

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYASABHA
UNSTARRED QUESTION NO. 1828
TO BE ANSWERED ON 22.12.2022

Forest Restorations

1828. SHRI SYED NASIR HUSSAIN:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) the details on the progress made by Government in its restoration target of 26 million hectares by 2030;
- (b) whether Government has done study for the purpose of identification and availability of land for forest restoration, if so, the details thereof;
- (c) whether there are any definite guidelines or scientifically established norms regarding the selection of areas for restoration, if so, the details thereof; and
- (d) whether Government has performed any local research especially those relating to natural regeneration of various species including ecological aspects that can act as a guiding tool for formulating area-specific restoration approaches and methodologies?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ASHWINI KUMAR CHOUBEY)

- (a) The area of land covered through afforestation under the Twenty Point Programme during the period 2011-12 to 2021-22 is approximately 18.94 million hectares. Ministry of Environment, Forest & Climate Change has constituted an inter-ministerial committee to co-ordinate, monitor and review the progress of ongoing schemes of land restoration.
- (b)&(c) Desertification and Land Degradation Atlas of India, published by Space Applications Centre, Indian Space Research Organisation, Ahmedabad, states that the land degradation and desertification in the country has been estimated to be 97.84 million hectares in 2018-19. Besides, Forest Survey of India, an organization under MoEFCC has carried out a decadal study of changes in forest cover between ISFR 2011 and ISFR 2021 to identify areas where high density forest has been converted into lower density classes like Open forest, Scrub and Non forest. Further, in consonance with the National Forest Policy (NFP), 1988 which has been the guiding document for forest management, land identified under the above studies are targeted for restoration under various schemes/programmes implemented by the Centre and State Governments.
- (d) Many research institutes/organisations under the aegis of the Ministry like Indian Council of Forestry Research and Education (ICFRE), Indian Plywood Industries Research and Training Institute (IPIRTI), Forest Survey of India (FSI), etc. have been involved continuously in undertaking survey of forest resources and research

studies relating to development of forestry sector. These studies also include natural regeneration of various species including ecological aspects that can act as a guiding tool for formulating area-specific restoration approaches and methodologies. Some of the examples of the studies undertaken by ICFRE are given in Annexure.

Further, studies and researches are also being undertaken by many other agencies of the Centre and State governments, including forest departments, forest corporations, remote sensing agencies etc., the findings/outcomes of which are also supplementing need based development of forests.

Annexure

Annexure referred to in reply to part (d) of the Rajya Sabha Un-Starred Question No. 1828 due for reply on 22.12.2022 by Shri Syed Nasir Hussain regarding 'Forest Restorations'.

An example of List of studies undertaken by ICFRE relating to natural regeneration of various species including ecological aspects

1. Data on regeneration status of many tree species in different degraded areas are being collected in CAMPA-FGR programme by the institutes of ICFRE.
2. **Eco-biology of endemic plants:** Five endemic plants *Eugenia singampattiana*, *Phyllanthus singampattianus*, *Palaquiumbour dillonii*, *Syzygium beddomei* and *Soneriela kanyakumariayana* were studied in Kalakad Mundanthurai Tiger Reserve, Tamil Nadu. The population, associations, distribution status and phenophases were recorded. The findings were communicated to Tamil Nadu State Forest Department so as to make use of them in biodiversity management and species recovery programmes.
3. **Study on Population structure and reproduction of mangrove species *Bruguiera* and *Ceriops*:** A survey of these species was done in the east and west coasts by IFGTB, Coimbatore. Furthermore, an inventory of associated species and the insect pollinators were made from mangrove forests of these areas.
4. **Study on quantifying resilience patterns in *Rhizophora* with reference to hyper salinity (IFGTB, Coimbatore) :** The study revealed that *Rhizophora mucronata* is found adapted to hyper and hypo-saline zones, while *R. apiculata* is largely restrictive to hypo-saline zone.
5. **Restoration of degraded land ecosystems (IFGTB, Coimbatore):** Site specific regeneration and augmentation plan for potential degraded areas were developed for the certain areas of the Western Ghats. The findings of the study were utilized for suggesting suitable plant species for eco-restoration in different reclamation and rehabilitation plans prepared for different mines in Karnataka. Four experimental trial sites were established with selected pioneer species at Siruvani, Panthanthode, Thathengalam and Pudur in Attapady Reserve Forest, Kerala. The output of the study serves as training material for SFS and Range Forest officers from various states.
6. **Restoration of shola-grassland ecosystems (IFGTB, Coimbatore):** Under a project funded by Hill Area Development Program, restoration of shola species was carried out in the Nilgiris. The study identified seed sources of 15 shola species in the Nilgiris and recorded the flowering and fruiting phenology. Seed handling techniques and nursery raising were also standardized.

Beneficial microbes isolated from the shola forests were multiplied and inoculated to seedlings in the nursery. Two shola restoration trials were established in the Nilgiris deploying different shola species like *Berberis tinctoria*, *Turpiniaco chinsinensis*, *Nothapodytes nimmoniana*, *Rhododendron nilagiricum*, *Michelia nilagirica*, *Photini anotoniana*, *Elaeocarpus oblongus*, *Viburnum erubescens*, *Syzygium cumini*, *Syzygium arnotianum*, *Syzygium montanum*, *Daphniphyllum neilgherrense* and *Hydnocarpus alpina*.

