

11.28

UTTAR PRADESH

11.28.1 Introduction

Situated in the northern part of the country, Uttar Pradesh covers an area of 2,40,928 sq km, which is 7.33% of the geographical area of the country. The State lies between 23°52'N to 31°28'N latitude and 77°30'E to 84°39' E longitude and is bordered by Uttarakhand in the north, Haryana, Delhi & Rajasthan in the west, Madhya Pradesh in the west and south west, Chhattisgarh in the south and Bihar in the East. It has international border with Nepal in the north. The State has three distinct regions namely, the Shiwalik region in the north, Gangetic plains in the central region and Vindhyan hills in the south. Uttar Pradesh has a humid subtropical climate with dry winters. The annual rainfall ranges between 1,000 mm to 1,200 mm and the annual temperature varies from 5°C to 46°C. The State is drained by a number of rivers, which include Ganga, Yamuna, Gomti, Ghagra, Betwa, Chambal and Gandak. There are 71 districts in the State, of which one is a tribal district and there are no hill districts. As per census 2011, Uttar Pradesh has a population of 199.81 million, which is 16.50% of India population. The urban and rural population constitute 22.27% and 77.73% respectively. The Tribal population is 0.57%. The average population density of the State is 829 per sq km, which is more than twice the national average. The 19th Livestock Census of 2012 has reported a total livestock population of 68.71 million.

TABLE 11.28.1 Land Use Pattern

Land Use Types	Area (in 000' ha)	Percentage
Geographical Area	24,093	
Reporting area for land utilization	24,170	100.00
Forests	1,659	6.86
Not available for land cultivation	3,507	14.51
Permanent pastures and other grazing lands	65	0.27
Land under misc. tree crops and groves	305	1.26
Culturable wasteland	405	1.68
Fallow land other than current fallows	509	2.11
Current fallows	1,122	4.64
Net area sown	16,598	68.67

Source: Land Use Statistics, Ministry of Agriculture, GOI, (2014-15)



11.28.1.1 A Brief Overview of Forestry Scenario

As per the Champion & Seth Classification of Forest Types (1968), the forests in Uttar Pradesh belong to five Forest Type Groups, which are further divided into 28 Forest Types. Major part of the State is agrarian. In recent years, massive plantation programmes have been taken up in the State to increase the forest & tree cover. Through the Nursery Management Scheme, the tall saplings of 8 to 12 feet height are also being raised for planting. During the plantation season of 2019 more than 22.5 crores saplings were planted across the State under the Vriksha Mahakhumbh Programme. To promote tree plantations outside the forest areas, improve livelihoods and enhance income of the farmers, the State Government has exempted most of the trees species from felling and transit rules.

Recorded Forest Area (RFA) in the State is 16,582 sq km of which 12,070 sq km is Reserved Forest, 1,157 sq km is Protected Forest and 3,355 sq km is Unclassed Forests. In Uttar Pradesh, during the period 1st January 2015 to 5th February 2019, a total of 163.76 hectares of forest land was diverted for non-forestry purposes under the Forest Conservation Act, 1980 (MoEF & CC, 2019).

One National Park and 26 Wildlife Sanctuaries constitute the Protected Area network of the State covering 11.82% of its geographical area. Dudhwa National Park located in the State is known for successful translocation of one horned rhinoceros.

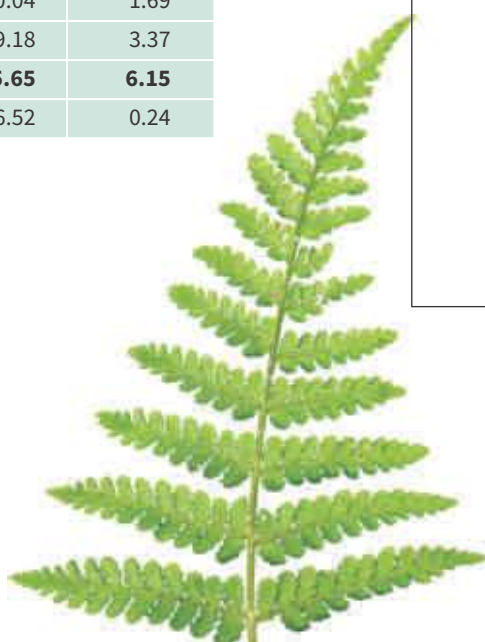
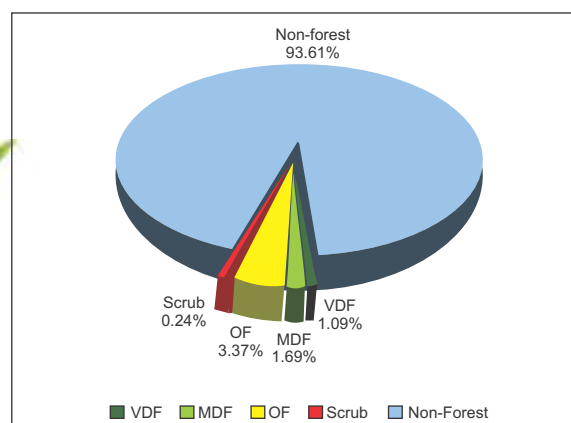
11.28.2 Forest Cover

Based on the interpretation of IRS Resourcesat-2 LISS III satellite data of the period Oct 2017 to Jan 2018, the Forest Cover in the State is 14,805.65 sq km which is 6.15 % of the State's geographical area. In terms of forest canopy density classes, the State has 2,616.43 sq km under Very Dense Forest (VDF), 4,080.04 sq km under Moderately Dense Forest (MDF) and 8,109.18 sq km under Open Forest (OF). Forest Cover in the State has increased by 126.65 sq km as compared to the previous assessment reported in ISFR 2017.

TABLE 11.28.2 Forest Cover of Uttar Pradesh

(in sq. km)		
Class	Area	% of GA
VDF	2,616.43	1.09
MDF	4,080.04	1.69
OF	8,109.18	3.37
Total	14,805.65	6.15
Scrub	586.52	0.24

FIGURE 11.28.1 Forest Cover of Uttar Pradesh



11.28.2.1 Forest Cover inside and outside Recorded Forest Area (or Green Wash)

The State has reported extent of recorded forest area (RFA) 16,582 sq km which is 6.88% of its geographical area. The reserved, protected and unclassified forests are 72.79% and 6.98% and 20.23% of the recorded forest area in the State respectively. Due to non-availability of digitized boundary of recorded forest areas from the State, the updated Green Wash from Sol toposheets which is 13,433.75 sq km has been used as proxy to the RFA boundary and the analysis of forest cover inside and outside this area is given below.

TABLE 11.28.3 Forest Cover inside and outside Recorded Forest Area or (Green Wash) in Uttar Pradesh (in sq km)

Forest Cover inside the Recorded Forest Area (or Green Wash)				Forest Cover outside the Recorded Forest Area (or Green Wash)			
VDF	MDF	OF	Total	VDF	MDF	OF	Total
2,455	3,039	3,701	9,195	162	1,041	4,408	5,611
26.70%	33.05%	40.25%		2.88%	18.55%	78.57%	

*in case of Uttar Pradesh Green Wash boundaries have been used.

FIGURE 11.28.2 Forest Cover inside and outside GW in Uttar Pradesh

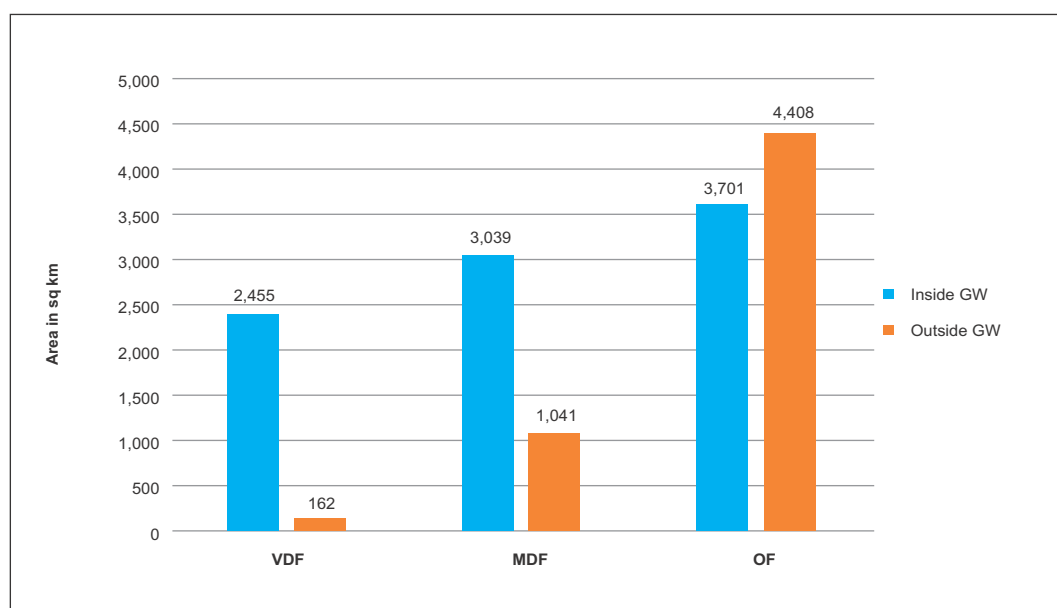


TABLE 11.28.4 District-wise Forest Cover in Uttar Pradesh

(in sq km)

District	Geographical Area (GA)	2019 Assessment				% of GA	Change wrt 2017 assessment	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Agra	4,041	0.00	62.68	199.94	262.62	6.50	-9.38	75.14
Aligarh	3,650	0.00	7.00	59.75	66.75	1.83	-0.25	1.00
Allahabad	5,482	6.00	26.00	97.21	129.21	2.36	2.21	36.26
Ambedkar Nagar	2,350	0.00	1.00	40.12	41.12	1.75	0.12	0.00
Auraiya	2,016	0.00	4.96	36.42	41.38	2.05	0.38	10.09
Azamgarh	4,054	0.00	1.00	49.00	50.00	1.23	0.00	0.00

Contd.

(in sq km)

District	Geographical Area (GA)	2019 Assessment				% of GA	Change wrt 2017 assessment	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Baghpat	1,321	0.00	5.00	12.06	17.06	1.29	0.06	0.00
Bahraich	5,237	240.00	156.11	153.99	550.10	10.50	1.10	9.00
Ballia	2,981	0.00	0.00	22.15	22.15	0.74	0.15	0.00
Balrampur	3,349	279.00	157.94	89.07	526.01	15.71	2.01	3.00
Banda	4,408	0.00	55.91	46.00	101.91	2.31	-0.09	4.00
Bara Banki	4,402	3.00	6.00	74.07	83.07	1.89	6.07	5.70
Bareilly	4,120	0.00	7.00	38.00	45.00	1.09	0.00	0.00
Basti	2,688	1.00	6.00	22.25	29.25	1.09	0.25	0.00
Bijnor	4,561	39.00	218.38	146.23	403.61	8.85	1.61	5.52
Budaun	5,168	0.00	8.13	23.91	32.04	0.62	-12.96	6.00
Bulandshahr	4,512	0.00	49.72	115.40	165.12	3.66	-0.88	0.00
Chandauli	2,541	7.00	192.00	366.26	565.26	22.25	0.26	10.00
Chitrakoot	3,216	81.00	319.00	186.40	586.40	18.23	0.40	40.51
Deoria	2,540	0.00	1.00	14.21	15.21	0.60	0.21	0.00
Etah	2,431	0.00	0.98	25.20	26.18	1.08	-4.82	-0.26
Etawah	2,311	0.00	62.75	188.63	251.38	10.88	9.38	45.05
Faizabad	2,341	6.00	10.00	73.30	89.30	3.81	3.30	0.96
Farrukhabad	2,181	0.00	14.00	33.45	47.45	2.18	0.45	2.00
Fatehpur	4,152	0.00	18.00	35.44	53.44	1.29	0.44	0.00
Firozabad	2,407	0.00	5.00	53.60	58.60	2.43	9.60	27.01
Gautam Buddha Nagar	1,282	0.00	5.00	15.00	20.00	1.56	0.00	0.00
Ghaziabad	1,179	0.00	8.67	16.55	25.22	2.14	-0.78	0.00
Ghazipur	3,377	0.00	1.00	28.00	29.00	0.86	0.00	0.00
Gonda	4,003	67.00	8.36	39.50	114.86	2.87	0.86	0.00
Gorakhpur	3,321	28.00	23.00	28.00	79.00	2.38	0.00	0.00
Hamirpur	4,021	0.00	80.00	147.00	227.00	5.65	0.00	14.00
Hardoi	5,986	0.00	16.98	126.87	143.85	2.40	-0.15	5.00
Jalaun	4,565	0.00	60.58	186.73	247.31	5.42	-1.69	37.97
Jaunpur	4,038	0.00	11.00	56.02	67.02	1.66	0.02	0.00
Jhansi	5,024	0.00	42.00	262.05	304.05	6.05	1.05	41.96
Jyotiba Phule Nagar	2,249	0.00	25.00	61.00	86.00	3.82	0.00	0.00
Kannauj	2,093	0.00	0.00	27.82	27.82	1.33	-0.18	0.00
Kanpur Dehat	3,021	0.00	3.00	38.00	41.00	1.36	0.00	9.00
Kanpur Nagar	3,155	0.00	7.00	59.00	66.00	2.09	0.00	3.00
Kanshiram Nagar	1,955	0.00	7.67	41.13	48.80	2.50	-19.20	0.00
Kaushambi	1,779	0.00	5.00	22.83	27.83	1.56	0.83	0.00
Kheri	7,680	804.91	158.21	309.94	1,273.06	16.58	-0.94	4.49
Kushinagar	2,905	0.00	2.00	32.84	34.84	1.20	0.84	0.00
Lalitpur	5,039	0.00	128.89	452.40	581.29	11.54	-5.71	33.18
Lucknow	2,528	0.00	162.00	216.87	378.87	14.99	13.87	2.18
Mahamaya Nagar	1,840	0.00	1.00	22.00	23.00	1.25	0.00	0.00

Contd.

(in sq km)

District	Geographical Area (GA)	2019 Assessment				% of GA	Change wrt 2017 assessment	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Mahoba	3,144	0.00	21.00	149.00	170.00	5.41	0.00	62.00
Mahrajganj	2,952	259.00	101.00	69.07	429.07	14.53	0.07	0.34
Mainpuri	2,760	0.00	1.00	12.64	13.64	0.49	-0.36	0.00
Mathura	3,340	0.00	4.00	53.04	57.04	1.71	-2.96	3.52
Mau	1,713	0.00	0.00	11.00	11.00	0.64	0.00	0.00
Meerut	2,559	0.00	34.00	34.41	68.41	2.67	0.41	0.00
Mirzapur	4,405	8.00	289.58	506.15	803.73	18.25	-1.27	47.00
Moradabad	3,718	0.00	5.00	23.00	28.00	0.75	0.00	0.00
Muzaffarnagar	4,008	0.00	14.00	52.11	66.11	1.65	26.11	0.00
Pilibhit	3,686	471.00	86.73	129.38	687.11	18.64	-0.89	2.11
Pratapgarh	3,717	0.00	31.58	86.24	117.82	3.17	15.82	2.00
Rae Bareli	4,609	0.00	4.00	89.54	93.54	2.03	0.54	1.32
Rampur	2,367	4.00	26.00	45.00	75.00	3.17	0.00	0.00
Saharanpur	3,689	0.00	174.00	269.26	443.26	12.02	70.26	0.00
Sant Kabir Nagar	1,646	0.00	1.00	13.00	14.00	0.85	0.00	1.00
Sant Ravidas Nagar (Bhadohi)	1,015	0.00	0.00	3.12	3.12	0.31	0.12	0.00
Shahjahanpur	4,388	26.00	7.00	26.31	59.31	1.35	-1.69	1.17
Shrawasti	1,640	151.52	90.23	42.79	284.54	17.35	-0.46	0.00
Siddharthnagar	2,895	0.00	8.00	26.08	34.08	1.18	0.08	0.00
Sitapur	5,743	0.00	19.00	190.42	209.42	3.65	0.42	6.30
Sonbhadra	6,905	130.00	967.00	1,443.29	2,540.29	36.79	1.29	28.00
Sultanpur	4,436	5.00	15.00	190.03	210.03	4.73	6.03	0.00
Unnao	4,558	0.00	28.00	236.59	264.59	5.80	14.59	0.00
Varanasi	1,535	0.00	1.00	16.10	17.10	1.11	0.10	0.00
Grand Total	2,40,928	2,616.43	4,080.04	8,109.18	14,805.65	6.15	126.65	586.52

TABLE 11.28.5 Forest Cover Change Matrix for Uttar Pradesh

(in sq km)

Class	2019 Assessment					Total ISFR 2017
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	2,617	0	0	0	0	2,617
Moderately Dense Forest	0	4,052	9	0	8	4,069
Open Forest	0	25	7,899	16	53	7,993
Scrub	0	0	10	539	2	551
Non Forest	0	3	191	32	2,25,472	2,25,698
Total ISFR 2019	2,617	4,080	8,109	587	2,25,535	2,40,928
Net Change	0	11	116	36	-163	

Main reasons for the increase in forest cover in the State are plantation and conservation activities as well as improvement in interpretation.

TABLE 11.28.6 Altitude-wise Forest Cover in Uttar Pradesh (in sq km)

Altitude Zone (m)	Geographical Area	VDF	MDF	OF	Total	Scrub
0-500	2,40,458	2,617	3,894	7,888	14,399 (97.25%)	585
500-1000	470	0	186	221	407 (2.75%)	2
Total	2,40,928	2,617	4,080	8,109	14,806	587

(based on SRTM, Digital Elevation Model, 30 m, 2016)

TABLE 11.28.7 Forest Cover in different slope classes in Uttar Pradesh (in sq km)

Slope (in degrees)	Geographical Area	VDF	MDF	OF	Total	Scrub
0-5	2,35,259	2,394	3,142	7,074	12,610 (85.17%)	505
5-10	4,405	156	498	637	1,291 (8.72%)	57
10-15	730	39	220	207	466 (3.15%)	15
15-20	300	15	116	104	235 (1.59%)	6
20-25	143	8	62	52	122 (0.82%)	3
25-30	60	4	28	22	54 (0.36%)	1
>30	31	1	14	13	28 (0.19%)	0
Total	2,40,928	2,617	4,080	8,109	14,806	587

(based on SRTM, Digital Elevation Model, 30 m, 2016)

FIGURE 11.28.3 Forest Cover Map of Uttar Pradesh

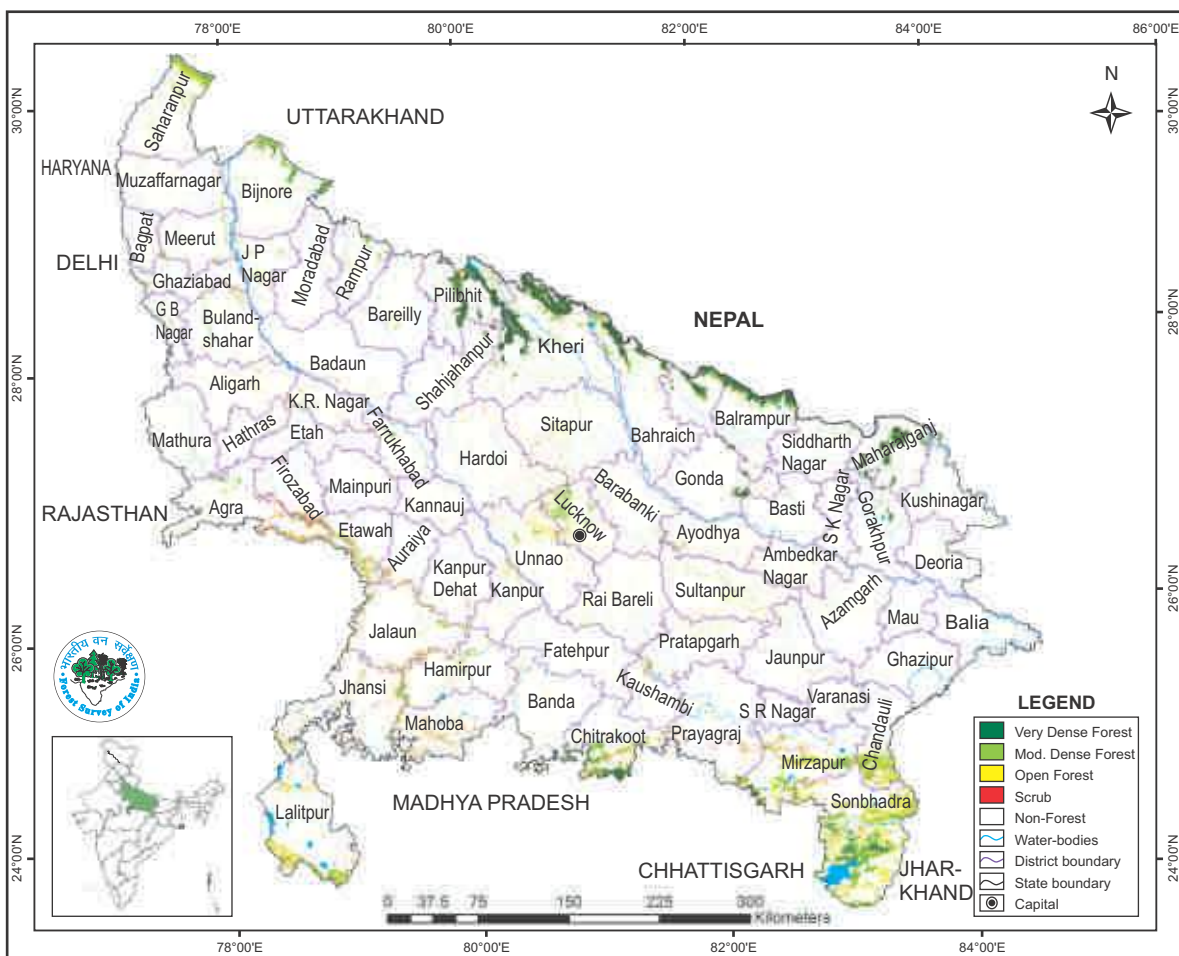


TABLE 11.28.8 Wetlands inside the Recorded Forest Area (or Green Wash) in Uttar Pradesh (in ha)

Wetland Category	No. of Wetlands	Total Wetland Area
Inland Wetlands - Natural		
Lake/Pond	92	924
Ox-bow lake/Cut-off meander	47	742
Riverine wetland	103	1,079
Waterlogged	240	3,035
River/Stream	310	26,048
Sub - Total	792	31,828
Inland Wetlands - Man-made		
Reservoir/Barrage	504	8,754
Tank/Pond	106	353
Waterlogged	50	390
Sub - Total	660	9,497
Wetlands (<2.25 ha)	899	899
Total	2,351	42,224
Total Recorded Forest (or Green Wash) Area (in ha)		13,43,375
% of Wetland area inside Recorded Forest (or Green Wash) Area		3.14%

(analysis based on the National Wetland Atlas: India, 2011)

11.28.3 Forest Types & Biodiversity

Forest Types Maps of 2011 have been refined in the recently completed exercise by FSI. Percentage area under different forest types of Uttar Pradesh as per the Champion & Seth classification (1968), according to the latest exercise are presented in the following table.

TABLE 11.28.9 Percentage area under different forest types of Uttar Pradesh

Sl.No.	Forest Type	% of Forest cover
1.	2/E1 (Cane Brakes)	0.14
2.	3C/1S1 Low Alluvial Savannah Woodland (<i>Salmania Albizzia</i>)	0.03
3.	3C/C2d (i) Western Light Alluvium Plains Sal	10.06
4.	3C/C2d (iii) Eastern Heavy Alluvium Plains Sal	4.11
5.	3C/C3a West Gangatic Moist Mixed Deciduous Forest	2.56
6.	3C/2S1 Northern Secondary Moist Mixed Deciduous Forest	2.25
7.	4D/SS2 <i>Barringtonia</i> Swamp Forest	0.01
8.	4D/2S2 Eastern Wet Alluvial Grassland	0.63
9.	4D/SS3 <i>Syzygium cumini</i> Swamp Low Forest	1.33
10.	5B/C2 Northern Dry Mixed Deciduous Forest	34.90
11.	5/E1 <i>Anogeissus Pendula</i> Forest	2.81
12.	5B/DS1 Dry Deciduous Scrub	2.75
13.	5B/C1c Dry Peninsular Sal Forest	2.39
14.	5E1/DS1 <i>Anogeissus Pendula</i> Scrub	1.08
15.	5/1S2 <i>Khair-Sissu</i> Forest	1.08
16.	5A/C1b Dry Teak Forest	0.91
17.	5/E2 <i>Boswellia</i> Forest	0.80
18.	5B/C1a Dry Siwalik Sal Forest	0.71

Contd.

Sl.No.	Forest Type	% of Forest cover
19.	5/E9 Dry Bamboo Brake	0.52
20.	5B/C1b Dry Plains Sal Forest	0.41
21.	5/E3 Babul Forest	0.25
22.	5/E8b Babul Savannah Forest	0.10
23.	5/E5 <i>Butea</i> Forest	0.05
24.	5/E8a Phoenix Savannah Forest	0.02
25.	5/DS2 Dry Savannah Forest	0.01
26.	5/DS3 (<i>Euphorbia</i> Scrub)	0.01
27.	5/1S1 Dry Tropical Riverain Forest	0.00
28.	6B/C2 Ravine Thorn Forest	5.11
29.	Plantation/ TOF	24.97
	Total	100.00

11.28.3.1 Assessment of Biodiversity

Findings of the rapid assessment of Biodiversity carried out at the national level for natural forests during September 2018 to May 2019 as part of the forest type mapping exercise is summarized below in table 11.28.10 and table 11.28.11 in respect of Uttar Pradesh.

TABLE 11.28.10 No. of species observed during the rapid assessment

Plant Type	Number of Species
Tree	84
Shrub	71
Herb	86

TABLE 11.28.11 Shannon-Wiener Index of Tree, Shrub and Herbs species in different Type Groups of Uttar Pradesh

Sl.No.	Forest Type Group	Shannon-Wiener Index		
		Tree	Shrub	Herb
1	Group 2- Tropical Semi-Evergreen Forests	*	2.48	2.49
2	Group 3- Tropical Moist Deciduous Forests	2.31	2.41	2.26
3	Group 4- Littoral and Swamp Forests	1.98	2.29	2.63
4	Group 5- Tropical Dry Deciduous Forests	3.44	2.15	2.97
5	Group 6- Tropical Thorn Forests	1.42	2.07	*

*adequate number of sample plots were not available

11.28.4 Fire Prone Forest Areas

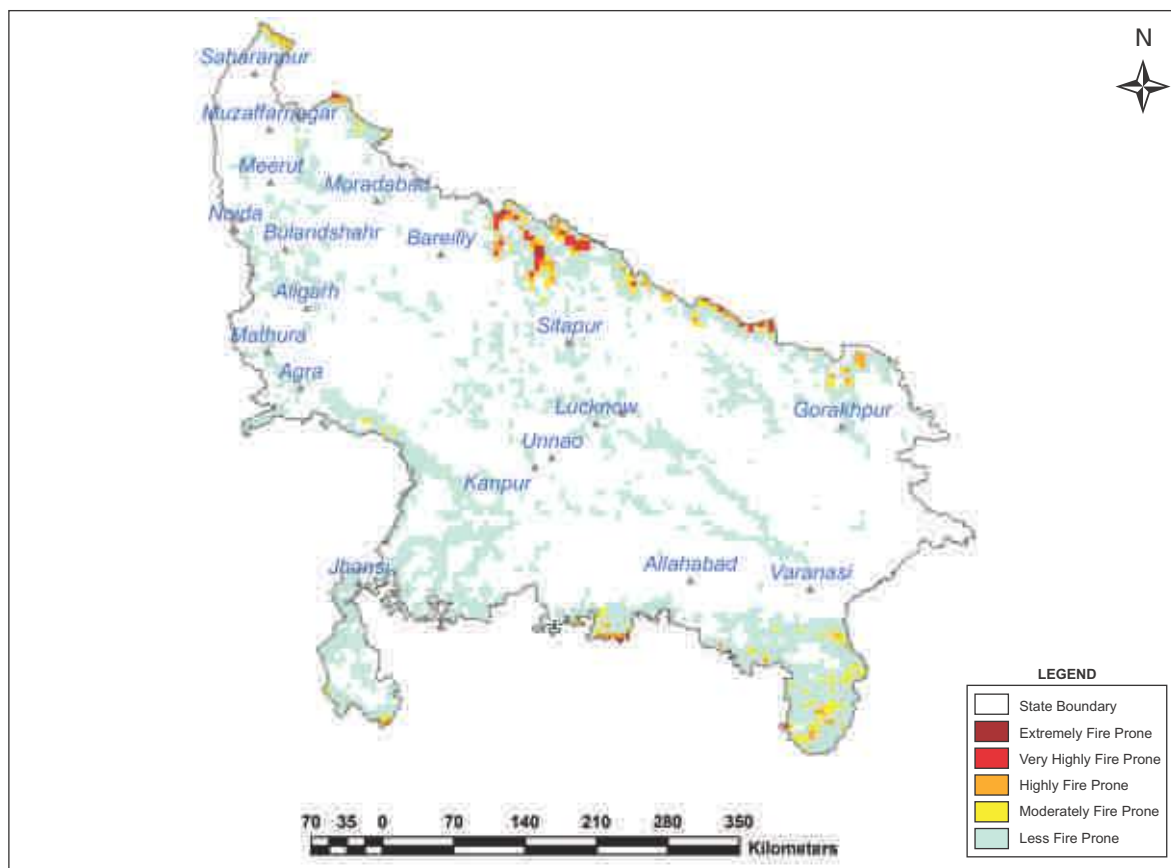
Geographical area under different classes of forest fire proneness are given in the following table

TABLE 11.28.12 Forest Fire Prone Classes (in sq km)

Sl. No.	Forest Fire Prone Classes	Geographical Area	% of Total forest cover
1.	Extremely fire prone	124.70	0.92
2.	Very highly fire prone	976.65	7.10
3.	Highly fire prone	1,813.22	11.86
4.	Moderately fire prone	3,487.79	17.66
5.	Less fire prone	58,287.13	62.46
	Total	64,689.49	100.00



FIGURE 11.28.4 Fire prone forest areas under different fire prone classes



11.28.5 Tree Cover

Forest cover presented in the section 11.28.2 accounts for tree patches of size 1 ha and more having canopy density more than 10%. However, trees occurring in patches of size less than 1 ha including scattered trees are assessed through sampling based methodology. Tree cover in Uttar Pradesh has been estimated as given in table 11.28.13.

TABLE 11.28.13 Tree Cover in Uttar Pradesh
(in sq km)

Tree Cover	Area
	7,342

Tree cover of Uttar Pradesh has decreased by 100 sq km as compared to the previous assessment reported in ISFR 2017.

11.28.6 Extent of Trees Outside Forest (TOF)

Trees outside Forests (TOF) refer to tree resources found outside the forests as defined in the Government records. FSI maps forest cover using satellite data and assesses tree cover outside forests using sampling based method. Forest Cover outside the recorded forest area is derived using boundaries of RFA or Green Wash. Extent of TOF therefore may be estimated as the sum of extent of forest cover outside the recorded forest areas (RFA) and tree cover as given in the preceding section.

TABLE 11.28.14 Extent of TOF in Uttar Pradesh (in sq km)

Forest Cover outside the RFA/GW	Tree Cover	Extent of TOF
5,611	7,342	12,953

11.28.7 Growing Stock in Forest

Growing stock in the recorded forest areas (RFA) in Uttar Pradesh is given in the table 11.28.15. Diameter class-wise distribution of top 5 species in numbers derived from the forest inventory data is presented in the table 11.28.16

TABLE 11.28.15 Growing Stock in Uttar Pradesh (in m cum)

Growing Stock (GS)		% of Country's GS
Growing Stock in Recorded Forest Area	96.04	2.25
Growing Stock in TOF	97.62	5.94

TABLE 11.28.16 Diameter class distribution of top five species inside RFA in Uttar Pradesh (in '000)

Sl.No.	Species	Dia class (cm)		
		10-30	30-60	>60
1.	<i>Shorea robusta</i>	12,454	19,709	1,988
2.	<i>Tectona grandis</i>	7,376	4,851	313
3.	<i>Butea monosperma</i>	8,439	1,575	66
4.	<i>Mallotus philippinensis</i>	9,659	707	0
5.	<i>Lannea coromandelica</i>	8,557	1,246	0

11.28.8 Carbon Stock in Forest

The total Carbon stock of forests in the State is 115.69 million tonnes (424.20 million tonnes of CO₂ equivalent) which is 1.62% of total forest carbon of the country. Pool wise forest carbon in Uttar Pradesh is given in the following table

TABLE 11.28.17 Forest Carbon in Uttar Pradesh in different pools (in '000 tonnes)

AGB	BGB	Dead wood	Litter	SOC	Total
32,498	10,374	372	1,893	70,553	1,15,690

11.28.9 Growing Stock of Bamboo

Bamboo bearing area and growing stock inside the recorded forest area (RFA)/ Green Wash in the State which includes culms of 1 year age and above are given in the table 11.28.18

TABLE 11.28.18 Growing Stock of Bamboo in Uttar Pradesh

Growing Stock (GS)		% of Country's GS of Bamboo
Bamboo bearing area inside RFA/Green Wash (in sq km)	1,235	0.77
Total number of culms (in millions)	236	0.60
Total equivalent green weight (in 000' tonnes)	974	0.35

11.28.10 Dominant tree species in Trees Outside Forests (TOF)

Top five species in numbers in Trees Outside Forests in Uttar Pradesh in Rural and Urban areas are given in the table 11.28.19 and table 11.28.20 respectively.

TABLE 11.28.19 Top five tree species in TOF (Rural) in Uttar Pradesh

Sl. No.	Species	Relative Abundance (%)
1.	<i>Mangifera indica</i>	31.54
2.	<i>Eucalyptus species</i>	15.86
3.	<i>Populus species</i>	9.60
4.	<i>Azadirachta indica</i>	5.71
5.	<i>Acacia arabica</i>	5.30

TABLE 11.28.20 Top five tree species in TOF (Urban) in Uttar Pradesh

Sl. No.	Species	Relative Abundance (%)
1.	<i>Azadirachta indica</i>	15.90
2.	<i>Mangifera indica</i>	9.81
3.	<i>Eucalyptus species</i>	8.87
4.	<i>Psidium guyava</i>	3.90
5.	<i>Terminalia arjuna</i>	3.33

11.28.11 Major NTFP and Invasive Species

Major NTFP and invasive species as assessed from forest inventory data are presented in the table 11.28.21 and table 11.28.22 respectively.

TABLE 11.28.21 Major NTFP species in the State of Uttar Pradesh

Sl. No.	Species	Plant Type	Relative Abundance (%)
1.	<i>Calotropis gigantea</i>	Shrub	87.76
2.	<i>Acacia concina</i>	Shrub	11.04
3.	<i>Hedyotes scandens</i>	Shrub	1.20

TABLE 11.28.22 Major invasive species in the State inside the RFA/Green Wash in Uttar Pradesh (in sq km)

Sl. No.	Species	Estimated Extent
1.	<i>Lantana camara</i>	798
2.	<i>Cassia tora</i>	193
3.	<i>Saccharum spontanem</i>	126
4.	<i>Dioscorea pentaphylla</i>	72
5.	<i>Ichnocarpus frutescens</i>	59

Major NTFP species are given in terms of relative abundance whereas invasive species are given in terms of their estimated extent.

11.28.12 Quantified estimation of Dependence of People living in forest fringe villages on forests in Uttar Pradesh

Through a nation-wide study, FSI has done estimation of dependence of people living in the villages close to forest for fuel wood, fodder, small timber and bamboo in quantified terms for each State & UT of the country (Please refer to Chapter 10 in Vol. I for details). The estimated quantities of the four produce for Uttar Pradesh is given in the table 11.28.23.

TABLE 11.28.23 Estimation of Dependence of People in Forest Fringe Villages on Forests in Uttar Pradesh

Fuelwood (tonnes)	Fodder (tonnes)	Bamboo (tonnes)	Small Timber (cum)
51,40,777	5,93,35,092	1,09,512	1,59,587