

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION No.3494**  
TO BE ANSWERED ON 20.12.2021

**Biodiversity Hotspots in NER**

3494. SHRI VISHNU DAYAL RAM:

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

- (a) the data on the biodiversity hotspots in the North East Region (NER);
- (b) whether the Government has special programmes for the conservation of biodiversity in NER;
- (c) if so, details thereof; and
- (d) the details of the funds allocated for the conservation of biodiversity in NER during the last three years?

**ANSWER**

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

- (a) to (d) The North East Region of India comprising two biodiversity hotspots, namely Indo-Burma and the Himalaya hotspots. The Indo-Burma biodiversity hotspot includes entire North-eastern India, excluding Assam. The details of data on biodiversity in NER are as below:
- (i) The North East Region contains more than one-third of the country's total biodiversity.
  - (ii) With over 7,500 species of flowering plants like 700 orchids, 58 bamboos, 64 citrus, 28 conifers, 500 mosses, 700 ferns, and 728 lichen species.
  - (iii) Of the estimated, out of 800 species that are consumed as edible plants in India, nearly 300 species are found in the NER.
  - (iv) Diversity of *Orchidaceae* in the region is more than 57% of total orchids available in India.
  - (v) In genus *Rhododendron* (family *Ericaceae*), 98% of India's species are available in the region.
  - (vi) Rattan, which is commonly known as cane, has over 26 species out of total 60 species in India and the region has majority of bamboo species
  - (vii) NER has 16 species of cereals and millets, 6 species of legumes, 51 Fruits species), 27 Vegetables species, 01 Oilseed species, 05 Fibers species, 13 Spices and condiments species and 13 miscellaneous species of the total species diversity of 132 species.
  - (viii) The region comprises of 16 National Parks, 52 Wildlife Sanctuary and 194 Community Reserve, which also includes 7 Tiger Reserve, 10 Elephant Reserve, 4 Biosphere Reserve and 3 Ramsar Sites.

The details of special programmes for conservation of Biodiversity in North East region during the last three years are at **Annexure**.

ANNEXURE REFERRED IN REPLY TO THE LOK SABHA UNSTARRED QUESTION NO. 3494 DUE FOR ANSWER ON 20.12.2021 REGARDING "BIODIVERSITY HOTSPOTS IN NER" RAISED BY SHRI VISHNU DAYAL RAM, HON'BLE MEMBER OF PARLIAMENT

**Annexure**

(i) The details of projects undertaken by Rain Forest Research Institute (RFRI), Jorhat on conservation of Biodiversity in North East Region from 2018 onwards:-

S. No.	TITLE OF THE PROJECT	Budget outlay (Rs. in lakhs)	Remarks
1.	REDD-plus Himalayas: Developing and Using Experience in Implementing REDD-plus in the Himalayas (PILOT PROJECT IN MIZORAM) <b>Funding Agency:</b> ICIMOD	60.11	Concluded in December, 2018
2.	Identification of suitable clones of <i>Populus</i> species for Northeast India through genetic evaluation.  <b>Funding Agency:</b> ICFRE	29.37	Concluded in March, 2019
3.	Performance evaluation of native plant growth promoting rhizobacteria for crop productivity enhancement in <i>jhum</i> fields of Nagaland <b>Funding Agency:</b> ICFRE	5.50	Concluded in March, 2019
4.	Assessment, Documentation and Characterization of Lichen diversity of Tripura, North – East India. <b>Funding Agency:</b> ICFRE	8.89	Concluded in March, 2020
5.	Micropropagation of rare and endangered species of orchids of Mizoram and their re-introduction in wild. <b>Funding Agency:</b> ICFRE	15.68	Concluded in March, 2020
6.	Exploration and utilization of wild mushroom diversity in Mizoram. <b>Funding Agency:</b> ICFRE	10.70	Concluded in March, 2020
7.	Phyto-diversity and carbon stock assessment of Trees Outside Forests in Upper Assam using Remote Sensing and GIS. <b>Funding Agency:</b> ICFRE	26.57	Concluded in March, 2020
8.	Preparation of People's Bio-Diversity Register for different blocks in Tripura <b>Funding Agency:</b> Tripura Biodiversity Board	2.00	Concluded in March, 2020
9.	Taxonomic study of Tettigonidae (Orthoptera) of India <b>Funding Agency:</b> MoEF&CC under All India Coordinated Project on Taxonomy (AICOPTAX)	9.82	Concluded in April, 2020.

10.	Medicinal Plants and Herbs: Study on its uses amongst the Tribal Communities of Tripura. <b>Funding Agency:</b> Tribal Research and Cultural Institute, Dept. of Tribal Welfare, Govt of Tripura.	3.00	Concluded in October 2020
11.	Undertaking NDF study on agarwood species in India. <b>Funding Agency:</b> MoEF&CC	13.24	Concluded in December, 2020
12.	Development of allometric models for estimating volume and aboveground biomass for important tree species outside the forest (TOF) in Assam. <b>Funding Agency:</b> ICFRE	8.43	Concluded in March, 2021
13.	Studies on natural regeneration, diversity and distribution of soil seed banks and their relationship with above ground vegetation in watershed of scared Khecheopalri Lake of Sikkim. <b>Funding Agency:</b> National Mission of Himalayan Studies (NMHS)	15.71	Concluded in March, 2021
14.	Estimation of species wise Bamboo Resources and Assessment of their utilization pattern in Mokokchung district of Nagaland, India. <b>Funding Agency:</b> National Mission of Himalayan Studies (NMHS)	12.08	Concluded in March, 2021
15.	Documentation of the traditional ecological knowledge (TEK) and quantification of medicinal plants used by the Karbi tribe of Karbi Anglong hill district of Assam. <b>Funding Agency:</b> National Mission of Himalayan Studies (NMHS)	12.08	Concluded in March, 2021
16.	Development of regression models, volume, biomass and carbon tables for <i>Quercusserrata</i> & <i>Pinuskesiya</i> in Manipur State. <b>Duration:</b> 2019-21 <b>Funding Agency:</b> SFD, Manipur	3.85	Concluded in March, 2021.
17.	Reclamation of coal mined land of North Eastern Coalfields, Assam through soil amendment and revegetation with native plant species using integrated biological approach. <b>Funding Agency:</b> Central Mine Planning & Design Institute Limited (CMPDI), Ranchi, Jharkhand.	83.18	Concluded in September, 2021
18.	AICP programme for Genetic Improvement of <i>Melia</i> (Under AICP on <i>Melia</i> )  <b>Duration:</b> 10 years (2012-22) <b>Funding Agency:</b> ICFRE	107.00	Ongoing
19.	Co-ordinated Research Programme on Agar ( <i>Aquilariamalaccensis</i> Lamk.) <b>Duration:</b> 10 years (2017-27)	153.43	Ongoing

	<b>Funding Agency:</b> ICFRE		
20.	Conservation and Evaluation of Bamboo Genetic Resources in Northeast India <b>Duration:</b> 10 years (2017-27) <b>Funding Agency:</b> ICFRE	95.08	Ongoing
21.	Utilization of Ectomycorrhizal diversity for the quality stock production of Junipers, Oak and Chestnut in Sikkim, India. <b>Duration:</b> 3 years + 1 year extension (2018-22) <b>Funding Agency:</b> ICFRE	14.95	Ongoing
22.	Genetic improvement of <i>Parkiaroxburghii</i> <b>Duration:</b> 3 years (2019-22) <b>Funding Agency:</b> ICFRE	24.58	Ongoing
23.	Genetic diversity of plant growth promotorydiazotrophs and fluorescent pseudomonads associated with traditionally distinct mountain agroecosystems of Nagaland. <b>Duration:</b> 2 years (2020-22) <b>Funding Agency:</b> ICFRE	22.42	Ongoing
24.	Assessment of population structure and regeneration status of <i>Magnolia gustavi</i> King. -A criticallyendangered tree species of Assam. <b>Duration:</b> 3 years (2021-24) <b>Funding Agency:</b> ICFRE	18.14	Ongoing
25.	Creation of North-East Indian Zingiberales biodiversity garden (Gene Bank) in RFRI. <b>Duration:</b> 5 years (2017-22) <b>Funding Agency:</b> National Medicinal Plants Board (NMPB)	18.87	Ongoing
26.	Exploration, identification of genetic resources and strategies for sustainable management of <i>Paris polyphylla</i> in Arunachal Pradesh, Manipur, Mizoram and Nagaland in Northeast India <b>Duration:</b> 3 years (2018-21) <b>Funding Agency:</b> National Medicinal Plant Board, AYUSH, Govt. of India	26.44	Ongoing
27.	Restoration of orchid flora of Makum Coalfield areas of Digboi Forest Division. <b>Duration:</b> 3 years (2019-22) <b>Funding Agency:</b> Central Mine Planning &Design Institute Limited (CMPDI), Ranchi, Jharkhand.	45.14	Ongoing
28.	Genome wide and geospatial approaches for enhancing the adaptive potential of threatened rattan resources of India. <b>Duration:</b> 3 years (2019-22) <b>Funding Agency:</b> DBT	25.59	Ongoing

29.	Improving the traditional homestead to a viable agro-forestry system for biodiversity conservation and inclusive growth of Khampti tribe of Namsai District, Arunachal Pradesh. <b>Duration:</b> 3 years (2019-22) <b>Funding Agency:</b> National Mission of Himalayan Studies (NMHS)	41.20	Ongoing
30.	Assessment of socio-ecological vulnerability to climate change among agroforestry managers along an altitude gradient in the Eastern Himalayas. <b>Duration:</b> 2 years (2020-22) <b>Funding Agency:</b> DST, Govt. of India	31.06	Ongoing
31.	Establishment of micro/medium processing units for bamboo product development and processing. <b>Duration:</b> 2020-21 <b>Funding Agency:</b> NBM	90.00	Ongoing
32.	Identification of genetically superior germplasm of priority bamboo species of Mizoram. <b>Duration:</b> 3 years 2021-2024 <b>Funding Agency:</b> Mizoram Horticulture Department <b>Project Code:</b> RFRI/ 2021-22/FRCBR/MHD-1	25.00	Ongoing
33.	Evaluation of Contribution of NTFP in Tripura's Economy. <b>Duration:</b> 2021(July)-2022 <b>Funding Agency:</b> NTFP Centre of Excellence-Tripura	11.50	Ongoing

(ii) Funds released to the North Eastern states by NBA during the last five years (Rs. in crore):-

S. No.	States	Funds released			Total funds released
		Strengthening of SBB	Constitution of BMC & documentation of PBRs	Access and Benefit Sharing component shared with beneficiaries	
1	Arunachal Pradesh	1.1697	1.7065	0	2.8762
2	Assam	0.9988	0.3540	0.0073966	1.3528
3	Manipur	0.5745	0.8785	0	1.453
4	Meghalaya	1.0555	0.1610	0.0087128	1.2165
5	Mizoram	0.7562	0.6360	0	1.3922
6	Nagaland	1.2093	1.6880	0	2.8973
7	Sikkim	0.5472	0	0	0.5472
8	Tripura	0.7185	3.4379	0	4.1564
	<b>Total</b>	<b>7.0297</b>	<b>8.8619</b>	<b>0.016109</b>	<b>15.8916</b>

(iii) The details of the funds released to North East Regions under Centrally Sponsored Scheme “Project Elephant” during the last three years are given below:

(Rs.in Lakhs)

S. No.	State/ UTs	2018-19	2019-20	2020-21
1.	Arunachal Pradesh	0.00	103.26831	282.256
2.	Assam	354.35103	0.00	35.284
3.	Meghalaya	217.8792	177.8976	9.36
4.	Nagaland	141.219	213.9498	92.50
5.	Tripura	43.92	45.38	24.71
6.	Manipur	9.072	10.944	0.00
	<b>Total</b>	<b>766.44123</b>	<b>551.43971</b>	<b>444.11</b>

(iv) Funds sanctioned and released under National Plan for Conservation of Aquatic ecosystems (NPCA) scheme in the last three years are as given below.

Financial Year	Amount (Rs. in Crore)
2018-19	8.18
2019-20	14.48
2020-21	11.20

(v) The details of funds allocated to ZSI for the conservation of biodiversity in the North East region are as below:-

S. No.	Activities	Fund allocated (Rs. in lakhs)
1.	Assessment of Moths (Lepidoptera) as significant pollinator in Eastern Himalayas.	Rs.93.65
2.	Biodiversity Assessment through Long Term Monitoring Plots in India Himalayan Landscape.	Rs.171.86
3.	Lipidoptera (Insecta) as potential Indicator-taxa for Tracking Climate Change in the Indian Himalayan Landscape.	Rs.239.22
4.	Conservation of threatened vertebrate fauna in Indian Himalayan region through long term monitoring and capacity building	Rs.995.06
5.	Understanding the impact of forest fire on faunal resources of north eastern states for conservation and management.	Rs.99.68

(vi) The details of fund released under Project Tiger during last three years is as under:

(Rs. in lakhs)

S. No.	States	2018-19	2019-20	2020-21
1.	Assam	1919.62	2198.76	2513.9
2.	Arunachal Pradesh	929.76	846.31	803.76
3.	Mizoram	318.84	337.7	161.53
4.	Nagaland	24.86	0.00	0.0
	<b>Total</b>	<b>3193.08</b>	<b>3382.77</b>	<b>3479.19</b>

(vii) Details of funds released to North East States for Development of wildlife Habitats during last three years are as below:-

(Rs.in lakh)

S. No	Name of States/UTs	2018-19	2019-20	2020-21
1.	Arunachal Pradesh	344.42	512.69	312.59
2.	Assam	265.32	164.26	0
3.	Manipur	405.60	396.45	241.12
4.	Meghalaya	312.00	238.83	263.50
5.	Mizoram	430.00	431.79	339.61
6.	Sikkim	394.00	557.35	349.63
7.	Tripura	0	90.31	260.68
8.	Total	2151.34	2391.68	1767.13

(viii) The details of the funds allocated for the conservation of biodiversity in the North East region for the last three years in respect of Biosphere Reserve Scheme are as below:-

(Rs. in lakhs)

Sl. No.	Name of State (NE)	2018-19	2019-20	2020-21	Total Amount
1	Arunachal Pradesh	00	00	85.04	85.04
2	Assam	00	80.952	92.77	173.722
3	Meghalaya	136.323	00	155.53	291.853
4	Sikkim	205.825	00	137.214	343.039

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