| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| | | Moradabad | 4 | 51 | 117 | 97 | 53 | 13 | 335 |
| | | Muzaffarnagar | 4 | 41 | 32 | 32 | 47 | 9 | 165 |
| | | Noida | 5 | 45 | 110 | 103 | 75 | 24 | 362 |
| | | Varanasi | 2 | 54 | 99 | 112 | 67 | 5 | 339 |
| 17. | West Bengal | Asansol | 20 | 100 | 101 | 55 | 3 | * | 279 |
| | | Durgapur | 11 | 56 | 163 | 62 | 1 | * | 293 |
| | | Haldia | 88 | 83 | 135 | 4 | * | * | 310 |
| | | Howrah | 46 | 110 | 69 | 61 | 30 | * | 316 |
| | | Kolkata | 32 | 123 | 30 | 28 | 35 | 1 | 249 |
| | | Siliguri | 74 | 108 | 60 | 39 | 15 | 1 | 297 |

Â"Ê Indicates Data not fall in the category

**Decrease in forest cover**

985. DR. K. V. P. RAMACHANDRA RAO: Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) whether Government is aware that figures of forest cover being published by Government and actual field reports differ a lot and forest cover is decreasing alarmingly despite several measures taken up by Government;

(b) if so, the details thereof; and

(c) if not, the process by which Government assesses the actual forest cover?

THE MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (SHRI BABUL SUPRIYO): (a) and (b) Forest Survey of India, Dehradun, a subordinate organization under the Ministry carries out the assessment of forest cover of the country biennially and the findings are published in India State of Forest Report (ISFR). The forest cover assessment is a wall-to-wall mapping exercise based on remote sensing supported by intensive ground verification and field data from National Forest Inventory.

As per the latest report *i.e.* ISFR- 2017, the total forest and tree cover in the country is 8, 02, 088 square kilometers (forest cover 708273 square kilometers, tree cover 93815 square kilometers) which is 24.39% of the geographical area of the country. There is an increase of 8021 square kilometers (forest cover 6778 square kilometers, tree cover 1243

square kilometers) of total forest and tree cover compared to that of ISFR-2015. The State/UTs wise details of forest cover along with percentage as per ISFR-2017 is given in Statement (*See* below).

(c) The forest cover assessment is carried out by FSI using data from the Indian Remote Sensing (IRS) satellites of ISRO. Currently the forest cover mapping is being carried out using imagery from LISS III sensor of IIRS-P6 satellite which has a resolution of 23.5 meters.

The LISS III image for the entire country is geometrically corrected using the Survey of India toposheets which helps in seamless integration of forest cover data at various levels of administrative boundaries authenticated by the Survey of India.

The interpretation of forest cover is being done using digital image processing techniques by trained analysts and thereafter classified maps of forest cover on a scale of 1:50,000 are prepared. As the forest cover assessment is carried out once in every two years, the analysts identify and incorporate the changes in forest cover into the previous cycle data to arrive at the latest data on forest cover.

During interpretation of the satellite image, the forest cover is classified on the basis of canopy density into Very Dense Forest (canopy over 70 % canopy cover), Moderately Dense Forest (Canopy cover between 40 to 70% canopy cover) and Open Forest (Canopy cover between 10 to 40% canopy cover).

Forest cover classification using digital image processing techniques is further supported by the interpreters knowledge, information from collateral sources (like google earth, Forest inventory data) and observation made during extensive ground truthing at more than 3000 points.

Ground truth information is collected during the same season as that of the satellite data so as to properly relate the reflectance observed on the satellite image to the ground situation. The field observations are incorporated into the classified maps which are then compared with the previous cycle of forest cover assessment for depicting forest cover change. The change maps thus prepared are then sent to the State Forest Department for validation. The feedback from State Forest Departments help in further improvement of classification accuracy and in analyzing the reason for the change. Thereafter, area statistics of forest cover at District, State and National level along with maps are generated.

During the entire process of forest cover assessment, concurrent Quality Control and Quality Assurance measures are implemented to ensure accuracy of the data produced.

***Statement***

*State/UTs-wise details of Forest and Tree Cover as per ISFR 2017*

(Area in square kilometer)

| State | Geographical Area | Forest Cover | Tree Cover | Total Forest and Tree Cover | Percentage of geo-graphical area |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Andhra Pradesh | 162968 | 28,147 | 3753 | 31900 | 19.57 |
| Arunachal Pradesh | 83743 | 66,964 | 807 | 67771 | 80.93 |
| Assam | 78438 | 28,105 | 1496 | 29601 | 37.74 |
| Bihar | 94163 | 7,299 | 2263 | 9562 | 10.15 |
| Chhattisgarh | 135192 | 55,547 | 3833 | 59380 | 43.92 |
| Delhi | 1483 | 192.41 | 113 | 305.41 | 20.59 |
| Goa | 3702 | 2229 | 323 | 2552 | 68.94 |
| Gujarat | 196244 | 14,757 | 8024 | 22781 | 11.61 |
| Haryana | 44212 | 1588 | 1415 | 3003 | 6.79 |
| Himachal Pradesh | 55673 | 15,100 | 822 | 15922 | 28.60 |
| Jammu and Kashmir* | 222236 | 23,241 | 7815 | 31056 | 13.97 |
| Jharkhand | 79716 | 23,553 | 2922 | 26475 | 33.21 |
| Karnataka | 191791 | 37,550 | 5713 | 43263 | 22.56 |
| Kerala | 38852 | 20,321 | 2959 | 23280 | 59.92 |
| Madhya Pradesh | 308252 | 77,414 | 8073 | 85487 | 27.73 |
| Maharashtra | 307713 | 50,682 | 9831 | 60513 | 19.67 |
| Manipur | 22327 | 17,346 | 220 | 17566 | 78.68 |
| Meghalaya | 22429 | 17,146 | 657 | 17803 | 79.37 |
| Mizoram | 21081 | 18,186 | 467 | 18653 | 88.48 |
| Nagaland | 16579 | 12,489 | 379 | 12868 | 77.62 |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Odisha | 155707 | 51,345 | 3993 | 55338 | 35.54 |
| Punjab | 50362 | 1837 | 1622 | 3459 | 6.87 |
| Rajasthan | 342239 | 16,572 | 8266 | 24838 | 7.26 |
| Sikkim | 7096 | 3344 | 35 | 3379 | 47.62 |
| Tamil Nadu | 130060 | 26,281 | 4671 | 30952 | 23.80 |
| Telangana | 112077 | 20,419 | 2669 | 23088 | 20.60 |
| Tripura | 10486 | 7726 | 215 | 7941 | 75.73 |
| Uttar Pradesh | 240928 | 14,679 | 7442 | 22121 | 9.18 |
| Uttarakhand | 53483 | 24,295 | 767 | 25062 | 46.86 |
| West Bengal | 88752 | 16,847 | 2136 | 18983 | 21.39 |
| Andaman and Nicobar Islands | 8249 | 6742 | 35 | 6777 | 82.16 |
| Chandigarh | 114 | 2156 | 10 | 31.56 | 27.68 |
| Dadra and Nagar Haveli | 491 | 207 | 30 | 237 | 48.27 |
| Daman and Diu | 111 | 20.49 | 10 | 30.49 | 27.47 |
| Lakshadweep | 30 | 27.10 | 2 | 29.1 | 97.00 |
| Puducherry | 490 | 53.67 | 27 | 80.67 | 16.46 |
| GRAND TOTAL | 32,87,469 | 7,08,273 | 93815 | 802088 | 24.39 |

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

**National Clean Air Programme**

986. SHRI V. VIJAYASAI REDDY: Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) whether it is a fact that the Ministry has started implementing National Clean Air Programme in the country and has identified some cities in the State of Andhra Pradesh to tackle the problem of increasing air pollution;

(b) if so, details of cities identified and action plan prepared to address air pollution in the above cities;