



Uttar Pradesh

9.28.1 Introduction

Uttar Pradesh covers an area of 2,40,928 sq km which is 7.33% of the geographical area of the country. Physiographically, the State can be divided into three distinct regions namely Himalayan region in the North, Gangetic plain in the centre and Vindhya hills and plateau in the south. Uttar Pradesh has a humid subtropical with dry winter climate. The average annual rainfall varies from about 1,000mm to about 1,200mm and the average annual temperature ranges between 5°C to 45°C. The state is drained by a number of rivers, which include Betwa, Chambal, Gandak, Ganga, Gomti, Ghaghra and Yamuna. The state has 71 districts, among which 1 is a tribal district. The state does not have any hill districts. As per the 2011 census, Uttar Pradesh has a population of 199.81 million accounting to 16.50 percent of India's population. The urban, rural and tribal population constitute 22.27%, 77.73% and 0.57% respectively. The average population density of the state is 829 per sq km which is higher than the national average of 382 persons per sq km. The 19th Livestock census 2012 has reported a total livestock population of 68.71 million.

Table 9.28.1 Land Use Pattern

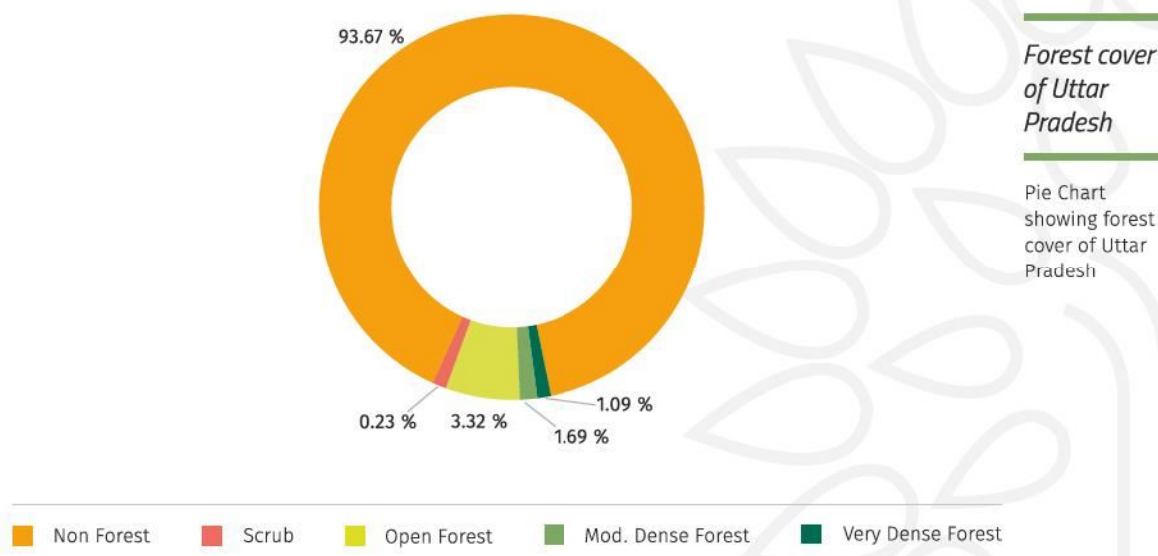
Land Use Types	Area (in 000' ha)	Percentage
Total Geographic Area	24,093	
Reporting area for land utilization	24,170	100
Forests	1,658	6.86
Not available for land cultivation	3,491	14.44
Permanent pastures and other grazing lands	65	0.27
Land under misc. tree crops and groves	325	1.34
Culturable wasteland	410	1.70
Fallow land other than current fallows	539	2.23
Current fallows	1,135	4.70
Net area sown	16,546	68.46

Source: Land Use Statistics, Ministry of Agriculture, GOI, 2013-14.

9.28.2

Forest Cover

Based on interpretation of satellite data pertaining to Oct-Dec 2015, the forest cover in the State is 14,679 sq km which is 6.09% of the State's geographical area. In terms of forest canopy density classes, the state has 2,617 sq km under very dense forest, 4,069 sq km under moderately dense forest and 7,993 sq km under open forest.



9.28.3

Forest Cover within and outside Green Wash Area

The recorded forest area of the state is 16,582 sq km which is 6.88% of its geographical area. The Reserved, Protected and Unclassed Forests are 72.79%, 6.98% and 20.23% respectively of recorded forest area. Due to non-availability of digitized boundary of recorded forest area from the State, the updated green wash which is 13,523 sq km has been used and the analysis of forest cover within and outside this area is depicted below.

Table 9.28.2 Forest Cover within and outside Green Wash Area

Forest Cover within Green Wash (Area in sq km)	
Very Dense Forest (VDF)	2,475
Moderately Dense Forest (MDF)	3,041
Open Forest (OF)	3,727
Total	9,243
Forest Cover outside Green Wash	
Very Dense Forest	142
Moderately Dense Forest	1,028
Open Forest	4,266
Total	5,436
Total Forest Cover	14,679
Tree Cover	7,442
Total Forest & Tree Cover	22,121
Of State's Geographical Area	9.18 %
Of India's Forest & Tree Cover	2.76 %
Per capita Forest & Tree Cover	0.01 ha

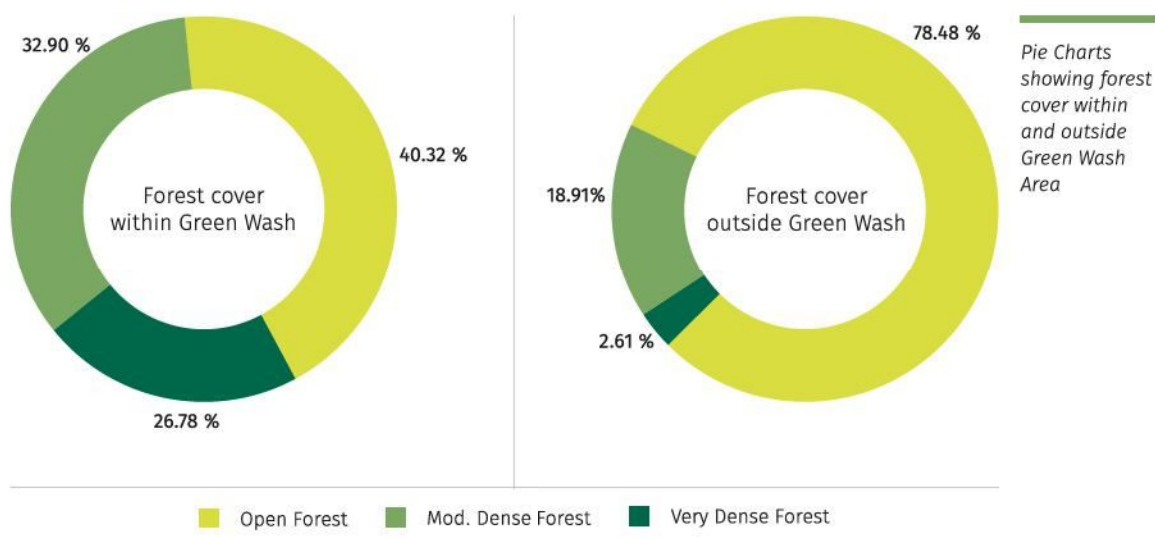


Table 9.28.3 Altitude-wise Forest Cover (Area in sq km)

Altitude Zone (m)	Geographical Area	VDF	MDF	OF	Total
0-500	2,40,458	2,617	3,883	7,771	14,271
500-1000	470	0	186	222	408
Total	2,40,928	2,617	4,069	7,993	14,679

(Based on SRTM, Digital Elevation Model)

Table 9.28.4 Forest Cover in different Patch Size Classes

S.No.	Patch Size Range in(sq km)	No. of Patches	Area(sq km)	%age
1.	≥ 0.01 ≤ 1.0	64,469	3,627	24.71
2.	> 1.0 ≤ 10	728	1,934	13.17
3.	> 10 ≤ 100	97	2,508	17.09
4.	> 100 ≤ 500	20	4,086	27.84
5.	> 500 ≤ 1000	4	2,524	17.19
	Total	65,318	14,679	100.00

Table 9.28.5 Growing Stock

	Growing Stock	% Contribution to country
Growing Stock in Recorded Forest Area	135.848 m cum	3.22
Growing Stock in TOF	88.340 m cum	5.51
Potential Production of industrial wood from TOF	7.06 m cum	9.48
Bamboo bearing area within forest area of the state	936 sq km	0.60
Total number of culms	175 millions	0.62
Total green weight equivalent of culms	641(000' tonnes)	0.34

9.28.4

Carbon Stock in forest

The total Carbon stock of forests in the State is 125.134 million tonnes (458.824 million tonnes of CO₂ equivalent) which is 1.77 % of total forest carbon of the country.

9.28.5

Decadal Change in water bodies within Forest

An decrease of 202 sq km has been observed in the water body coverage within forest compared to 2005. The graphical and tabular comparison is depicted below.

Extent of
water bodies
within forest

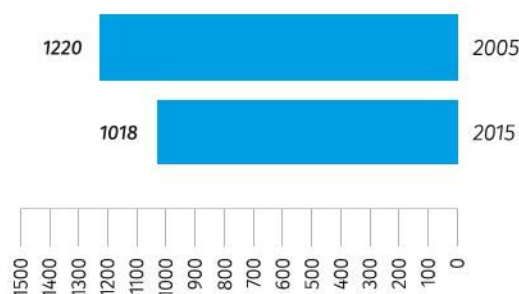


Table 9.28.6 Water bodies within Forest for the years 2005 and 2015

Area/Coverage	2005	2015
Extent of water bodies (sq km) within Forest	1,220	1,018
% of water bodies to Forest Cover	8.50	6.94

Table 9.28.7 District- wise Forest Cover

(area in sq km)

District	Geo-graphical Area	2017 Assessment				% of GA	Change *	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Agra	4,041	0	63	209	272	6.73	4	64
Aligarh	3,650	0	7	60	67	1.84	2	1
Allahabad	5,482	6	26	95	127	2.32	20	36
Ambedkar Nagar	2,350	0	1	40	41	1.74	1	0
Auraiya	2,016	0	5	36	41	2.03	3	9
Azamgarh	4,054	0	1	49	50	1.23	0	0
Baghpat	1,321	0	5	12	17	1.29	-1	0
Bahraich	5,237	240	156	153	549	10.48	2	9

District	Geo-graphical Area	2017 Assessment				% of GA	Change *	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Ballia	2,981	0	0	22	22	0.74	-1	0
Balrampur	3,349	279	154	91	524	15.65	0	3
Banda	4,408	0	56	46	102	2.31	1	4
Bara Banki	4,402	3	6	68	77	1.75	-1	5
Bareilly	4,120	0	7	38	45	1.09	1	0
Basti	2,688	1	6	22	29	1.08	-1	0
Bijnor	4,561	39	215	148	402	8.81	-15	4
Budaun	5,168	0	11	34	45	0.87	3	6
Bulandshahr	4,512	0	50	116	166	3.68	-1	0
Chandauli	2,541	7	192	366	565	22.24	1	10
Chitrakoot	3,216	81	319	186	586	18.22	14	37
Deoria	2,540	0	1	14	15	0.59	-1	0
Etah	2,431	0	1	30	31	1.28	-3	0
Etawah	2,311	0	62	180	242	10.47	21	40
Faizabad	2,341	6	10	70	86	3.67	7	0
Farrukhabad	2,181	0	14	33	47	2.15	0	2
Fatehpur	4,152	0	18	35	53	1.28	3	0
Firozabad	2,407	0	5	44	49	2.04	0	24
Gautam Buddha Nagar	1,282	0	5	15	20	1.56	2	0
Ghaziabad	1,179	0	9	17	26	2.21	1	0
Ghazipur	3,377	0	1	28	29	0.86	0	0
Gonda	4,003	67	8	39	114	2.85	-2	0
Gorakhpur	3,321	28	23	28	79	2.38	3	0
Hamirpur	4,021	0	80	147	227	5.65	50	14
Hardoi	5,986	0	17	127	144	2.41	17	5
Jalaun	4,565	0	61	188	249	5.45	4	36
Jaunpur	4,038	0	11	56	67	1.66	-1	0
Jhansi	5,024	0	42	261	303	6.03	88	40
Jyotiba Phule Nagar	2,249	0	25	61	86	3.82	1	0
Kannauj	2,093	0	0	28	28	1.34	1	0
Kanpur Dehat	3,021	0	3	38	41	1.36	-6	9
Kanpur Nagar	3,155	0	7	59	66	2.09	2	3
Kanshiram Nagar	1,955	0	9	59	68	3.48	4	0
Kaushambi	1,779	0	5	22	27	1.52	0	0
Kheri ^T	7,680	805	158	311	1,274	16.59	-24	4
Kushinagar	2,905	0	2	32	34	1.17	-1	0
Lalitpur	5,039	0	129	458	587	11.65	15	31
Lucknow	2,528	0	162	203	365	14.44	39	2
Mahamaya Nagar	1,840	0	1	22	23	1.25	-1	0
Mahoba	3,144	0	21	149	170	5.41	77	62

District	Geo-graphical Area	2017 Assessment				% of GA	Change *	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Mahrajganj	2,952	259	101	69	429	14.53	-2	0
Mainpuri	2,760	0	1	13	14	0.51	-1	0
Mathura	3,340	0	4	56	60	1.8	5	3
Mau	1,713	0	0	11	11	0.64	0	0
Meerut	2,559	0	34	34	68	2.66	1	0
Mirzapur	4,405	8	290	507	805	18.27	-33	47
Moradabad	3,718	0	5	23	28	0.75	-1	0
Muzaffarnagar	4,008	0	14	26	40	1	1	0
Pilibhit	3,686	471	86	131	688	18.67	-11	2
Pratapgarh	3,717	0	29	73	102	2.74	6	2
Rae Bareli	4,609	0	4	89	93	2.02	-7	1
Rampur	2,367	4	26	45	75	3.17	1	0
Saharanpur	3,689	0	174	199	373	10.11	-1	0
Sant Kabir Nagar	1,646	0	1	13	14	0.85	0	1
Sant Ravidas Nagar (Bhadohi)	1,015	0	0	3	3	0.3	0	0
Shahjahanpur	4,388	26	7	28	61	1.39	-1	1
Shrawasti	1,640	152	85	48	285	17.38	-3	0
Siddharthnagar	2,895	0	8	26	34	1.17	0	0
Sitapur	5,743	0	19	190	209	3.64	-7	6
Sonbhadra	6,905	130	967	1,442	2,539	36.77	-17	28
Sultanpur	4,436	5	15	184	204	4.6	18	0
Unnao	4,558	0	28	222	250	5.48	1	0
Varanasi	1,535	0	1	16	17	1.11	1	0
Total	2,40,928	2,617	4,069	7,993	14,679	6.09	278	551

*Change compared to updated 2015 assessment.

Table 9.28.8 Forest Cover Change Matrix						(area in sq km)
Class	2017 Assessment					Total ISFR 2015 updated
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	1,984	166	15	0	6	2,171
Moderately Dense Forest	475	3,005	434	7	122	4,043
Open Forest	147	771	6,018	47	1,204	8,187
Scrub	1	20	204	339	234	798
Non Forest	10	107	1,322	158	2,24,132	2,25,729
Total ISFR 2017	2,617	4,069	7,993	551	2,25,698	2,40,928
Net Change	446	26	-194	-247	-31	

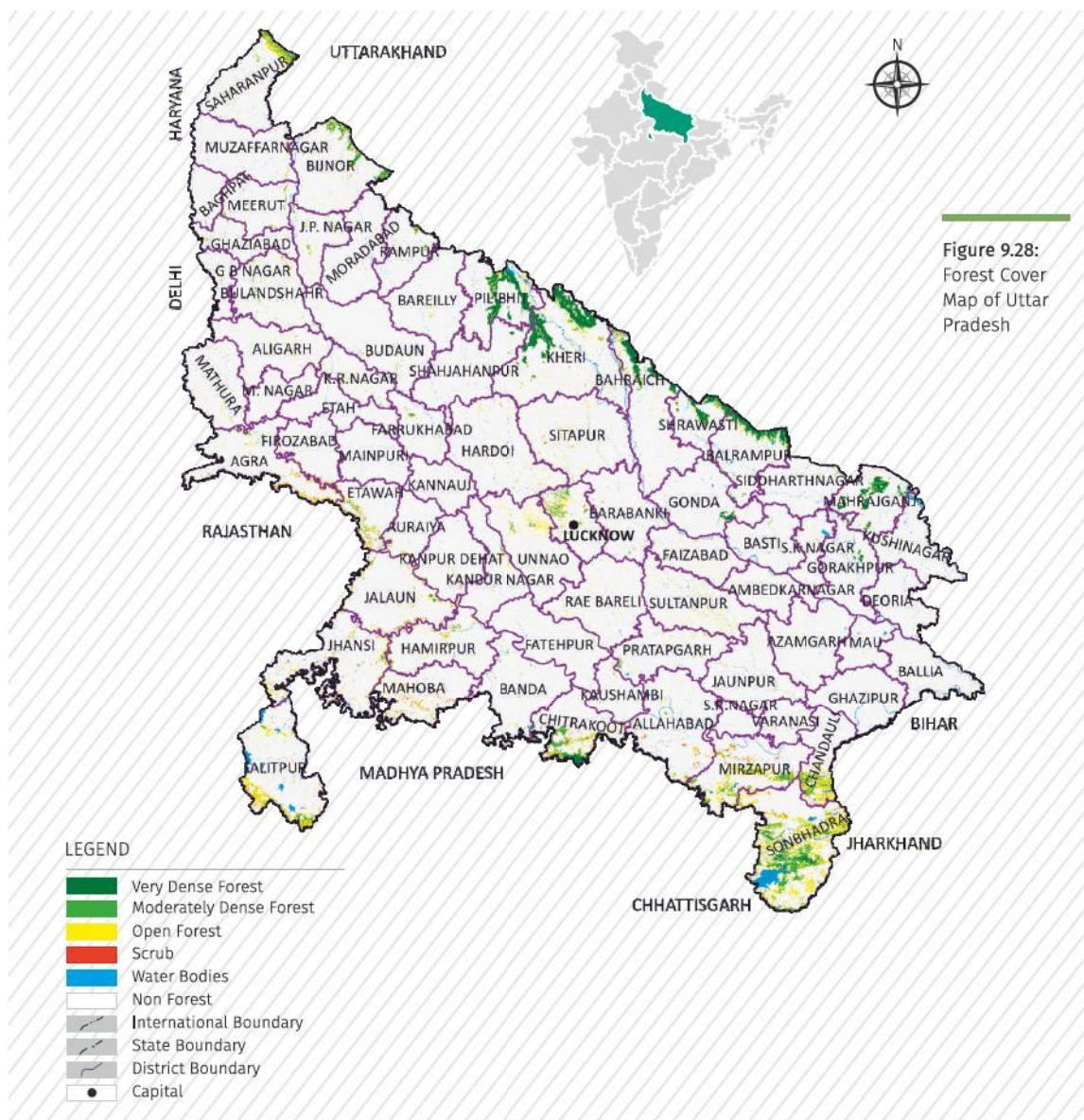


Figure 9.28:
Forest Cover
Map of Uttar
Pradesh

9.28.6

Reasons for change detected in 2017 assessment

A net increase of 278 sq km has been observed in the State compared to the previous assessment which can be attributed to plantation activities and conservation efforts.