

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
STARRED QUESTION NO: 199*
TO BE ANSWERED ON 16.12.2021

Impact of climate change on forests

199. SHRI NARAIN DASS GUPTA:

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

- (a) the extent of land covered by forest at present in the country, State-wise details thereof;
- (b) the extent of forest land erosion from rains and floods due to climate changes in the country;
- (c) whether any monetary compensation has been provided to States by Government;
- (d) if so, the amount of money provided; and
- (e) if not, the reasons therefor?

ANSWER

MINISTER FOR ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI BHUPENDER YADAV)

- (a) to (e) The statement is laid on the table of the House.

Statement refer to in reply to part (a) to (e) of Rajya Sabha Starred Question No. 199 due for reply on 16.12.2021 regarding 'Impact of climate change on forests' by Shri Narain Dass Gupta.

- (a) Forest Survey of India (FSI), Dehradun, an organization under the Ministry carries out the assessment of forest cover of the country biennially since 1987 and the findings are published in India State of Forest Report (ISFR). As per ISFR 2019, the total forest cover of the country is 7,12,249 square kilometers which is 21.67% of the geographical area of the country. The State and Union Territory wise details are given at **Annexure-I**.
- (b) Climate Change impact studies have been undertaken and reported as part of various government reports, including India's national communications to the United Nations Framework Convention on Climate Change. However, the extent of forest land erosion from rains and floods due to climate changes in the country have not been assessed.

The Government is implementing National Action Plan on Climate Change (NAPCC) which provides an overarching policy framework for climate actions in the country with eight Missions- (i) National Solar Mission (ii) National Mission on Enhanced Energy Efficiency (iii) National Water Mission (iv) National Mission on sustainable Habitat (v) National mission on Sustaining Himalayan Ecosystem (vi) National Green India Mission (vii) National Mission on Sustainable Agriculture and (viii) National Mission on Strategic Knowledge on Climate Change. These Missions supplement and complement each other, are mutually reinforcing and thereby address the climate change concerns in the country.

Climate actions at the state level are based on the State Action Plans on Climate Change (SAPCC). Thirty-three States/Union Territories have prepared their SAPCC in line with NAPCC taking into account state specific issues relating to climate change. These SAPCCs inter-alia outline sector specific and cross sectoral priority climate actions. The Government is also implementing National Adaptation Fund for Climate Change (NAFCC) to support adaptation measures of States/UTs in areas that are particularly vulnerable to the adverse impacts of Climate change.

- (c) to (e) For protecting, restoring and enhancing India's forest cover and responding to Climate Change by means of plantation activities in the forest and non-forest areas, afforestation and tree plantation activities are undertaken by States and Union Territories Governments under various State schemes. The Ministry provides financial assistance to States and Union Territories Governments under various Centrally Sponsored Schemes including, inter alia, National Afforestation Programme, Green India Mission to support and supplement the efforts of States and Union Territories. Afforestation activities are also taken up under various programmes/schemes such as Mahatma Gandhi National Rural Employment Guarantee Scheme, Compensatory Afforestation Funds under Compensatory Afforestation Fund Management and Planning Authority (CAMPA). These initiatives also help in conservation of very dense forests and moderately dense forests as well as to increase forest and tree cover.

The Ministry of Agriculture and Farmers Welfare is also implementing the National Agroforestry Policy (NAP) since 2014. Further, the 15th Finance Commission has assigned 10% weight to forest and ecology in its horizontal devolution criteria and weights.

The State /UT-wise details of fund released under National Afforestation Programme, Green India Mission and Compensatory Afforestation Funds for the last three years are given in Annexure-**II, III and IV**.

The multi-departmental efforts have yielded good results in conserving and developing forest and tree cover as evident from the fact that the Forest and Tree cover as reported in the latest India State of Forest Report (ISFR) 2019 has increased by 13,209 sq km as compared to that of ISFR 2015 assessment.

Annexure-I

Annexure referred to in reply to part (a) of the Rajya Sabha Starred Question No. 199 due for answer on 16.12.2021 regarding 'Impact of climate change on forests'.

Forest Cover in the States/UTs in India as per ISFR 2019

(Area in sq km)

| Sl. No. | State/UT | Geographical Area (GA) | Total Forest Cover | Percent of Geographic area |
|---------|----------------------|------------------------|--------------------|----------------------------|
| 1 | Andhra Pradesh | 1,62,968 | 29,137 | 17.88 |
| 2 | Arunachal Pradesh | 83,743 | 66,688 | 79.63 |
| 3 | Assam | 78,438 | 28,327 | 36.11 |
| 4 | Bihar | 94,163 | 7,306 | 7.76 |
| 5 | Chhattisgarh | 1,35,192 | 55,611 | 41.13 |
| 6 | Delhi | 1,483 | 195.44 | 13.18 |
| 7 | Goa | 3,702 | 2,237 | 60.43 |
| 8 | Gujarat | 1,96,244 | 14,857 | 7.57 |
| 9 | Haryana | 44,212 | 1,602 | 3.62 |
| 10 | Himachal Pradesh | 55,673 | 15,434 | 27.72 |
| 11 | Jammu & Kashmir * | 2,22,236 | 23,612 | 10.62 |
| 12 | Jharkhand | 79,716 | 23,611 | 29.62 |
| 13 | Karnataka | 1,91,791 | 38,575 | 20.11 |
| 14 | Kerala | 38,852 | 21,144 | 54.42 |
| 15 | Madhya Pradesh | 3,08,252 | 77,482 | 25.14 |
| 16 | Maharashtra | 3,07,713 | 50,778 | 16.50 |
| 17 | Manipur | 22,327 | 16,847 | 75.46 |
| 18 | Meghalaya | 22,429 | 17,119 | 76.33 |
| 19 | Mizoram | 21,081 | 18,006 | 85.41 |
| 20 | Nagaland | 16,579 | 12,486 | 75.31 |
| 21 | Odisha | 1,55,707 | 51,619 | 33.15 |
| 22 | Punjab | 50,362 | 1,849 | 3.67 |
| 23 | Rajasthan | 3,42,239 | 16,630 | 4.86 |
| 24 | Sikkim | 7,096 | 3,342 | 47.10 |
| 25 | Tamil Nadu | 1,30,060 | 26,364 | 20.27 |
| 26 | Telangana | 1,12,077 | 20,582 | 18.36 |
| 27 | Tripura | 10,486 | 7,726 | 73.68 |
| 28 | Uttar Pradesh | 2,40,928 | 14,806 | 6.15 |
| 29 | Uttarakhand | 53,483 | 24,303 | 45.44 |
| 30 | West Bengal | 88,752 | 16,902 | 19.04 |
| 31 | A & N Islands | 8,249 | 6,743 | 81.74 |
| 32 | Chandigarh | 114 | 22.03 | 19.32 |
| 33 | Dadra & Nagar Haveli | 491 | 207 | 42.16 |
| 34 | Daman & Diu | 111 | 20.49 | 18.46 |
| 35 | Lakshadweep | 30 | 27.10 | 90.33 |
| 36 | Puducherry | 490 | 52.41 | 10.70 |
| | Total | 32,87,469 | 7,12,249 | 21.67 |

* Includes Jammu & Kashmir area outside LoC that is under illegal occupation of Pakistan and China.

Annexure II

Annexure referred to in reply to part (d) of the Rajya Sabha Starred Question No. 199 due for answer on 16.12.2021 regarding 'Impact of climate change on forests'.

Details of State wise funds released under National Afforestation Programme

| (Rupees in Crore) | | | | |
|--------------------------|-------------------|-------------------|-------------------|-------------------|
| S. No. | State | FY 2018-19 | FY 2019-20 | FY 2020-21 |
| 1 | Andhra Pradesh | 6.38 | 0.00 | 0.00 |
| 2 | Bihar | 0.00 | 1.18 | 0.80 |
| 3 | Chhattisgarh | 7.82 | 5.71 | 9.88 |
| 4 | Goa | 0.00 | 0.00 | 0.00 |
| 5 | Gujarat | 0.00 | 0.00 | 0.00 |
| 6 | Haryana | 0.00 | 0.00 | 0.00 |
| 7 | Himachal Pradesh | 2.92 | 0.52 | 0.57 |
| 8 | Jammu & Kashmir | 0.00 | 0.00 | 0.00 |
| 9 | Jharkhand | 0.00 | 0.00 | 0.00 |
| 10 | Karnataka | 10.99 | 0.00 | 0.00 |
| 11 | Kerala | 0.00 | 0.00 | 0.00 |
| 12 | Madhya Pradesh | 7.78 | 0.00 | 0.57 |
| 13 | Maharashtra | 15.33 | 0.00 | 0.00 |
| 14 | Odisha | 11.36 | 8.45 | 13.67 |
| 15 | Punjab | 0.00 | 0.00 | 0.00 |
| 16 | Rajasthan | 1.95 | 0.00 | 0.00 |
| 17 | Tamil Nadu | 2.07 | 0.00 | 0.00 |
| 18 | Telangana | 0.00 | 0.00 | 0.00 |
| 19 | Uttar Pradesh | 0.32 | 0.00 | 0.00 |
| 20 | Uttarakhand | 2.58 | 0.00 | 1.06 |
| 21 | West Bengal | 0.00 | 0.00 | 0.00 |
| 22 | Arunachal Pradesh | 0.00 | 0.00 | 0.00 |
| 23 | Assam | 0.58 | 0.00 | 0.00 |
| 24 | Manipur | 4.38 | 0.00 | 0.00 |
| 25 | Meghalaya | 0.74 | 0.00 | 0.00 |
| 26 | Mizoram | 7.79 | 0.00 | 7.40 |
| 27 | Nagaland | 6.41 | 2.35 | 4.27 |
| 28 | Sikkim | 5.98 | 0.00 | 0.88 |
| 29 | Tripura | 0.00 | 3.76 | 1.33 |
| | Total | 95.38 | 21.97 | 40.43 |

Annexure III

Annexure referred to in reply to part (d) of the Rajya Sabha Starred Question No. 199 due for answer on 16.12.2021 regarding 'Impact of climate change on forests'.

State-wise details of funds released under Green India Mission.

(Rs. in Lakh)

| Sl. No. | State/UT | 2018-19 | 2019-2020 | 2020-21 |
|---------|----------------------|----------------|-------------------|-------------------|
| 1 | Andhra Pradesh | 266.62 | - | - |
| 2 | Chhattisgarh | 536.07 | 503.608 | 166.0924 |
| 3 | Himachal Pradesh | - | - | 1708.5 |
| 4 | Jammu & Kashmir (UT) | - | - | 2572.7 |
| 5 | Karnataka | 162.34 | 220.993 | 235.1396 |
| 6 | Kerala | - | 1631.813 | - |
| 7 | Manipur | 488.81 | 416.229 | 673.635 |
| 8 | Mizoram | 2236.4 | 1770.901 | 299.4801 |
| 9 | Odisha | 474.33 | 1418.919 | 2601.436 |
| 10 | Punjab | - | 318.57 | - |
| 11 | Uttarakhand | - | - | 2789.1 |
| 12 | Madhya Pradesh | 2415.9 | 3065.298 | - |
| 13 | Maharashtra | 1030.2 | - | - |
| 14 | Sikkim | 332.36 | 312.42 | 219.287 |
| 15 | West Bengal | - | 942.6488 | - |
| | Total | 7943.03 | 10601.3998 | 11265.3701 |

Annexure IV

Annexure referred to in reply to part (d) of the Rajya Sabha Starred Question No. 199 due for answer on 16.12.2021 regarding 'Impact of climate change on forests'.

| State wise approved annual plan of operation by Adhoc CAMPA for the year 2018-19 and National Authority for the financial year 2019-20 to 2020-21. (Rs. In Crore) | | | | |
|---|-------------------|----------------|---------------|----------------|
| Sl. No. | Name State/UTs | Year 2018-19 | Year 2019-20 | Year 2020-21 |
| 1 | Andaman & Nicobar | 1.56 | 0.00* | 2.13 |
| 2 | Andhra Pradesh | 104.47 | 322.97 | 330.82 |
| 3 | Arunachal Pradesh | 354.15 | 0.00* | 155.46 |
| 4 | Assam | 45.84 | 55.89 | 88.34 |
| 5 | Bihar | 46.62 | 140.18 | 239.47 |
| 6 | Chandigarh | 1.27 | 1.87 | 2.26 |
| 7 | Chhattisgarh | 0.00 | 848.51 | 1346.92 |
| 8 | Goa | 0.00 | 0.00* | 19.55 |
| 9 | Gujarat | 212.66 | 17.95 | 32.68 |
| 10 | Haryana | 144.20 | 0.00*** | 240.69 |
| 11 | Himachal Pradesh | 132.52 | 96.84 | 203.95 |
| 12 | Jammu & Kashmir | 0.00 | 145.82 | 158.38 |
| 13 | Jharkhand | 286.25 | 0.00*** | 184.83 |
| 14 | Karnataka | 101.40 | 399.29 | 376.56 |
| 15 | Kerala | 14.61 | 146.22 | 212.94 |
| 16 | Ladakh | 0.00 | 0.00* | 15.79 |
| 17 | Madhya Pradesh | 268.76 | 506.38 | 860.96 |
| 18 | Maharashtra | 225.00 | 499.38 | 599.32 |
| 19 | Manipur | 24.85 | 30.36 | 27.79 |
| 20 | Meghalaya | 0.00 | 0.00* | 33.97 |
| 21 | Mizoram | 8.30 | 19.23*** | 32.66 |
| 22 | Odisha | 554.00 | 610.52***** | 773.39 |
| 23 | Punjab | 79.20 | 64.73**** | 177.85 |
| 24 | Rajasthan | 182.03 | 267.69 | 280.98 |
| 25 | Sikkim | 0.00 | 54.38 | 66.90 |
| 26 | Tamil Nadu | 7.00 | 0.00* | 66.63 |
| 27 | Telangana | 237.38 | 510.00 | 483.78 |
| 28 | Tripura | 16.70 | 16.74 | 21.51 |
| 29 | Uttar Pradesh | 150.60 | 285.68 | 442.01 |
| 30 | Uttarakhand | 303.00 | 218.00 | 353.64 |
| 31 | West Bengal | 21.22 | 70.07 | 74.00 |
| | Total | 3523.59 | 5328.7 | 7906.16 |

* APO not submitted.

** The Jammu & Kashmir State Authority was notified on 08.01.2020.

*** APO was approved 'in-principle' subject to furnishing additional information, which the State did not provide.

**** APO was approved ex-post facto in 2020-21.

***** Activities' amounting to Rs. 18.00 crore for the APO (2019-20) was approved in the 6th meeting of EC held on 27th and 28th of May, 2020.