

# REGULAR INVENTORY OF TREES IN FOREST AND OUTSIDE FORESTS

12<sup>th</sup> March, 2015

RSQ 1631

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

- whether the Forest Survey of India (FSI) conducts regular inventory of trees in forests and outside forests in the country and if so, the details thereof;
- whether the reports of the FSI has shown any decline in the number of trees gradually; and
- if so, the details thereof along with the steps taken to plant more trees in the country?

MINISTER OF STATE (INDEPENDENT CHARGE) FOR ENVIRONMENT, FOREST AND CLIMATE CHANGE (SHRI PRAKASH JAVADEKAR)

(a) Forest Survey of India (FSI), Dehradun conducts regular inventory of trees in forest and trees outside forest under its National Forest Inventory Programme. The Inventory is conducted by selecting 60 districts randomly on a cycle of two years. On the basis of data collected from these 60 districts, growing stock estimates are generated at National and State levels and the results are published in "India State of Forest Report (ISFR)" on biennial basis. As per the latest India State of Forest Report 2013, the estimated number of stems at National level in forest is 13 billion and outside forest is 5 billion. The volume of wood inside the forest is estimated to be 4.2 billion cubic meters and that outside is 1.5 billion cubic meters. **The details are given in Annexure I & II.**

(b) & (c) As per the India State of Forest Report 2013, the number of stems have increased from 11910 million to 13062 million in forest area as compared to estimate of 2009, whereas the number of stems in Trees Outside Forest have decreased in 2013 as compared to 2009 from 5508 million to 5080 million.

To improve the existing forests and bring more areas under forests, afforestation in the country is taken up under various Centrally Sponsored Schemes such as National Afforestation Programme (NAP), Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Integrated Watershed Management Programme (IWMP), National Bamboo Mission (NBM), Green India Mission (GIM) and under Compensatory Afforestation Fund Management and Planning Authority (CAMPA) and XIIIth Finance Commission, different State Plan/ Non- Plan Schemes including externally aided projects. National Afforestation Programme (NAP) of the Ministry of Environment & Forests is a 100% Centrally Sponsored Scheme for afforestation and tree plantation and eco-restoration of degraded forests and adjoining areas in the country. The Scheme is being implemented through a decentralized mechanism 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 levels. As on 28.02.2015, 28 State Forest Development Agency (SFDA) Projects have been operationalised in the country to treat an area of 20.99 Lakh hectare since inception of the NAP scheme.

## Annexure- I

Annexure referred to in reply to part (a) of the Rajya Sabha Unstarred Question

No. 1631 due for answer on 12.03.2015 regarding 'Regular inventory of trees in forest and outside forests'

### Estimated Number of Stems by Species and Diameter class in Forest at Country Level as per ISFR 2013

(Nos in '000)

S. No.	Species Name	Diameter Class				Percentage
		10-30	30-50	50+	Total	
1	Abies pindrow / Abies spectabilis	21,550	12,030	11,451	45,030	0.34
2	Acacia catechu	1,67,247	3,611	195	1,71,053	1.31
3	Albizia sp.	66,306	10,323	1,291	77,920	0.60
4	Alnus nepalensis	33,978	8,143	517	42,637	0.33
5	Anogeissus latifolia	4,72,103	42,970	3,264	5,18,338	3.97
6	Boswellia serrata	1,12,248	49,825	4,646	1,66,719	1.28
7	Buchanania lanzan (Buchanania latifolia)	1,90,125	4,607	72	1,94,805	1.49
8	Butea monosperma	1,93,661	15,876	618	2,10,155	1.61
9	Castanopsis sp.	1,45,882	37,013	8,234	1,91,129	1.46

10	Cedrus deodara	26,996	18,072	9,498	54,567	0.42
11	Chloroxylon swietenia	2,17,373	8,450	161	2,25,985	1.73
12	Cleistanthus collinus	2,00,461	3,116	59	2,03,636	1.56
13	Dalbergia lanceolaria (Dalbergia paniculata)	47,580	11,084	1,218	59,882	0.46
14	Diospyros melanoxylon	1,79,810	16,542	1,004	1,97,356	1.51
15	Hardwickia binata	46,950	9,926	1,973	58,849	0.45
16	Lagerstroemia parviflora	2,73,882	11,523	613	2,86,018	2.19
17	Lannea coromandelica	2,78,043	41,821	1,914	3,21,777	2.46
18	Madhuca longifolia	1,17,248	28,692	9,240	1,55,180	1.19
19	Mangifera indica	6,347	2,128	1,750	10,225	0.08
20	Picea smithiana (Picea morinda)	15,159	12,071	11,603	38,834	0.30
21	Pinus roxburghii (Pinus longifolia)	1,71,984	69,119	22,443	2,63,545	2.02
22	Pinus wallichiana (Pinus excelsa)	60,936	23,392	11,240	95,568	0.73
23	Pterocarpus marsupium	60,106	13,761	2,426	76,292	0.58
24	Quercus floribunda (Quercus dilatata)	28,495	5,975	4,783	39,253	0.30
25	Quercus leucotrichophora (Quercus incana)	1,95,378	32,793	9,977	2,38,148	1.82
26	Quercus semecarpifolia	48,948	22,471	11,781	83,200	0.64
27	Quercus sp.	94,455	30,192	11,890	1,36,537	1.05
28	Rhododendron arboreum	1,34,180	18,736	3,639	1,56,555	1.20
29	Schima wallichii	1,12,317	17,773	3,789	1,33,880	1.02
30	Schleichera oleosa (Schleichera trijuga)	28,695	6,355	1,687	36,737	0.28
31	Shorea robusta	10,70,782	1,93,708	44,062	13,08,552	10.02
32	Syzygium cumini	75,909	18,779	4,227	98,914	0.76
33	Taxus baccata	13,638	2,135	796	16,570	0.13
34	Tectona grandis	9,17,563	90,381	9,449	10,17,393	7.79
35	Terminalia belerica	18,885	4,882	1,858	25,625	0.20
36	Terminalia crenulata	4,02,533	64,794	9,519	4,76,845	3.65
37	Terminalia myriocarpa	2,738	4,124	1,802	8,664	0.07
38	Terminalia paniculata	48,043	6,562	2,462	57,068	0.44
39	Toona ciliata (Cedrela toona)	13,900	6,148	465	20,513	0.16
40	Xylia xylocarpa	1,02,151	12,363	2,160	1,16,673	0.89
41	Rest of species	47,14,746	5,60,210	1,50,913	54,25,869	41.54
	<b>Total</b>	<b>1,11,29,330</b>	<b>15,52,476</b>	<b>3,80,691</b>	<b>1,30,62,497</b>	<b>100.00</b>

## Annexure- II

Annexure referred to in reply to part (a) of the Rajya Sabha Unstarred Question

No. 1631 due for answer on 12.03.2015 regarding Regular inventory of trees in forest and outside forests'

Estimated Number of Stems by Species and Diameter Class in Trees Outside Forests at Country level as per ISFR 2013

(nos. In '000)

sl.no.	Species Name	Diameter Class (in cm)			Total	percentage
		10-30	30-50	50 +		
1	Acacia nilotica (Acacia arabica)	1,56,330	24,038	1,826	1,82,194	3.59
2	Acacia lenticularis	69,412	5,735	295	75,443	1.48
3	Albizzia species	24,978	8,492	976	34,446	0.68
4	Alnus nepalensis	14,805	1,208	133	16,146	0.32
5	Anacardium occidentale	52,544	2,012	0	54,556	1.07
6	Areca catechu	3,73,156	415	0	3,73,571	7.35

7	Artocarpus heterophyllus	52,971	12,738	1,571	67,280	1.32
8	Azadirachta indica	2,28,153	41,045	6,948	2,76,146	5.44
9	Bombax ceiba	32,860	8,965	4,066	45,892	0.90
10	Borassus flabelliformis	21,346	87,206	1,410	1,09,963	2.16
11	Butea monosperma	1,29,222	18,486	1,894	1,49,602	2.94
12	Cedrela toona(Toona ciliata)	13,516	2,643	181	16,341	0.32
13	Cocos nucifera	2,84,798	54,798	117	3,39,713	6.69
14	Dalbergia sissoo	49,013	7,238	805	57,056	1.12
15	Eucalyptus species	1,19,312	12,542	1,683	1,33,537	2.63
16	Ficus bengalensis	2,771	640	1,758	5,169	0.10
17	Ficus racemosa	2,326	3,063	1,178	6,568	0.13
18	Ficus religiosa	4,297	2,316	1,989	8,602	0.17
19	Ficus species	14,602	1,818	831	17,251	0.34
20	Gmelina arborea	23,849	4,424	1,752	30,026	0.59
21	Grevillea robusta	55,249	3,308	665	59,221	1.17
22	Grewia optiva (Grewia oppositifolia)	48,655	1,191	56	49,902	0.98
23	Hovea brasiliensis	82,578	1,878	0	84,456	1.66
24	Madhuca latifolia	7,628	7,459	13,266	28,354	0.56
25	Mangifera indica	3,11,090	73,996	33,888	4,18,974	8.25
26	Phoenix sylvestris	20,453	8,868	30	29,352	0.58
27	Pinus wallichiana (Pinus excelsa)	18,958	2,362	411	21,731	0.43
28	Pinus kesiya (Pinus khasya)	78,111	1,018	4	79,134	1.56
29	Pinus roxburghii (Pinus longifolia)	1,12,328	22,092	3,230	1,37,650	2.71
30	Populus species	47,261	1,449	7	48,716	0.96
31	Prosopis ceneraria	25,242	8,670	840	34,752	0.68
32	Quercus leucotrichophora (Quercus incana)	39,947	3,742	345	44,034	0.87
33	Quercus species	10,889	4,476	1,405	16,771	0.33
34	Shorea robusta	49,205	5,910	1,976	57,091	1.12
35	Syzygium cumini (Eugenia jambolana)	46,929	10,301	2,426	59,655	1.17
36	Tamarindus indica	9,863	3,677	1,823	15,363	0.30
37	Tectona grandis	1,02,489	3,099	217	1,05,805	2.08
38	Terminalia arjuna	11,361	3,739	533	15,633	0.31
39	Terminalia crenulata	20,208	2,198	379	22,785	0.45
40	Zizyphus mauritiana	44,269	3,311	145	47,725	0.94
41	Rest of spp	14,94,254	1,67,253	42,400	17,03,907	33.54
	<b>Total</b>	<b>43,07,229</b>	<b>6,39,823</b>	<b>1,33,461</b>	<b>50,80,512</b>	<b>100</b>