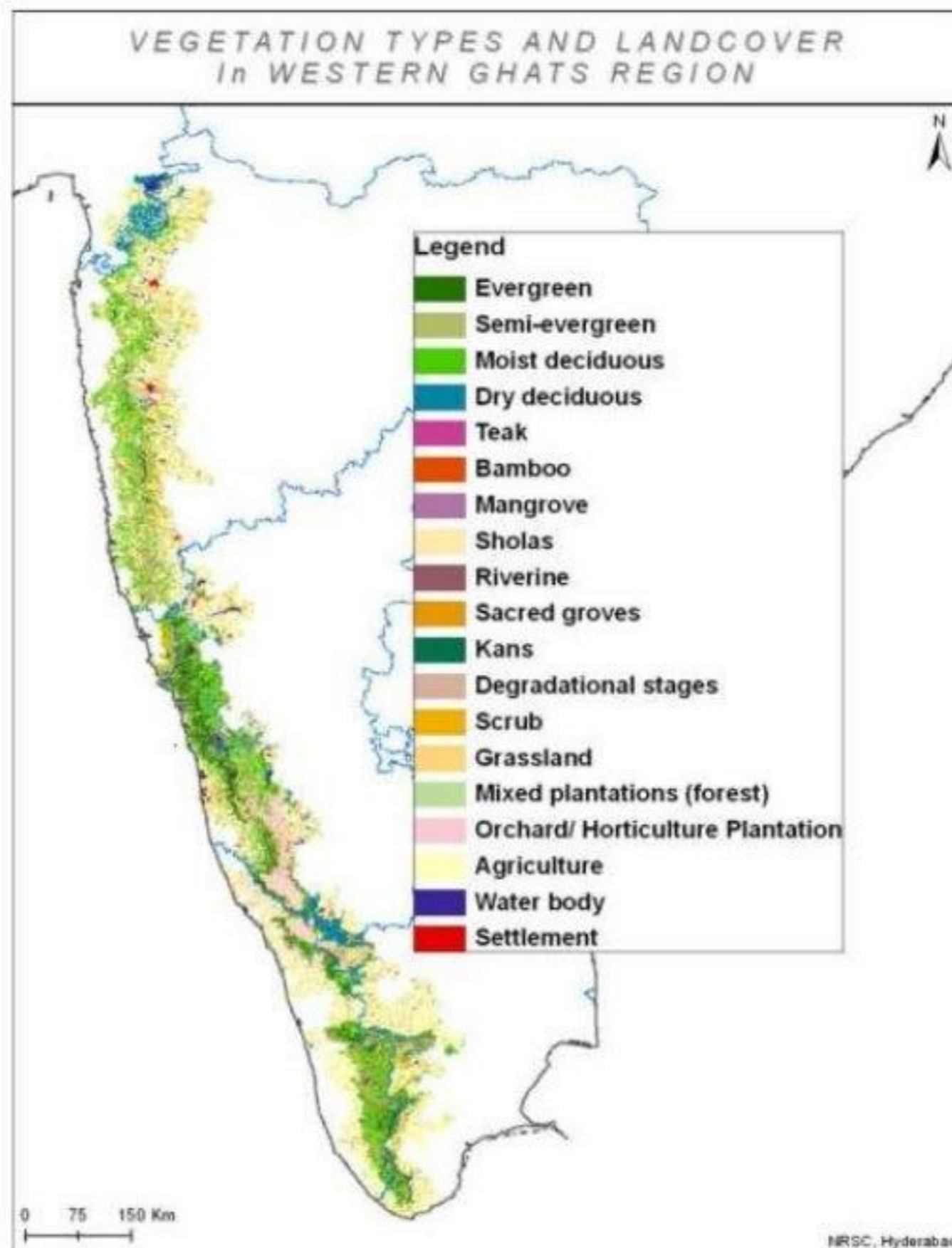
Rivers

1. The rivers that originate in Western Ghats and flow towards west are **Periyar, Bharathappuzha, Netravati, Sharavathi, Mandovi etc.**
 - The west flowing rivers of Western Ghats are fast-moving, owing to the short distance travelled and steeper gradient. This makes Western Ghats more useful in terms of production of hydroelectricity.
2. The rivers that originate in Western Ghats and flow towards east include three major rivers viz. **Godavari, Krishna and Kaveri**, and many smaller/tributary rivers such as Tunga, Bhadra, Bhima, Malaprabha, Ghataprabha, Hemavathi, Kabini.
 - These east flowing rivers are comparatively slower moving and eventually merge into larger rivers such as the Kaveri and Krishna

Climate and Vegetation

- Western Ghats has non-equatorial tropical evergreen forests and are home to at least 325 globally threatened flora, fauna, bird, amphibian, reptile and fish species.
- **The high montane forest ecosystems influence the Indian monsoon weather pattern.**
- The Ghats act as a key barrier, intercepting the rain-laden monsoon winds that sweep in from the south-west during late summer.
- **The western slopes have tropical and subtropical moist broadleaf forests marked predominantly by Rosewood, Mahogany, Cedar etc.**
- The eastern slopes of the Western Ghats have dry as well as moist deciduous forests marked predominantly by Teak, Sal, Shisham, Sandalwood trees.

Vegetation and Land cover types in WG region.



WESTERN GHATS

biodiveristy ● hotspot

area

160,000 km²



140 mammal species



510 bird species



260 reptile species



180 amphibian species



25%
of India's
biodiversity



new flora and
fauna species
discovered
every year



great source
of water and
fresh oxygen
down south

Wildlife

- The Nilgiri marten, brown palm civet, stripe-necked mongoose, Indian brown mongoose, small Indian civet and leopard cat are some of the species found in the forests of the Western Ghats.
- Many endemic species such as the Nilgiri tahr (*Hemitragus hylocrius*) and the liontailed macaque.
- At least 325 globally threatened (IUCN Red List) species live in the Western Ghats.
- The flora and fauna which are globally threatened includes 229 plant species, 31 mammal species, 15 bird species, 43 amphibian species, 5 reptile species and 1 fish species.
- WG has a wide range of forest types such as tropical wet evergreen forests to grasslands, some 4000 species of flowering plants with high degree of endemism and rich fauna.



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Protected Areas

1. Western Ghats is home to India's two biosphere reserves, 13 National parks, several wildlife sanctuaries and many Reserve Forests.
2. The Nilgiri Biosphere Reserve forms the largest protected area in the Western Ghats.
 - It comprises the evergreen forests of Nagarahole, deciduous forests of Bandipur National Park and Nugu in Karnataka and adjoining regions of Wayanad and Mudumalai National Park in the states of Kerala and Tamil Nadu.
3. The Silent Valley National Park in Kerala is among the last tracts of virgin tropical evergreen forest in India.



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Significance of Western Ghats

1. **Key interceptor to rain-laden monsoon**
2. Plays a significant and important ecological function in sequestration of CO₂.
 - Neutralize around 4 million tonnes of carbon every year that is around 10% of emissions neutralised by all Indian forests.
3. **Rich in iron, manganese and bauxite ores.**
4. The forests of Western Ghats are an important source of timber and support a large number of forest-based industries such as paper, plywood and matchwood.

Significance of Western Ghats

5. Home to Indigenous Tribes:

- The indigenous people of the Western Ghats, including the Particularly Vulnerable Tribal Groups, constitute 44.2% of the tribal population of 6.95% of Karnataka.
- The Western Ghats are also home to a sizable population of communities like Gowlis, Kunbis, Halakki Vakkala, Kare Vakkala, Kunbi, and Kulvadi Marathi.
- The communities derive sustenance from the forest by collecting non-timber forest produce (NTFP).

Significance of Western Ghats

6. Tourism and Pilgrimage Centre:

- Tourist centres that have sprung up in the Western Ghats are Ooty, Thekkady, Matheran, Chikmagalur etc.
- Pilgrimage centres such as Sabarimala in Kerala, Madeveshwaramalai in Karnataka and Mahabaleshwar in Maharashtra.

Threats to Western Ghats

1. Mining:

- Increased vulnerability to landslides due to unsustainable mining.
- Damaged water sources agriculture affecting the livelihoods of the people.
- Sand mining has emerged as a major threat in Kerala.

2. Extraction of Forest Produce:

- Human communities in the Western Ghats are often dependent on extraction of Non timber forest produce to meet a diversity of subsistence & commercial needs.

3. Livestock Grazing:

- High densities of livestock (cattle and goats) causes habitat degradation across the Western Ghats.

4. Human-wildlife Conflict:

- Western Ghats exists within an intensely human dominated landscape so human-wildlife conflicts are a common phenomenon.

5. Hunting:

- Illegal local hunting driven by tradition or demand for wild meat is very prevalent across the Western Ghats.

6. Plantations:

- Displacement of extensive patches of natural forests throughout the Western Ghats due to Plantations of cash crops over the years.

7. Encroachment by Human Settlements:

- Human settlements both within and outside protected areas all across the Western Ghats represent a significant landscape level threat.

8. Hydropower Projects:

- Large dam projects in Western Ghats have resulted in environmental and social disruption.

9. Deforestation:

- Conversion of forest land into agricultural land or for commercial purposes like tourism, illegal logging for timber is creating significant negative effects on biodiversity

Conservation Efforts for Western Ghats

1. Gadgil Committee (2011):

- Known as the **Western Ghats Ecology Expert Panel (WGEEP)**
- Recommended that all of the Western Ghats be declared as the *Ecological Sensitive Areas (ESA)* with only limited development allowed in graded zones.

2. Kasturirangan Committee (2013):

- Sought to balance the development and environment protection in contrast to the system proposed by the Gadgil report.
- Recommended that instead of the total area of Western Ghats, only 37% of the total area should be brought under ESA and a complete ban on mining, quarrying and sand mining be imposed in ESA

Acts:	Suggestions
ENVIRONMENTAL PROTECTION ACT, 1986	The Environment (Protection) Rules, 1986 can be suitably modified for Ecologically Sensitive Areas
WILDLIFE PROTECTION ACT, AMENDED 1993	'Ecologically Sensitive Area' be issued to provide a legal framework for Ecologically Sensitive Areas under the Western Ghats Authority whereby ESAs can be legally declared.
THE INDIAN FOREST ACT, 1927 ON RESERVED FORESTS	The limits of ESAs can be decided using Geoinformatics to study vegetation, slope, hydrology etc.
FOREST CONSERVATION ACT, 1980 WITH 1988 AMENDMENTS	This section of the Forest Conservation Act must be suitably modified and used for protecting ESAs from further degradation. It should not be possible for State Governments to remove the Ecologically Sensitive Area status once it has been created on good scientific grounds.

Conclusion

- Western Ghat region, once a contiguous forest has increasingly become fragmented due to intrusive anthropogenic activities.
- Though the Indian Forest Conservation Act, enacted in 1980, resulted in the cessation of all legal logging operations in the Western Ghats in the mid-1980s.
- In the face of the expanding human population, it requires conservation and protection measures.
- Identifying, and subsequently conserving, key areas of biodiversity within the Ghats will help ensure that more of its flora and fauna are protected.



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Conclusion

- India's National Wildlife Action Plan 2002-2016 focuses on strengthening and enhancing this protected area network, and recognises the importance of local community participation in protected area management.
- A fine balance between conservation, preservation and development is required to prevent the damage to this ecosystem.

THANK
YOU

