

Kerala flood opened the gates to invasive plants

NOVEMBER 18, 2018

Landslides, overflowing rivers helped in spreading them. Floods and landslips that caused widespread havoc all over Kerala in August have also unleashed several alien invasive species of plants into the State's waterbodies, posing a threat to native biodiversity and the aquatic environment, scientists have reported. An ongoing survey of the Kerala Forest Research Institute (KFRI), Peechi, on the impact of the extreme climatic events in the State, has revealed that this might lead to invasive biota being introduced afresh, or being reintroduced in places where the control of their populations was once achieved. The study found that physical routes and paths formed due to landslides and the overflow of rivers had paved the way for the establishment of primary colonies of invasive species like Nila grass (*Mimosa diplotricha*), mikania (*Mikania micrantha*), lantana (*Lantana camara*) and Siam weed (*Chromolaena odorata*). T.K. Hrideek, scientist, Genetics and Tree Breeding, KFRI, told *The Hindu* that the spread of the invasive species could threaten cultivable land and wildlife habitats alike. The survey revealed that invasive species like the water hyacinth (*Eichhornia crassipes*) and giant salvinia (*Salvinia molesta*), present in the backwaters of the Kuttanad region, had started colonising paddy fields, cultivated lands and other isolated water bodies in nearby areas. In Thrissur district's Kole wetlands, notified under the Ramsar Convention, invasive plants, especially grass species, such as matamat (*Rhynchospora corymbosa*), desho grass (*Pennisetum pedicellatum*), giant salvinia and water hyacinth were reportedly establishing a beach-head, using available soil resources. This may lead to the conversion of marshy wetlands into dry land, Dr. Hrideek said. "In many areas of Thrissur, Palakkad, Wayanad and Idukki districts, seeds of invasive species from mountainous areas have spread to new spaces formed by landslips. Hardy invasive species can grow very fast in landslip-affected areas by using available nutrients, while native species cannot adapt to such conditions. Later, this area will be a seed source for many invasive species," explains K. Muraleekrishnan, a research scholar with KFRI. "In rubber plantations, cover crops (species grown mainly to prevent soil erosion) like mucuna (*Mucuna bracteata*), a nitrogen-regulating plant, are more likely to establish themselves in the new areas and subsequently spread into the forests through the corridors created by landslips. This could affect the soil and destroy the microhabitat of that area," he added. Wayanad district, a significant biodiversity



hotspot within the Western Ghats, has been facing a serious threat from senna (*Senna spectabilis*), an invasive tree species, for the past 15 years. “Many tributaries of the Kabini river that were in spate during the floods dispersed senna seeds to new areas,” says Suby, another research scholar at the Institute. Non-native plants are more likely to become invasive when they possess biological traits that are different from those of native flora, which works to their competitive advantage. “Invasive species transform the soil structure and micro environment to their advantage by producing allelochemicals, which, however, cause the destruction of native species and local biodiversity,” Dr. Hrideek said. “The threat [of invasive species] should be addressed in the process of [post-flood] reconstruction in the State,” Dr. Hrideek said. “Elimination of invasive plants is a Herculean task but their spread can be tackled with the active participation of the public.” Invasive species are introduced to native eco-systems by 'global transportation', as ornamental plants or for botanical gardens, either deliberately or inadvertently. alter the environment they invade and are difficult and expensive to control after they colonise a landscape, having phenotypic plasticity (the ability to adapt to environmental stress). Invasive species generally adopt a wide variety of seed dispersal mechanisms, and their seeds are more viable. The Forest Department is highly concerned about the spread of invasive flora, but the time and budget allotted for dealing with them is inadequate. Efforts to manage existing alien species like lantana and eupatorium continue. The Forest Department is conducting a survey to identify the area and density of the spread of invasive species in the Wayanad Wildlife Sanctuary.

SOURCE:-<https://www.thehindu.com/sci-tech/energy-and-environment/kerala-flood-opened-the-gates-to-invasive-plants/article25527457.ece>