

Assessment of Growing Stock and Increment in India's Forests

In a study carried out by the FSI in 1995, State-wise growing stock of entire country in major forest strata was assessed by the Forest Survey of India using available information from (i) Vegetation maps based on 1989-91 satellite data, (ii) Thematic maps and (iii) Ground inventories of forest carried out by the Forest Survey of India in the past. The methodology involved dividing the geographic area of the country into grids of 2½' x 2½', followed by selection of forested grids. In the forested grids, density of the forest cover was assessed using satellite data of 1989-91 and forest type strata (major species composition) was determined using thematic maps (based on interpretation of aerial photographs) prepared by FSI, information extracted from field forms used in field inventory of FSI, stock maps of State Forest Departments available with FSI etc. In case of grids where no information was available, information was borrowed from the adjoining grids falling in the same agro-climatic zone. Thereafter, volume in each grid was estimated based on volume factors developed from mammoth field inventory data available with FSI. Appropriate location specific volume factors were generated based on density and forest type strata. Grid information was then compiled to generate estimates of above ground wood volume at state level as well as country level.

The Growing Stock of the country was estimated to be 4740.858 million cubic meters and overall volume per hectare to be 74.42 cubic meters. The total annual increment of Growing Stock has been estimated at 87.622 million cubic meters. These estimates are for forests having more than 10% crown density.

The rate of Annual increment of Growing Stock of various forest strata was assessed by applying Von Mantel's formula ($t=2GS/R$) (GS=Growing Stock, R=Rotation and t=Increment). State-wise details of Growing Stock, overall volume per hectare and annual increment are given in Table 6.

Table 6: Growing stock, Volume per hectare and Annual Increment in forests of India

Sl. No.	State/UTs	Growing stock (Million cum)	Volume/ha (in Cum)	Annual Increment (,000 cum)
1.	Andhra Pradesh	291.394	61.66	5929
2.	Arunachal Pradesh	775.125	112.8	15243
3.	Assam	304.423	124.2	6061
4.	Bihar	96.72	36.38	1715
5.	Goa, Daman & Diu	12.644	101.16	231
6.	Gujarat	63.921	53.07	1459
7.	Haryana	1.432	27.92	27
8.	Himachal Pradesh	254.41	203.5	1603
9.	Jammu & Kashmir	458.929	224.49	6402
10.	Karnataka	272.411	84.23	5574
11.	Kerala	98.883	95.67	1983

12.	Madhya Pradesh	698.182	51.56	14122
13.	Maharashtra	225.554	51.43	5008
14.	Manipur	95.452	54.1	1889
15.	Meghalaya	104.14	66.0	2150
16.	Mizoram	66.012	35.3	1332
17.	Nagaland	94.887	66.1	1903
18.	Orissa	246.15	52.21	4432
19.	Punjab	0.95	7.07	23
20.	Rajasthan	12.892	9.84	292
21.	Sikkim	39.286	125.9	767
22.	Tamil Nadu	69.602	39.31	1394
23.	Tripura	15.452	27.9	316
24.	Uttar Pradesh	338.633	99.71	5818
25.	West Bengal	22.859	37.68	433
26.	Andaman & Nicobar Islands	79.644	119.62	1494
27.	Dadra & Nagar Haveli	0.871	42.20	22
	Total	4740.858	74.42	87622