

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
STARRED QUESTION NO. 88
TO BE ANSWERED ON 09.02.2023

Impact Assessment of climate change on forest area

88. SHRI HARNATH SINGH YADAV:

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

- (a) whether Government has made any assessment of the impact of climate change recently due to decreasing forest area in various parts of the country and if so, the details of the findings thereof;
- (b) the present status of the forest areas in the country, State/UT-wise, including the State of Uttar Pradesh; and
- (c) whether any incentive programmes are being implemented by Government to increase forest areas in various States and if so, the details thereof?

ANSWER

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

(a) to (c) A statement is laid on the table of the House.

**STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (c) OF RAJYA SABHA
STARRED QUESTION NO. 88 DUE FOR REPLY ON 09.02.2023 RAISED BY SHRI
HARNATH SINGH YADAV**

(a) and (b) 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 latest ISFR 2021, the total forest cover of the country is 7,13,789 square kilometre which is 21.71% of the geographical area of the country. The current assessment shows that the total forest cover of the country has increased by 1540 square kilometre, tree cover has increased by 721 square kilometre and total forest and tree cover has increased by 2261 square kilometre at the national level as compared to the previous assessment i.e., ISFR 2019.

The details of State and Union Territory wise forest cover including Uttar Pradesh (U.P.) are given at **Annexure-I**. As per the information supplied by Government of U.P., in past three years, 25 crore, 30 crore and 35 crore saplings have been planted respectively through forest and other departments of the State Government including through people's participation.

Climate Change is expected to impact the diverse ecosystems of the country in different ways. As per India's Third Biennial Update Report (BUR) submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2021, the studies on forests and biodiversity indicate that many natural ecosystems in the country are vulnerable to ongoing and future climate change. There are already indications that both herbaceous and woody plants are moving to higher elevations in mountain regions such as the Himalaya.

The studies also show that Indian forests currently still retain considerable potential for carbon sequestration. The dominant forest type in the country, namely the tropical dry forest, has considerable resilience to store carbon and maintain diversity in the face of climate related disturbances such as drought and fire as per studies in the Western Ghats, though changes in tree species composition are expected to occur. As reported in India's Third BUR, this sector removed 15 per cent of the country's carbon dioxide emissions in 2016. Hence, the question of aggravating climate change due to deforestation in India does not arise. India's carbon dioxide emissions from the pre-industrial era to the present, including from the land-use and forestry sector, has been less than 4 per cent of global cumulative emissions and its annual per capita emissions also continue to remain small, being about only one-third of the world average. However, continued high greenhouse gas emissions of developed countries beyond their fair share of the global carbon budget, will further exacerbate the vulnerability of ecosystems to climate change.

(c) Various schemes are being implemented by the Central and State Governments/Union Territory (UT) Administration for increase in forest and tree cover in the country. These include, the National Afforestation Programme and Green India Mission (GIM) being implemented by the Ministry of Environment, Forest, and Climate Change. National Afforestation Programme is a Centrally Sponsored Scheme for regeneration of degraded forest and adjoining areas in the country. The scheme has been implemented through three-tier institutional setup of State Forest Development Agency (SFDA) at State level, Forest Development Agency (FDA) at Forest

Division level and Joint Forest Management Committees (JFMCs) at Village level. Green India Mission (GIM) is one of the Missions outlined under the National Action Plan on Climate Change. It aims at 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 activities are also taken up under various programmes/funding sources such as Compensatory Afforestation Funds under Compensatory Afforestation Fund Management and Planning Authority (CAMPA), afforestation activities under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA), National Agroforestry Policy and Sub-mission on Agro-forestry (SMAF), National Bamboo Mission and National Mission for Sustainable Agriculture. In addition to above, State and UT Governments have their own afforestation and reforestation programmes. Almost every State has activities under social forestry, which largely focuses on tree planting in the areas outside forests.

Annexure-I

Annexure referred to in reply to part (a) and (b) of the Rajya Sabha Starred Question No.88 due for answer on 09.02.2023 regarding “Impact Assessment of climate change on forest area”.

Forest Cover in the States/UTs in India as per ISFR 2021

(Area in sq km)

Area in sq km)

S. No.	State/UT		Geo-graphical Area (GA)	2021 Assessment				Percentage of Geographical area	Change in Forest Cover w.r.t ISFR 2019	Change Percentage w.r.t. 2019 assessment	Scrub
				Very Dense Forest (VDF)	Moderately Dense Forest (MDF)	Open Forest (OF)	Total Forest Cover				
1	Andhra Pradesh		1,62,968	1,994	13,929	13,861	29,784	18.28	647	2.22	8,276
2	Arunachal Pradesh		83,743	21,058	30,176	15,197	66,431	79.33	-257	-0.39	797
3	Assam		78,438	3,017	9,991	15,304	28,312	36.09	-15	-0.05	228
4	Bihar		94,163	333	3,286	3,762	7,381	7.84	75	1.03	236
5	Chhattisgarh		1,35,192	7,068	32,279	16,370	55,717	41.21	106	0.19	615
6	Delhi		1,483	6.72	56.60	131.68	195.00	13.15	-0.44	-0.23	0.38
7	Goa		3,702	538	576	1,130	2,244	60.62	7	0.31	0
8	Gujarat		1,96,244	378	5,032	9,516	14,926	7.61	69	0.46	2,828
9	Haryana		44,212	28	445	1,130	1,603	3.63	1	0.06	159
10	Himachal Pradesh		55,673	3,163	7,100	5,180	15,443	27.73	9	0.06	322
11	Jharkhand		79,716	2,601	9,689	11,431	23,721	29.76	110	0.47	584
12	Karnataka		1,91,791	4,533	20,985	13,212	38,730	20.19	155	0.40	4,611
13	Kerala		38,852	1,944	9,472	9,837	21,253	54.70	109	0.52	30
14	Madhya Pradesh		3,08,252	6,665	34,209	36,619	77,493	25.14	11	0.01	5,457
15	Maharashtra		3,07,713	8,734	20,589	21,475	50,798	16.51	20	0.04	4,247
16	Manipur		22,327	905	6,228	9,465	16,598	74.34	-249	-1.48	1,215
17	Meghalaya		22,429	560	9,160	7,326	17,046	76.00	-73	-0.43	663
18	Mizoram		21,081	157	5,715	11,948	17,820	84.53	-186	-1.03	1
19	Nagaland		16,579	1,272	4,449	6,530	12,251	73.90	-235	-1.88	824
20	Odisha		1,55,707	7,213	20,995	23,948	52,156	33.50	537	1.04	4,924
21	Punjab		50,362	11	793	1,043	1,847	3.67	-2	-0.11	34
22	Rajasthan		3,42,239	78	4,369	12,208	16,655	4.87	25	0.15	4,809
23	Sikkim		7,096	1,102	1,551	688	3,341	47.08	-1	-0.03	296
24	Tamil Nadu		1,30,060	3,593	11,034	11,792	26,419	20.31	55	0.21	758
25	Telangana		1,12,077	1,624	9,119	10,471	21,214	18.93	632	3.07	2,911
26	Tripura		10,486	647	5,212	1,863	7,722	73.64	-4	-0.05	33
27	Uttar Pradesh		2,40,928	2,627	4,029	8,162	14,818	6.15	12	0.08	563
28	Uttarakhand		53,483	5,055	12,768	6,482	24,305	45.44	2	0.01	392
29	West Bengal		88,752	3,037	4,208	9,587	16,832	18.96	-70	-0.41	156
30	A & N Islands		8,249	5,678	683	383	6,744	81.75	1	0.01	1
31	Chandigarh		114	1.36	13.51	8.01	22.88	20.07	0.85	3.86	0.38
32	Dadra & Nagar Haveli and Daman & Diu		602	1.40	85.56	140.79	227.75	37.83	0.10	0.04	4.85
33	Jammu & Kashmir	Shapefile Area (54,624)	2,22,236	4,155	8,117	9,115	21,387	39.15	29	0.14	284
34	Ladakh	Shapefile Area (1,68,055)		2	512	1,758	2,272	1.35	18	0.80	279
35	Lakshadweep		30	0.00	16.09	11.01	27.10	90.33	0.00	0.00	0.00
36	Puducherry		490	0.00	17.53	35.77	53.30	10.88	0.89	1.70	0.00
Total			32,87,469	99,779	3,06,890	3,07,120	7,13,789	21.71	1,540	0.22	46,539
