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## Over 90,000 sq km of Western Ghats ecologically fragile: IISc analysis

T V Ramachandra noted that the study's importance was in going to the grid level to highlight the village-wise sensitivity



Chiranjevi Kulkarni, DHNS, Bengaluru, JUL 13 2023, 22:23 IST | UPDATED: JUL 14 2023, 22:11 IST



Western Ghats. Credit: DH Photo

A whopping 63148 sq km of the Western Ghats has been classified as very highly ecologically fragile and another 27646 sq km is highly ecologically fragile, according to a new study by the Indian Institute of Science researchers who have developed digital resource system to visualise the sensitive regions at disaggregated (village/grid) levels.

T V Ramachandra and five researchers have developed the Western Ghats Spatial Decision Support System (WGSDSS) as part of the ongoing ecological research in the ghats. The results of the spatiotemporal analysis of land use change show that the pristine forests have suffered "irreparable damage" between 2005 and 2018.

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The researchers mapped the vulnerability and classified the 1.6 lakh sq km of the ghats in six states into four ecologically sensitive regions (ESR): very higher ecological fragility (63148 sq km), high ecological fragility (27646 sq km), moderate ecological fragility (48490 sq km) and low ecological fragility (20716 sq km).

T V Ramachandra noted that the study's importance was in going to the grid level to highlight the village-wise sensitivity. "The comparison of the ghats in 2005 and 2018 paints a worrying picture. The WGSDSS has been developed to empower the people with knowledge of the resources they have lost," he said.

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The delineation of the ESR by integrating biological, geological, climatic, ecological and environmental and social variables is aimed at evolving conservation strategies and implementing mitigation measures to save the ghats.

Compared to 2005 data, only 25 per cent of the forest landmass remained contiguous by the end of 2018 as development projects have led to large scale fragmentation. About 5 per cent of the evergreen forest cover has been lost while the built up cover has gone up by 4.5 per cent and area under agriculture by 9 per cent.

The researchers have conducted a grid-wise analysis of the ghats to map the vulnerability at the village level. This showed that 755 grids (32 per cent) were highly fragile with another 373 (16 per cent) at the risk of joining that group. The remaining 789 (34 per cent) and 412 (18 per cent) were moderate and low fragile areas, respectively.

The professor noted the importance of the system for the local governments. "As per the Biodiversity Act which mandates that each panchayat is supposed to have a Biodiversity Management Committee which has the authority to give permission to development projects. The panchayats should take a call depending on the eco-sensitiveness of the villages in their jurisdiction," he said.

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