



## Explainers

## Rescue Western Ghats before it's too late

*A study in Karnataka, Kerala and Tamil Nadu showed that between 1920 and 1990, about 40% of the original vegetation of the Western Ghats was lost or converted to another form of land use.*

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A view of the Western Ghats Photo | Express

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**CHENNAI:** The Western Ghats are second only to the Eastern Himalaya as a treasure trove of biological diversity in India. It stretches to a length of 1,490 km from Tapi Valley in the north to Kanniyakumari in the south with an area of approximately 1,29,037 sq km.

This majestic hill range influences rainfall patterns as it forces the moisture laden winds coming off the Arabian Sea to rise and receive in consequence heavy precipitation of 2,000 mm or more a year. To the leeward side of the

Ghats is a region of rain shadow. The eastern slopes of the Ghats are much drier than the Western face.

Given this rainfall regime, the western slopes of the Ghats have a natural cover of evergreen forest, which changes to moist and then dry deciduous types as one comes to the eastern slopes. The vegetation reaches its highest diversity towards the southern tip in Kerala with its high statured, rich tropical rain forests. These forests are the water tower of Peninsular India and many life-giving rivers originate here. However, this hill chain of the Western Ghats that evolved and sustained over centuries is in peril today due to human pressure and plundering in the form of mining and quarrying.

The deadliest Wayanad landslides, which claimed over 300 lives so far, is a stark reminder of the inaction of Western Ghats states – Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala – in giving adequate protection and declaring the Ecologically Sensitive Areas (ESA), a proposal that is gathering dust for 13 years now.

The states have clearly prioritised ‘unscientific and unregulated’ development over ecological protection without a proper risk assessment. In fact, just a week prior to the Wayanad landslide, junior environment minister Kirti Vardhan Singh responding to a query by Congress MP Kodikunnil Su  Open in App the Lok Sabha on the environment fragility in Kerala, said the state did not have a specific study on environmental degradation and fragility.

“As per the information received from the Government of Kerala, no specific scientific study has been conducted concerning the environmental degradation and fragility, resulting in incessant flash floods, landslides and silting of top soil, causing increased vulnerability of the soil and making it fragile. However, as part of the revised State Action Plan on Climate Change 2023–2030 (SAPCC 2023–2030), composite climate change vulnerability profiles were developed for the State and sector-specific vulnerabilities were assessed to measure systemic preparedness,” the minister said.

Eminent ecologist Madhav Gadgil, chairman, Western Ghats Ecology Expert Panel, who recommended in 2011 to cover 75% of the 1,29,037 sq km mountain range under the ESA, likens the Western Ghats to a charming maiden; Agastyamalai is her head, Annamalai and Nilgiri the breasts, her hips the broad ranges of Kanara and Goa, her legs the northern Sahyadris. “Once the lady was adorned by a sari of rich green hues; today her mantle lies in shreds and tatters. It has been torn asunder by the greed of the elite and


gnawed at by the poor, striving to eke out a subsistence. This is a great tragedy for this hill range which is the backbone of the ecology and economy of south India.”

## Today Wayanad, tomorrow Nilgiris

Experts say today it's Wayanad and tomorrow it can be another hill station, like Ooty or Coonoor in Nilgiris in Tamil Nadu, which are equally built upon heavily, considering the climate extremes.

The Nilgiris district in the Western Ghats is one of the severe to high landslide hazard areas in India. In 2020, researchers from Vellore Institute of Technology collected data on landslides in the Nilgiris from 1824 to 2014 and a spatial database was created. The years 1902, 1978, 1979, 1993, 2001, 2006 and 2009 are notable years for landslides in the history of The Nilgiris district.

The worst was in 2009, which saw 1,150 landslide occurrences. Heavy rains triggered a series of landslides in The Nilgiris regions of Ooty, Coonoor and Kotagiri. On November 10, 42 people died within 48 hours.

Landslide hazard assessment is an important measurement of risk management and land use planning for areas prone to landslides. The landslide susceptibility map was first produced in India on a regional scale for the district of Nilgiris. Experts say there is a need for fresh geological surveys by agencies like GSI to come up with better predictions on landslides.  Open in App

## Will states agree on ESA?

All hope is not lost. After dilly-dallying for 13 years on the declaration of ESA for Western Ghats due to resistance from states like Kerala, Karnataka and Goa, the Union government issued the sixth draft notification just days after the Wayanad landslide tragedy, putting onus on states to reach a consensus.

The latest and final notification issued on July 31 was made public on Friday. Interestingly, for the first time, the notification says the ESA would be notified in a phased manner either state-wise or through a combination of single notifications on or after expiry of a period of 60 days. This means the ESA can be notified in individual states without waiting for all six states to agree.

## Why Western Ghats need protection

Nearly 4,000 species of flowering plants or about 27% of the country's total species are known from the Ghats

Of 645 species of evergreen trees, about 56% is endemic to the Ghats

Among the lower plant groups, the diversity of bryophytes is impressive with 850-1,000 species; of these 682 species are mosses with 28% endemics and 280 species are liverworts with 43% endemics

Among the invertebrate groups, about 350 (20% endemic) species of ants, 330 (11% endemic) species of butterflies, 174 (40% endemic) species of odonates (dragonflies and damselflies), and 269 (76% endemic) species of mollusks (land snails) have been described from this region

The known fish fauna of the Ghats is 288 species with 41% of these being endemic to the region. The Western Ghats are particularly notable for its amphibian fauna with about 220 species, of which 78% are endemic

Similarly, the Ghats are unique in its caecilian diversity harbouring 16 of the country's 20 known species, with all 16 species being endemic

Of the 225 described species of reptiles, 62% are endemic; special mention must be made of the primitively burrowing snakes of the family Uroelapidae that are mostly restricted to the southern hills of the Western Ghats

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## Timeline

2010: The Madhav Gadgil Committee submits its report to the Ministry of Environment and Forests (MoEF). The report recommended that the entire Western Ghats be classified as an Ecologically Sensitive Area (ESA) with specific zones identified for varying levels of protection

2011: MoEF begins reviewing the recommendations. Report faced mixed reactions from stakeholders

2012: The Kasturirangan Committee constituted to revise the Gadgil report to address concerns and balance conservation with development needs

2013: The Kasturirangan report recommends 37% of the Western Ghats to be designated as Ecologically Sensitive Areas. Kerala demarcated ESA by physical verification. The ESA recommended by Kerala was 9,993.70 sq km, compared to 13,108 sq km recommended by the High-level Working Group

2014: MoEF published the first draft notification

2015: Second draft notification issued incorporating some changes suggested by states

2016-2022: Centre issues three more draft notifications. The fifth was in 2022. Govt forms panel to re-examine the suggestions of 6 states in a holistic manner keeping in view the conservation aspects of the disaster prone ecosystem

2023: The committee continues to address the issues raised by the states on discrepancies on information gaps in the draft notification of 2022, on the correct names and area of villages to be included in the ESA

2024: Wayanad landslides happen on July 30 and on July 31, the Centre comes up with the sixth and final notification

### **What is prohibited regulation & allowed in ESA**

**Prohibited:** All kinds of mining activities New thermal power projects and expansion of existing plants All new red category industries as specified by CPCB Building, construction, township and area development project above threshold limit

**Regulated:** Hydropower projects Orange and white category industries  Open in App

**Allowed:** There will be no displacement or dislocation of the local people living in habitations within the ESA demarcated and practicing of agriculture and plantation activity shall also not be affected due to the provisions contained in the draft notification