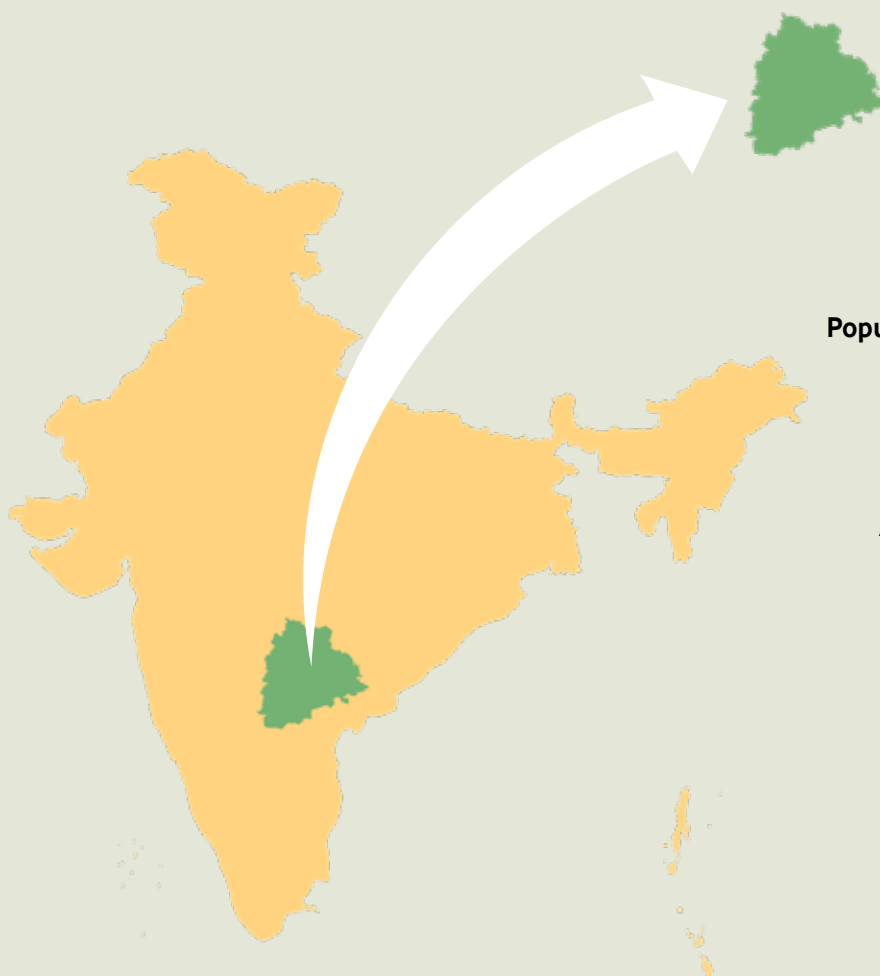


TELANGANA



Geographical Area

1,12,122 km²

Geographical Coordinates

Latitude 15°50' N to 19°55' N
Longitude 77°14' E to 81°19' E

Population (as per Census 2011)

35.19 million
Urban 13.61 million (38.88 %)
Rural 21.58 million (61.12 %)
Tribal 3.29 million (9.35 %)

Average Population Density

306 per km²

Livestock Population

(as per 19th Livestock Census)
56.10 million

No. of Districts

33

No. of Hill Districts

0

No. of Tribal Districts

3

Table 10.25.1 Land Use Pattern

Land Use Types	Area (in '000 ha)	Percentage
Geographical Area	11,208	
Reporting area for land utilization	11,207.70	100.00
Forests	2,767.89	24.70
Not available for land cultivation	1,458.33	13.01
Permanent pastures and other grazing lands	266.92	2.38
Land under misc. tree crops and groves	81.91	0.73
Culturable wasteland	111.01	0.99
Fallow land other than current fallows	343.72	3.07
Current fallows	552.73	4.93
Net area sown	5,625.19	50.19

Source: Land Use Statistics, Ministry of Agriculture and Farmer's Welfare, GOI, (2021-22).

10.25.1 Forest Cover

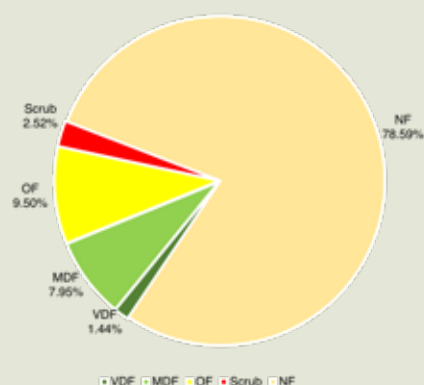


Figure 10.25.1 Forest Cover of Telangana

Table 10.25.2 Forest Cover of Telangana

(km ²)		
Class	Area	% of Calculated Area by Sol
VDF	1,613.32	1.44
MDF	8,909.90	7.95
OF	10,655.82	9.50
Total	21,179.04	18.89
Scrub	2,829.88	2.52

Table 10.25.3 District- wise Forest Cover in Telangana

District	Calculated Area by Sol	2023 Assessment				% of Calculated Area by Sol	Change w.r.t. 2021 Raster based*	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Adilabad	3,999.63	22.01	694.52	428.73	1,145.26	28.63	-115.50	35.02
Bhadradi Kothagudem	6,985.69	637.34	1,502.71	721.61	2,861.66	40.96	-95.55	28.93
Hanumakonda	1,652.57	0.00	5.63	42.79	48.42	2.93	0.19	7.81
Hyderabad	191.22	0.00	4.66	13.50	18.16	9.50	1.43	2.86
Jagtial	2,868.72	0.14	195.13	442.53	637.80	22.23	54.70	83.44
Jangaon	2,112.98	0.00	7.92	57.40	65.32	3.09	-2.13	28.57
Jayashankar Bhupalpally	2,904.13	70.52	647.44	439.43	1,157.39	39.85	-15.43	37.78
Jogulamba Gadwal	2,576.27	0.00	0.10	34.02	34.12	1.32	0.96	25.59
Kamareddy	3,751.07	0.00	126.03	434.17	560.20	14.93	8.46	114.75
Karimnagar	2,126.21	0.00	0.15	34.05	34.20	1.61	4.45	14.45
Khammam	4,523.77	42.68	261.44	303.35	607.47	13.43	-25.76	21.94
Kumuram Bheem	4,487.77	41.32	987.67	749.27	1,778.26	39.62	-44.61	27.80
Mahabubabad	3,620.76	122.28	508.20	291.54	922.02	25.46	-26.98	37.28
Mahabubnagar	2,748.96	0.00	54.38	129.08	183.46	6.67	12.90	102.34
Mancherial	3,910.76	28.42	782.47	754.04	1,564.93	40.02	34.96	42.08
Medak	2,765.29	0.00	69.45	388.63	458.08	16.57	28.86	91.59
Medchal-Malkajgiri	1,075.94	0.00	20.22	122.52	142.74	13.27	1.38	103.93
Mulugu	4,259.61	257.80	1,256.04	1,185.55	2,699.39	63.37	-25.91	54.03
Nagarkurnool	6,410.89	332.68	532.20	1,067.65	1,932.53	30.14	50.53	363.14
Nalgonda	7,205.53	0.00	8.16	311.69	319.85	4.44	26.41	370.06
Narayanpet	2,391.23	0.00	11.06	50.70	61.76	2.58	1.78	68.01
Nirmal	3,719.29	57.74	688.43	338.85	1,085.02	29.17	-45.37	24.41
Nizamabad	4,156.80	0.22	158.68	516.68	675.58	16.25	-4.78	139.00
Peddapalli	2,195.46	0.00	67.53	249.02	316.55	14.42	1.83	68.72
Rajanna Sircilla	1,876.92	0.00	62.94	214.67	277.61	14.79	10.81	61.95
Rangareddy	5,004.44	0.11	30.54	399.32	429.97	8.59	5.05	266.28



Table 10.25.3 District- wise Forest Cover in Telangana

District	Calculated Area by Sol	2023 Assessment				% of Calculated Area by Sol	Change w.r.t. 2021 Raster based*	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Sangareddy	4,442.30	0.00	25.19	185.73	210.92	4.75	33.67	89.45
Siddipet	3,616.49	0.00	42.69	197.47	240.16	6.64	22.04	77.19
Suryapet	3,592.19	0.00	1.80	43.43	45.23	1.26	-1.05	122.40
Vikarabad	3,608.24	0.03	122.14	246.08	368.25	10.21	0.12	70.15
Wanaparthy	2,157.65	0.00	3.52	54.41	57.93	2.68	6.83	94.58
Warangal	1,754.31	0.00	17.81	35.76	53.57	3.05	-2.51	8.32
Yadadri Bhuvanagiri	3,429.35	0.03	13.05	172.15	185.23	5.40	-2.20	146.03
Grand Total	1,12,122.44	1,613.32	8,909.90	10,655.82	21,179.04	18.89	-100.42	2,829.88

*Area figure calculated without normalization factor.

Table 10.25.4 Division-wise Forest Cover in Telangana

Division	Digitized Division Boundary Area*	2023 Assessment				% of Digitized Division Boundary Area*	Change w.r.t. 2021 Raster based*	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Achampet	4,570.41	19.19	312.76	396.42	728.37	15.94	29.31	115.59
Adilabad	2,247.61	0.00	265.78	206.97	472.75	21.03	-59.40	29.20
Amangal	2,904.33	0.11	15.62	260.63	276.36	9.52	10.02	157.20
Amrabad WL	1,832.35	313.49	219.47	672.38	1,205.34	65.78	22.18	253.47
Armoor	1,832.83	0.00	82.71	161.96	244.67	13.35	-6.21	51.65
Asifabad	2,818.66	39.67	565.18	517.93	1,122.78	39.83	-30.59	19.00
Banswada	1,856.28	0.00	61.56	163.55	225.11	12.13	-0.32	46.61
Bellemapally	1,122.91	11.17	135.38	190.18	336.73	29.99	0.02	7.37
Bhadrachalam	868.31	23.91	165.79	83.89	273.59	31.51	-28.47	5.81
Bhupalpally	1,945.72	20.66	352.28	252.37	625.31	32.14	-15.35	35.28
Chennur	1,005.46	0.00	272.93	182.89	455.82	45.33	13.20	14.92
Echoda	1,231.15	1.00	208.22	169.54	378.76	30.76	-23.54	4.18
Etunagaram WL	1,017.29	130.34	364.79	244.48	739.61	72.70	-16.13	6.69
Gadwal	2,577.78	0.00	0.10	33.93	34.03	1.32	0.98	25.52
Guduru WL	1,148.29	98.41	379.11	159.01	636.53	55.43	-15.63	4.81
Hanumakonda	1,293.55	0.00	6.62	38.85	45.47	3.52	0.14	6.97
Hyderabad	181.86	0.00	5.20	12.39	17.59	9.67	1.39	2.24
Jagtial	2,852.61	0.14	189.01	433.29	622.44	21.82	53.53	81.45
Jangoan	2,284.79	0.00	7.51	56.93	64.44	2.82	-2.53	28.94
Jannaram WL	543.98	16.80	152.57	96.59	265.96	48.89	8.74	1.85
Kaghaznagar	1,675.38	1.51	432.21	231.72	665.44	39.72	-14.07	8.24
Kamareddy	1,869.33	0.00	62.18	265.80	327.98	17.55	9.00	67.60
Karimnagar	2,125.05	0.00	0.15	34.86	35.01	1.65	5.24	15.41

Table 10.25.4 Division-wise Forest Cover in Telangana

Division	Digitized Division Boundary Area*	2023 Assessment				% of Digitized Division Boundary Area*	Change w.r.t. 2021 Raster based*	Scrub
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total			
Khammam	2,947.83	8.27	55.26	130.58	194.11	6.58	-1.70	16.94
Khanapur	1,078.26	57.27	515.44	137.18	709.89	65.84	-24.64	2.58
Kinnerasani WL	823.06	129.59	238.19	52.95	420.73	51.12	1.89	2.22
Kothagudem	1,196.13	65.17	154.38	137.45	357.00	29.85	-2.24	3.51
Mahaboobnagar	2,731.78	0.00	70.92	141.87	212.79	7.79	12.50	98.54
Mahabubabad	2,387.65	23.77	91.80	101.58	217.15	9.09	-10.66	31.89
Mahadevpur	1,084.55	54.09	349.63	219.05	622.77	57.42	-0.43	5.61
Mancherial	1,234.69	0.00	210.77	283.35	494.12	40.02	12.79	18.41
Manuguru	1,077.20	109.70	181.85	127.37	418.92	38.89	-16.75	3.56
Medak	2,747.88	0.00	69.48	387.00	456.48	16.61	29.52	94.47
Medchal	1,083.57	0.00	20.38	123.21	143.59	13.25	1.41	105.18
Mulugu	1,060.03	21.33	230.82	266.76	518.91	48.95	-1.12	16.50
Nagarjunasagar WL	1,742.00	0.00	7.05	171.01	178.06	10.22	13.18	236.76
Nalgonda	5,483.08	0.00	1.10	140.22	141.32	2.58	13.14	133.80
Narayanpet	2,390.27	0.00	11.06	51.52	62.58	2.62	1.45	71.83
Nirmal	2,656.17	0.11	188.22	199.93	388.26	14.62	-22.09	21.78
Nizamabad	2,333.92	0.09	70.90	342.12	413.11	17.70	1.35	85.52
Paloncha	1,843.36	194.43	393.83	264.09	852.35	46.24	-35.00	9.98
Peddapally	2,212.28	0.00	67.58	252.67	320.25	14.48	1.81	69.49
Rajanna-Sircilla	1,901.23	0.13	74.58	235.71	310.42	16.33	11.39	64.23
Sangareddy	4,459.37	0.00	25.17	181.15	206.32	4.63	32.91	86.62
Sathupally	1,527.67	27.59	167.49	161.42	356.50	23.34	-18.51	4.42
Shamshabad	2,094.33	0.00	14.68	140.03	154.71	7.39	-4.98	109.55
Siddipet	3,635.59	0.00	44.95	204.44	249.39	6.86	21.83	76.85
Suryapet	3,585.06	0.00	1.80	43.21	45.01	1.26	-1.22	121.82
Tadvai	815.35	78.81	274.54	183.11	536.46	65.80	-8.94	3.17
Uttnoor FDPT	549.82	21.97	204.54	52.52	279.03	50.75	-31.41	1.50
Venkatapur	1,199.69	21.98	331.38	432.74	786.10	65.53	0.00	24.68
Vikarabad	3,613.71	0.03	105.42	229.16	334.61	9.26	-0.70	65.64
Wanaparthy	2,181.97	0.00	3.51	56.19	59.70	2.74	7.47	92.78
Warangal	2,140.07	0.02	28.01	55.93	83.96	3.92	-2.35	9.79
Yadadri Bhuvanagiri	3,252.81	0.03	12.56	169.96	182.55	5.61	-1.85	144.60
Yellandu	1,265.88	81.31	367.35	94.60	543.26	42.92	-17.41	3.97
Area which does not fall in any Division	277.59	41.23	68.13	19.18	128.54	46.31	-2.57	1.69
Grand Total	1,12,419.78	1,613.32	8,909.90	10,655.82	21,179.04	18.84	-100.42	2,829.88

#As per the division boundary shapefile provided by State Forest Department.

*Area figure calculated without normalization factor.



10.25.2 Forest Cover Inside and Outside Recorded Forest Area (or Green Wash)

The Forest Cover inside and outside Recorded Forest Area (RFA) has been analysed in different categories and presented in table given below.

Table 10.25.5 Forest Cover Inside and Outside Recorded Forest Area (or Green Wash) in Telangana

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
1,544.81	8,520.97	8,390.33	18,456.11	68.51	388.93	2,265.49	2,722.93
8.37	46.17	45.46		2.52	14.28	83.20	

*In case of Telangana, RFA boundaries have been used.

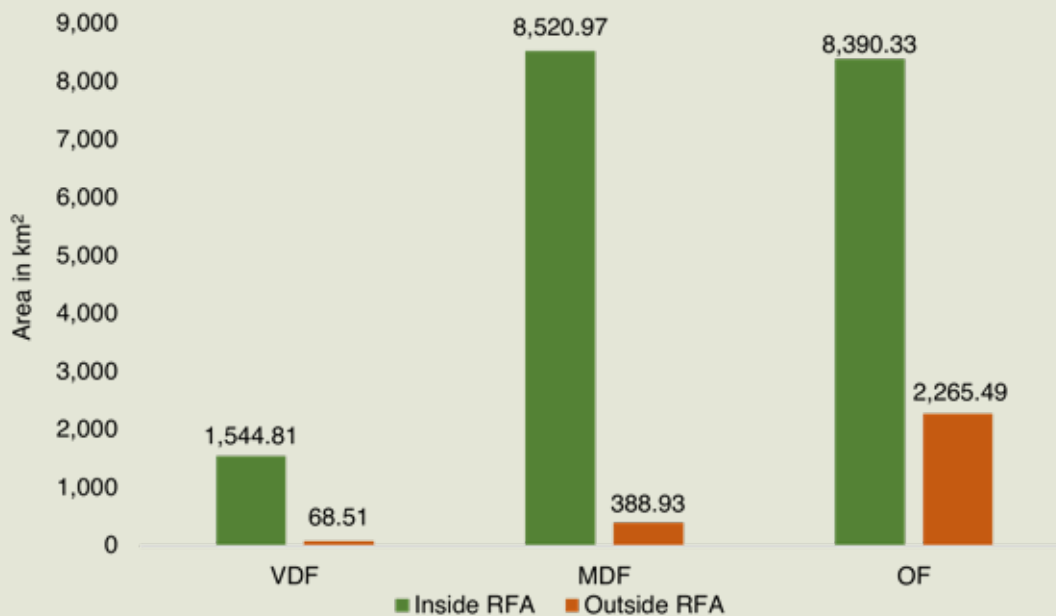


Figure 10.25.2 Forest Cover Inside and Outside of RFA in Telangana

Table 10.25.6 Forest Cover Change Matrix Inside RFA/GW for Telangana between 2021 Raster based and 2023 Assessments

Class	2023 Assessment inside RFA/GW					Total ISFR 2021 inside RFA / GW Raster based*
	VDF	MDF	OF	Scrub	NF	
VDF	1,532.96	0.89	1.61	1.61	11.40	1,548.47
MDF	11.53	8,353.60	35.47	18.14	213.85	8,632.59
OF	0.32	154.40	7,840.34	51.86	334.00	8,380.92
Scrub	0.00	1.00	199.01	1,040.46	87.64	1,328.11
NF	0.00	11.08	313.90	193.09	6,473.22	6,991.29
Total ISFR 2023 inside RFA / GW	1,544.81	8,520.97	8,390.33	1,305.16	7,120.11	26,881.38
Net Change	-3.66	-111.62	9.41	-22.95	128.82	

*Area figure calculated without normalization factor.



Table 10.25.7 Forest Cover Change Matrix Outside RFA/GW for Telangana between 2021 Raster based and 2023 Assessments

Class	2023 Assessment outside RFA/GW					Total ISFR 2021 outside RFA / GW Raster based*
	VDF	MDF	OF	Scrub	NF	
VDF	68.36	0.12	0.14	0.18	2.31	71.11
MDF	0.15	377.79	5.19	2.59	54.52	440.24
OF	0.00	8.39	1,827.93	25.16	344.65	2,206.13
Scrub	0.00	0.18	113.03	1,231.75	316.65	1,661.61
NF	0.00	2.45	319.20	265.04	80,275.28	80,861.97
Total ISFR 2023 outside RFA/GW	68.51	388.93	2,265.49	1,524.72	80,993.41	85,241.06
Net Change	-2.60	-51.31	59.36	-136.89	131.44	

*Area figure calculated without normalization factor

Table 10.25.8 Altitude-wise Forest Cover in Telangana

Altitude Zone (m)	Calculated Area by Sol	VDF	MDF	OF	Total	Scrub
0-500	88,735.19	1,283.18	7,578.60	7,903.84	16,765.62	1,986.07
500-1000	23,387.25	330.14	1,331.30	2,751.98	4,413.42	843.81
Total	1,12,122.44	1,613.32	8,909.90	10,655.82	21,179.04	2,829.88

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

Table 10.25.9 Forest Cover in Different Slope Classes in Telangana

Slope (in degrees)	Calculated Area by Sol	VDF	MDF	OF	Total	Scrub
0-5	1,01,814.77	911.44	5,651.90	7,432.11	13,995.45	2,191.11
5-10	5,543.84	286.08	1,421.92	1,550.00	3,258.00	350.08
10-15	2,244.06	166.27	828.84	768.99	1,764.10	140.24
15-20	1,260.26	109.42	512.45	444.64	1,066.51	74.51
20-25	719.20	73.73	291.96	259.43	625.12	42.60
25-30	357.61	42.11	137.93	132.50	312.54	21.52
>30	182.70	24.27	64.90	68.15	157.32	9.82
Total	1,12,122.44	1,613.32	8,909.90	10,655.82	21,179.04	2,829.88

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

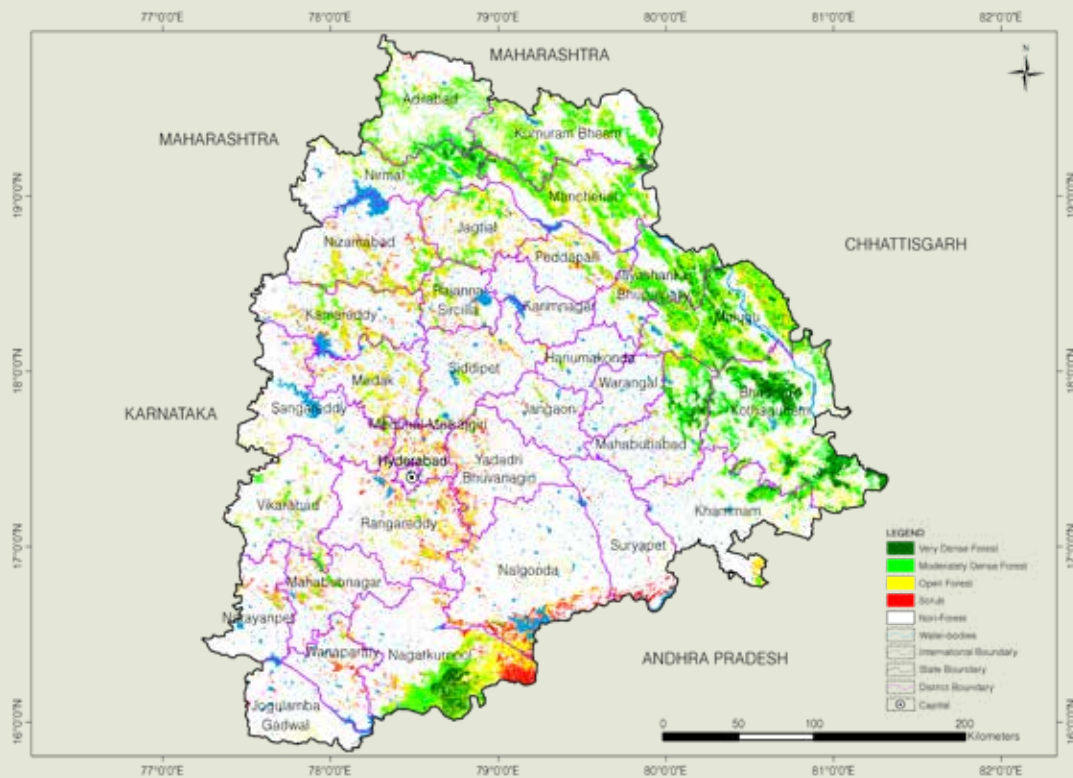


Figure 10.25.3 Forest Cover Map of Telangana

10.25.3 Forest Types

The area under different Forest Types in Telangana (as per the Champion & Seth Forest Classification, 1968) based on the Forest Cover Map(FCM), ISFR-2023, is presented in the following table.

Table 10.25.10 Area Statistics of the Forest Types found in Telangana

(km ²)			
Sl. No.	Forest Type	Area	% of the total mapped area*
1	3B/C2 Southern moist mixed deciduous forest	50.30	0.21
2	5A/C1b Dry teak forest	3,321.86	13.80
3	5A/C3 Southern dry mixed deciduous forest	14,273.00	59.31
4	5/DS1 Dry deciduous scrub	4,741.87	19.70
5	5/DS2 Dry savannah forest	4.04	0.02
6	5/DS4 Dry grassland	11.23	0.05
7	5/E2 <i>Boswellia</i> forest	0.77	0.00
8	5/E4 <i>Hardwickia</i> forest	0.45	0.00
9	5/E9 Dry bamboo brakes	17.48	0.07
10	5/2S1 Secondary dry deciduous forest	128.39	0.53
11	6A/C1 Southern thorn forest	331.15	1.38

Table 10.25.10 Area Statistics of the Forest Types found in Telangana

(km ²)			
Sl. No.	Forest Type	Area	% of the total mapped area*
12	6A/DS1 Southern thorn scrub	6.50	0.03
Sub Total		22,887.04	95.10
13	TOF/ Plantation	1,121.88	4.66
Total (Forest Cover & Scrub)		24,008.92	99.76
Grassland forest type (outside forest cover)			
14	5/DS4 Dry grassland	57.47	0.24
Grand Total		24,066.39	100.00

*Forest Types have been assigned to the natural forest formations under forest cover and scrub categories shown in the forest cover mapping (ISFR, 2023). Grassland forest type outside forest cover has also been mapped. The total mapped area, therefore, is sum of forest cover, scrub and grassland forest types (found in non-forest).

10.25.4 Forest Fire

District-wise number of forest fire detected by FSI using SNPP-VIIRS sensors (This includes large, continuous and repeated forest fires) during the fire season 2022-23 & 2023-24.

Table 10.25.11 District-wise Number of Forest Fire Detected

Sl. No.	District	SNPP-VIIRS Detection during 2022-23	SNPP-VIIRS Detection during 2023-24
1	Adilabad	786	391
2	Bhadradi Kothagudem	1,942	2,600
3	Hanumakonda	4	2
4	Hyderabad	0	0
5	Jagtial	510	455
6	Jangaon	2	0
7	Jayashankar Bhupalapally	659	1,006
8	Jogulamba Gadwal	0	0
9	Kamareddy	347	403
10	Karimnagar	1	1
11	Khammam	381	260
12	Kumuram Bheem	889	582
13	Mahabubabad	1,318	1,245
14	Mahabubnagar	9	21
15	Mancherial	714	513
16	Medak	140	155
17	Medchal-Malkajgiri	22	11
18	Mulugu	1,783	2,597
19	Nagarkurnool	1,207	1,185
20	Nalgonda	14	29
21	Narayanpet	11	11
22	Nirmal	1,166	685
23	Nizamabad	552	680



Table 10.25.11 District-wise Number of Forest Fire Detected

Sl. No.	District	SNPP-VIIRS Detection during 2022-23	SNPP-VIIRS Detection during 2023-24
24	Peddapalli	170	177
25	Rajanna Sircilla	94	170
26	Rangareddy	66	23
27	Sangareddy	77	76
28	Siddipet	80	45
29	Suryapet	3	17
30	Vikarabad	77	97
31	Wanaparthy	4	3
32	Warangal	72	36
33	Yadadri Bhuvanagiri	17	3
Total		13,117	13,479

10.25.5 Fire Prone Forest Areas

Forest Cover under different classes of forest fire proneness is given in following table.

Table 10.25.12 Forest Fire Prone Classes

(km ²)			
Sl. No.	Forest Fire Prone Classes	Forest Cover*	% of Total Forest Cover
1	Extremely fire prone	1,517.74	6.32
2	Very highly fire prone	6,003.97	25.01
3	Highly fire prone	4,319.76	17.99
4	Moderately fire prone	3,041.05	12.67
5	Less fire prone	9,126.40	38.01
Total		24,008.92	100.00

*Forest Cover including Scrub.

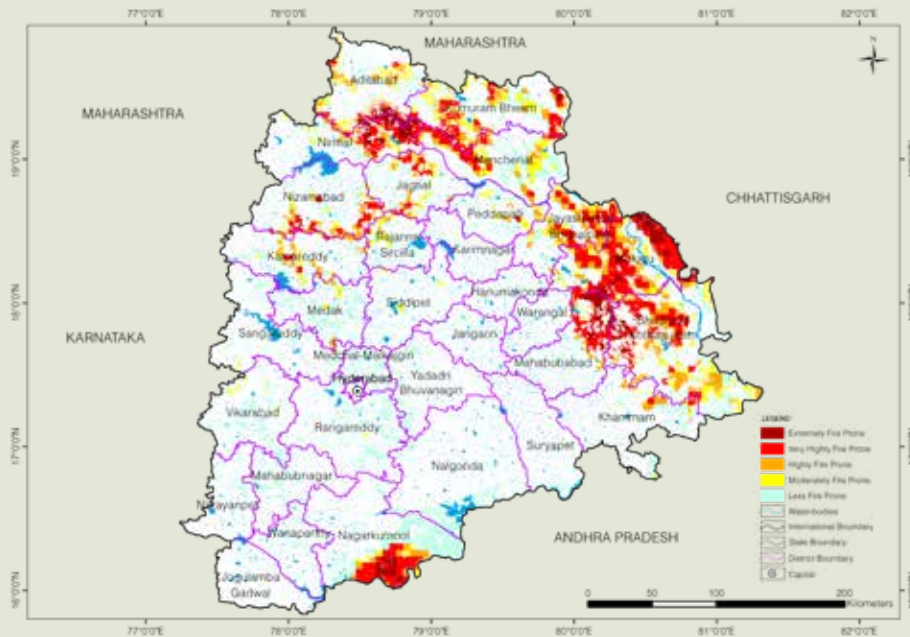


Figure 10.25.4 Fire Prone Forest Areas under Different Fire Prone Classes

10.25.6 Results Derived from NFI for Telangana

Table 10.25.13 Number of Trees and their Volume for Top 5 Species in RFA

Sl. No.	Species	No. of Trees (in '000)	Volume (M m ³)
1	<i>Tectona grandis</i>	91,489	12.21
2	<i>Chloroxylon swietenia</i>	39,637	4.28
3	<i>Anogeissus latifolia/ Terminalia anogeissiana</i>	27,784	7.30
4	<i>Xylia xylocarpa</i>	26,859	5.22
5	<i>Terminalia elliptica/ Terminalia crenulata</i>	23,671	4.48

Table 10.25.14 Number of Trees and their Volume for Top 5 Species in Rural Area

Sl. No.	Species	No. of Trees (in '000)	Volume (M m ³)
1	<i>Mangifera indica</i>	98,330	12.151
2	<i>Azadirachta indica</i>	40,318	6.744
3	<i>Prosopis juliflora/ Neltuma juliflora</i>	24,927	0.421
4	<i>Butea monosperma</i>	18,933	2.105
5	<i>Tectona grandis</i>	16,204	1.334



Table 10.25.15 Number of Trees and their Volume for Top 5 Species in Urban Area

Sl. No.	Species	No. of Trees (in '000)	Volume (M m ³)
1	<i>Azadirachta indica</i>	1,548	0.415
2	<i>Prosopis juliflora/ Neltuma juliflora</i>	982	0.018
3	<i>Pongamia pinnata</i>	870	0.103
4	<i>Psidium guajava</i>	828	0.022
5	<i>Mangifera indica</i>	791	0.151

Table 10.25.16 Major NTFP Species in Telangana

Sl. No.	Species	Habit	No. of Plants (in '000)
1	<i>Diospyros melanoxylon</i>	Tree	27,81,602
2	<i>Anogeissus latifolia/ Terminalia anogeissiana</i>	Tree	21,32,172
3	<i>Strychnos potatorum</i>	Tree	1,92,416
4	<i>Ziziphus species</i>	Tree	1,70,133
5	<i>Strychnos nux-vomica</i>	Tree	1,51,401
6	<i>Schleichera oleosa</i>	Tree	1,12,423
7	<i>Terminalia bellirica</i>	Tree	68,066
8	<i>Hemidesmus indicus</i>	Climbers	1,51,69,177
9	<i>Solanum nigrum</i>	Herbs	4,18,60,083
10	<i>Ocimum species (Ocimum gratissimum/ Ocimum sanctum/ Ocimum tenuiflorum/ Ocimum americanum)</i>	Herbs	2,73,99,327

Table 10.25.17 Major Invasive Species in the State Inside the RFA in Telangana

Sl. No.	Species	Estimated Extent (km ²)
1	<i>Lantana camara</i>	941.76
2	<i>Chromolaena odorata</i>	625.72
3	<i>Ageratum conyzoides</i>	253.11
4	<i>Cassia tora/ Senna tora</i>	214.94
5	<i>Achyranthes aspera</i>	84.84



Photo: FSI Repository