Climate change: Forests in Western, Eastern Ghats in Tamil Nadu to become thorny deserts in just 25 years

The distribution of thorn forests covering the degraded, dry deciduous euphorbia forest is increasing in the foothills of both Eastern and Western Ghats.

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forests, and degradation of Western and Eastern Ghats into thorn shrubs. That is the future awaiting Tamil Nadu in just 25 years, if no action is taken to mitigate the alarming effects of climate change, warned a study.

According to a draft report prepared by the Centre for Climate Change and Disaster Management (CCCDM), Anna University, titled 'Climate Vulnerability Assessment and Adaptation Plan of Tamil Nadu - Forest Habitat Suitability', the evergreen and deciduous forest areas in Tamil Nadu, mainly in Western and Eastern Ghats, may reduce by 32 per cent and 18 per cent, respectively, by 2050. Simultaneously, the suitability for thorn forests is expected to increase by 71 per cent.

The distribution of thorn forests covering the degraded, dry deciduous euphorbia forest is increasing in the foothills of both Eastern and Western Ghats. This alarming acceleration in degradation is primarily due to high temperature, altered rainfall pattern and prolonged dry spells in post-monsoon season, the report said.

thorn forest will increase to 7,344 sqkm from 4,291 sqkm. That is, the forest area housing evergreen and deciduous forest will be degraded to arid, which supports thorn forest, the study suggests.

According to the forecast, a discernible decline in the habitat suitability distribution for evergreen and deciduous forests is awaiting the Eastern Ghats and Western Ghats. In place of the lush, green forest land, a dystopian thorn forest will emerge, as its habitat suitability expands by 50-60 per cent.

The report clarified that the projected change in habitat suitability for both evergreen and deciduous forests may be due to the warming induced in higher altitude of the Eastern and Western Ghats due to climate change. Those places, which were earlier not optimally suitable for thorn tree species, will become perfect ground for them. “This indicates that the ecosystem is shifting towards a xerophytic adaptation (hot and dry) in the higher altitudes of Tamil Nadu,” it added.

Erode, Tirunelveli and Tirupur show a higher gain of thorn forest with 184 sqkm, 120 sqkm and 100 sqkm, respectively.

These are vast areas that will be lost by evergreen and deciduous forests. Dr Kurian Joseph, director of CCCDM, explained that there are 17 climatic parameters linked to plant life. “Due to climate change, habitat suitability of trees would change. This is due to the combined effects of excess rainfall, drought, intense temperature and others. These are correlated to the plants,” he said.

The report recommended improving soil health by increasing the amount of organic matter in the soil, improving water supply and preventing soil erosion. Also, recommendations have been made to preserve wetlands in mountainous areas, plant trees with multi-layered canopies using local tree species in future afforestation projects, create barriers to stop the spread of fires in fire-prone areas and remove non-native plants that can harm the ecosystem.

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