WILDLIFE & BIODIVERSITY
(https://www.downtoearth.org.in/wildlife-and-biodiversity)

India must protect its rare, unique and endangered plants and trees

A systematic species recovery programme is the need of the hour

By V Sundararaju (https://www.downtoearth.org.in/author/v-sundararaju-118774)
Published: Wednesday 01 July 2020

Syzygium travancoricum, an economically important tree species, is reported to exist with a population size of only 15-20 individuals. Photo: Wikimedia Commons

India is known for its rich biological diversity due to the presence of large numbers of plant and animal species. It is one of the top-ranking, mega-diverse countries of the world.

Our cultural diversity has played a key role in conserving floral and faunal diversity. Having said that, this diversity is now in danger.

Take for instance, trees. In spite of their valuable services to humanity, trees are being ruthlessly destroyed because of developmental projects and increased dependence.

While several species are facing threats from anthropogenic pressure, many are threatened due to invasive alien species and climate change.

It is high time that the state and the central governments come forward for recovery of the rare, endangered and threatened (RET) tree species.

Before taking scientific measures to ensure their conservation and cultivation, it is very much necessary to identify them, assess their natural distribution and study their population status.

Pristine forests have been fragmented because of intense developmental activities over the past few decades. More than 100 tree species of high economic importance have become threatened and critically endangered in the Western Ghats.

Their small population size is considered to be the major threat. It cannot sustain them due to inbreeding and loss of genetic variability. It has become urgent to carry out scientific conservation programmes for recovering these species.

Unless urgent measures are taken to restore critically endangered species, they will become extinct. Species recovery is the process through which the decline of a threatened species is arrested or reversed and threats removed so that the survival of the species in the wild can be ensured.

Many countries have initiated plans to address the resurrection of the RET species. Species recovery programmes have been carried out successfully in the United States, Canada, United Kingdom and Australia.

In the United States, there is special legislation such as the Endangered Species Act, 1973, (ESA) for carrying out species recovery programmes. The Act, that was implemented in 1973,

has provisions for listing the species as 'endangered', developing recovery plans for each species and designating critical habitats.

So far, 47 species have been stabilised through different recovery processes and have been excluded from the recovery programmes. A gradual increase in the population size, habitat restoration and captive breeding or population stabilisation have been achieved through recovery programmes.

Tree species in the Western Ghats

India's 1.34 billion people exert a heavy pressure through encroachment, raising commercial plantations and other developmental activities. Due to anthropogenic activities like excessive harvesting and habitat destruction, many of the economically important tree species are under serious threat.

Syzygium travancoricum, an economically important tree species, is reported to exist with a population size of only 15-20 individuals. Similarly, *Dipterocarpus bourdillonii*, another endangered species has only 14 individuals occurring in three patches in the Kodagu district of Karnataka.

Since tree species require decades for regeneration of the optimum population, if there is lack of regeneration or habitat, their present population cannot be considered healthy.

Increased inbreeding because of limited pollen and seed dispersal flow caused by fragmentation of populations can impact regeneration of the species. In case of *Dysoxylum malabaricum*, an endangered tree species in the Western Ghats, inbreeding between related individuals has caused reduced regeneration.

Hence, if urgent action is not taken to restore the population of these species, they may be irrecoverably lost. In India, recovery programmes for a few plant species have been taken up.

For instance, *Paphiopedilum druryi*, a slipper orchid, has multiplied through tissue culture and has been reintroduced in the Agasthiamalai hill ranges of the southern Western Ghats.

Out of the 387 Indian plants listed under the International Union for Conservation of Nature's Red List, 77 have been enlisted as 'critically endangered', six are 'extinct' and two are 'extinct' in the wild. The IUCN is an international organization working in the field of nature conservation and sustainable use of natural resources.

The 77 critically endangered species can be prioritised for recovery programme and the balance can be taken up subsequently. A systematic species recovery programme is thus

the need of the hour to restore the populations of these species.

While taking earnest measures for conservation and recovery of RET species, collection of data about their population sizes, identification of the specific threats and developing mitigation strategies are to be attempted systematically.

The Vallanadu Black Buck Sanctuary and the Grizzled Giant Squirrel Wildlife Sanctuary in Tamil Nadu; Aghanashini Lion-tailed Macaque Conservation Reserve in Karnataka and Gibbon Sanctuary in Assam have been established for conserving specific taxa.

But, till date, no area has been specifically protected for any single endangered plant species, except for species groups like the Varsey Rhododendron Sanctuary in Sikkim and the Sessa Orchid Sanctuary in Arunachal Pradesh.

Combined and collective efforts are required on the part of the forest department as well as the forest stakeholders.

Promulgation of specific acts and framing of rules and regulations are urgently needed to protect the threatened species by reaching an agreement between the department and the stakeholders.

Documentation of the RET species, their threatened status, surveying all known populations and mapping their locations, identifying the extrinsic and intrinsic factors that drive the species to threatened status and assessing the genetic variability of the species are to be carried out scientifically on war footing.

Based on the above strategies, long-term monitoring programmes are to be developed for assessing the population changes periodically.

वन्य जीव एवं जैव विविधता (https://www.downtoearth.org.in/hindistory/wildlife-biodiversity) से जुड़ी सभी खबरें हिंदी (https://www.downtoearth.org.in/hindistory) में पढ़ें।

Flora (https://www.downtoearth.org.in/tag/flora)

flora and fauna (https://www.downtoearth.org.in/tag/flora-and-fauna)

plants (https://www.downtoearth.org.in/tag/plants)

Trees (https://www.downtoearth.org.in/tag/trees)

Western Ghats (https://www.downtoearth.org.in/tag/western-ghats)

inbreeding (https://www.downtoearth.org.in/tag/inbreeding)

Anthropogenic (https://www.downtoearth.org.in/tag/anthropogenic)

Wildlife & Biodiversity (https://www.downtoearth.org.in/tag/wildlife-biodiversity)

India (https://www.downtoearth.org.in/tag/india)

WILDLIFE & BIODIVERSITY
(https://www.downtoearth.org.in/wildlife-and-biodiversity)

Govt must rethink railway projects in Uttara Kannada

Uttara Kannada is home to not just a diverse number of flora and fauna, but also ancient cultures

By Kunal Sharma, (https://www.downtoearth.org.in/author/kunal-sharma-166353) Abhijit Dutta (https://www.downtoearth.org.in/author/abhijit-dutta-168877)
Published: Friday 19 June 2020

The National Board for Wildlife has given clearances to over 500 projects inside protected areas and eco-sensitive zones since 2014. This includes several linear projects such as roads and railways through protected forests.

Numerous railway projects in the pipeline are expected to have a negative impact on our forests. The doubling of the Katni-Singrauli railway line is one such example: Thirty-three kilometres of the railway line will pass through Chhattisgarh's Sanjay National Park, acting as a barrier against its critical corridor to Madhya Pradesh's Bandhavgarh National Park.

The 175-kilometre-long Akola-Khandwa railway track gauge conversion project is another example. Eighteen kilometres of this track will cut through Maharashtra's Melghat Tiger Reserve, one of India's first. The reserve is home to the critically endangered Forest owlet.

For the Lucknow-Pilibhit gauge conversion project, the track will cut through Uttar Pradesh's Pilibhit Tiger Reserve. The doubling of the Hospet-Vasco railway line will pass through evergreen forests

in Karnataka and Goa.

The Western Ghats are an ecological miracle and a biodiversity hotspot with several endemic flora and fauna. Numerous railway lines, however, crisscross the *ghats* (mountain passes) across Maharashtra.

The Mumbai-Nagpur route cuts through the *ghats* at Igatpuri creating an artificial ecological barrier. Several tracks have been pushed through in Karnataka, Kerala and Maharashtra, including the Mangalore-Bangalore, Kozhikode-Chennai and Mumbai-Pune routes respectively.

With the number of animals dying on Indian tracks increasing every year (https://www.deccanchronicle.com/nation/current-affairs/240719/hyderabad-31-animals-crushed-to-death-on-rail-tracks-every-day.html), another ill-conceived track through the pristine ghats will only contribute to large numbers of dead animals.

The Hubbali-Ankola railway line proposed to pass through the Kali Tiger Reserve and the Bedthi Conservation Reserve is one such project.

Biological diversity in Uttara Kannada

An additional proposal for the expansion of Karnataka's Kaiga power plant (https://www.thenewsminute.com/article/karnataka-activists-may-approach-court-oppose-kaiga-nuclear-plant-expansion-110831) will require around 50 hectares of forest land. This has the potential to destroy the unique landscape of the Uttara Kannada district, which has deep valleys and a thick blanket of 7,000 square kilometres of dense forest area.

It supports a vast diversity of birds and insects. More than 1,741 species of flowering plants, mammals, zoo planktons, reptiles, insects call the Uttara Kannada landscape their home. This section of the *ghats* is also home to the Myristica swamps, an ancient evergreen forest system. More than 50 such swamps were recorded (https://india.mongabay.com/2019/11/why-the-ancient-myristica-swamps-need-more-protection/) in the ghats of the Uttara Kannada district.

Tigers and elephants reportedly traverse from one patch of forest to the other in this area as well. Uttara Kannada also has a number of ancient cultures, including the Lambanis, Gawlis, Medars and the Siddis, a tribe known to have migrated from Africa and settled in this area's forests.

The Hubbali-Ankola railway line will not only dissect this heritage landscape, but also create a barrier between the Kali and Bhadra reserves.

The proposal to lay a 168-km-long railway track by cutting more than 200,000 trees through this fragile land belies all established environmental ethics.

It also begs a question from activists gearing up for the fight against the interests who seek to push for the project no matter what: How did this totally unwarranted and archaic form of development get a go-ahead from our policy makers, even as the ill effects of deforestation are now acknowledged worldwide?

More importantly, at what stage in the quest for development did we lose track of our deep-rooted connections with nature?

Re-thinking the project

Nearly 80 per cent of the proposed railway line passes through the dense forest lands (https://www.downtoearth.org.in/news/study-finds-gaps-in-conservation-efforts-in-western-ghats-63735), according to a media report that cited a site inspection report submitted to the Ministry of Environment, Forest and Climate Change.

The total land required is 995.64 hectares, including 595.64 hectares of forest land, 184.6 hectares of wetland and 190 hectares of dry land, said the report. The proponents of such linear infrastructure projects, however, fail to acknowledge that in addition to trees, an untold number of fauna will also be exterminated.

Even by the lofty standards of the Western Ghats — a globally recognised world heritage site — the patch of forest being discussed about can perhaps be among the most pristine in the entire world.

In its report to the state government, the Indian Institute of Science (IISc) said an extinct frog species (https://www.downtoearth.org.in/news/new-species-of-frog-discovered-in-western-ghats-51892) was rediscovered on the proposed railway stretch and another stretch spreading across the Dharwad, Yellapur and Karwar forest divisions.

The entire stretch is home to more than 29 species of mammals, 256 varieties of birds, eight species of reptiles and 50 species of butterflies.

The ecological importance of the landscape is not in question. The intentions behind destroying this habitat are.

Alternatives to the project

With much of the coastal landscape well connected and the coastal highway exponentially increasing transport alternatives, it is convenient for the government to utilise the rapidly developing Mumbai-Mangalore transport hub, rather than slash the forest.

If the state feels that the march towards development (https://www.downtoearth.org.in/news/western-ghats-at-risk-deforestation-data-drives-home-point-again-64470) will be halted if this project stops, the state and specifically the people in this landscape can be compensated as upstream beneficiaries.

In this case, the state's position of the project linking the west coast to the hinterland for socio-economic development of the north Karnataka region is something that should be praised.

With the rail corridor, the state hopes to transport iron ore and other minerals to the upcoming port at Tadri near Ankola and to ports such as Karwar, Madgaon and Vasco in Goa. This is where the irony is.

There is an existing railway track, 65 km longer and substantially underutilised that connects Hubballi to Madgaon and further to Karwar junction and Ankola.

Additionally, a road network connects Hubballi to the Tadri port via National Highway 52 and has been used for transporting iron ore for years.

There exist several minor roads like the state highway to Kumta, used by the local population without any disruption to their lives. With the proposed rail track planned only for freight traffic, it is unlikely that locals will use this railway network for any time in the foreseeable future.

If completed despite the opposition, the Hubbali-Ankola railway line will only be a white elephant, having devastated a vibrant landscape.

Lessons can be learned from a similar project planned through the Coimbatore-Chamrajnagar landscape in 1922. The project went through several years of revival and rejection, till 1996, when it was finally approved. Years of protests, however, led to the scrapping of the project.

In Coorg, a sustained citizens' protest movement led to the Karnataka High Court halting the Mysore-Kodagu railway project till the Indian Railways sought environment-related clearances.

In yet another development, the state government opened another window after recently constituting a panel to study landslides and form guidelines for the protection of the Western Ghats.

It is hoped the panel studies the Yellapur-Ankola region critically and dissuades the government against taking up any project against the local interests of the region.

The land that is the birthplace of the Appiko movement, where people shrugged their complacency, fought through apathy and struggled to protect their forests. The Hubbali-Ankola railway line must be opposed with reason and science: It should be spearheaded by its own people who should bring forth the legend of the Appiko to stop this devastation.

Views expressed are the author's own and don't necessarily reflect those of Down To Earth.

DownToEarth

Down To Earth is a product of our commitment to make changes in the way we manage our environment, protect health and secure livelihoods and economic security for all. We believe strongly that we can and must do things differently. Our aim is to bring you news, perspectives and knowledge to prepare you to change the world. We believe information is a powerful driver for the new tomorrow.

Quick Links

- India (https://www.downtoearth.org.in/india)
- World (https://www.downtoearth.org.in/world)
- Climate Change (https://www.downtoearth.org.in/climate-change)
- Food (https://www.downtoearth.org.in/food)
- Health (https://www.downtoearth.org.in/health)
- Water (https://www.downtoearth.org.in/water)
- Agriculture (https://www.downtoearth.org.in/agriculture)
- News (https://www.downtoearth.org.in/news)
- In Depth (https://www.downtoearth.org.in/coverage)
- DTE Blogs (https://www.downtoearth.org.in/blog)
- Videos (https://www.downtoearth.org.in/video)
- Photo Gallery (https://www.downtoearth.org.in/gallery)
- Focus Tag (https://www.downtoearth.org.in/focus)
- Publications (https://www.downtoearth.org.in/books)
- About Us (https://www.downtoearth.org.in/page/about-us-50353)
- Author Directory (https://www.downtoearth.org.in/author)
- Blogger Directory (https://www.downtoearth.org.in/blogger)
- Contact Us (https://www.downtoearth.org.in/page/contact-us-50474)
- Privacy Policy (https://www.downtoearth.org.in/page/privacy-policy-58272)
- Terms and Conditions (https://www.downtoearth.org.in/page/terms-and-conditions-58271)
- Refunds & cancellations policy (https://www.downtoearth.org.in/page/refunds-and-cancellations-policy-58534)
- प्रदूषण (https://www.downtoearth.org.in/hindistory/pollution)
- ऊर्जा (https://www.downtoearth.org.in/hindistory/energy)
- जल (https://www.downtoearth.org.in/hindistory/water)
- जलवायु परिवर्तन (https://www.downtoearth.org.in/hindistory/climate-change)
- प्राकृतिक आपदा (https://www.downtoearth.org.in/hindistory/natural-disasters)
- कृषि (https://www.downtoearth.org.in/hindistory/agriculture)
- नदी (https://www.downtoearth.org.in/hindistory/river)
- फूड (https://www.downtoearth.org.in/hindistory/food)
- अर्थव्यवस्था (https://www.downtoearth.org.in/hindistory/economy)
- वन्य जीव एवं जैव विविधता (https://www.downtoearth.org.in/hindistory/wildlife-biodiversity)
- विकास (https://www.downtoearth.org.in/hindistory/development)
- स्वच्छता (https://www.downtoearth.org.in/hindistory/sanitation)
- स्वास्थ्य (https://www.downtoearth.org.in/hindistory/health)

विज्ञान
(https://www.downtoearth.org.in/hindistory/science)
मौसम
(https://www.downtoearth.org.in/hindistory/weather)