9.1

Andhra Pradesh

9.1.1 Introduction

Andhra Pradesh covers an area of 1,62,968 sq km which is 4.96% of the geographical area of the country. Physiographically, the State can be divided into Coastal and the comparatively drier Rayalaseema regions. The State has a hot and humid climate. The average annual rainfall varies from about 1100 mm to about 1250 mm with temperature ranging from 15°C to 45°C.The main rivers are Godavari, Krishna and Penna. The state comprises 13 districts, among which 5 are tribal districts. The state does not have any hill districts. As per the 2011 census, Andhra Pradesh has a population of 49.39 million accounting to 4.08 percent of India's population. The urban, rural and tribal population constitute 29.58%, 70.42% and 5.32% respectively. The population density of the state is 308 per sq km. The 19th Livestock census 2012 has reported a total livestock population of 56.10 million for the undivided state of Andhra Pradesh which includes Telangana.

Table 9.1.1 Land Use Pattern

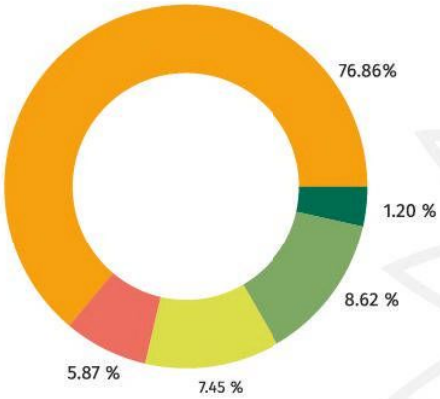
Land Use Types	Area (in 000' ha)	Percentage
Total Geographic Area	16,020	
Reporting area for land utilization	16,020	100.00
Forests	3,493	21.80
Not available for land cultivation	3,436	21.45
Permanent pastures and other grazing lands	212	1.32
Land under misc. tree crops and groves	160	1.00
Culturable wasteland	392	2.45
Fallow land other than current fallows	792	4.94
Current fallows	1087	6.79
Net area sown	6,448	40.25

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

9.1.2

Forest Cover

Based on interpretation of satellite data pertaining to Oct - Dec 2015, the Forest Cover in the State is 28,147 sq km, which is 17.27% of the State's geographical area. In terms of forest canopy density classes, the state has 1,957 sq km under Very Dense Forest, 14,051 sq km under Moderately Dense Forest and 12,139 sq km under Open Forest.



Forest cover of Andhra Pradesh

Pie Chart showing forest cover of Andhra Pradesh

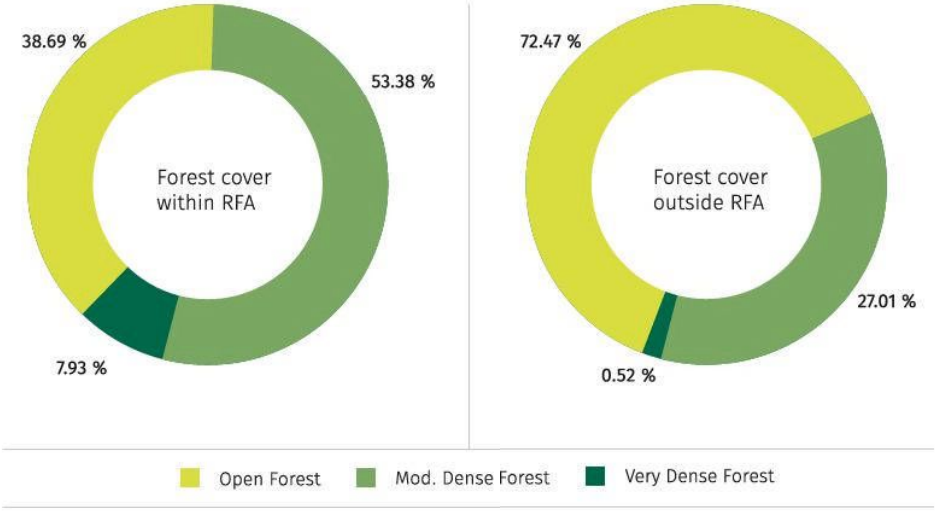
9.1.3

Forest Cover within and outside Recorded Forest Area

The recorded forest area of the state is 37,258 sq km which is 22.86% of the state's geographical area. The Reserved, Protected and Unclassed forests are 85.78%, 13.60% and 0.62% respectively of the recorded forest area. However, as the digitized boundary of recorded forest area from the State covers 37,920 sq km, the analysis of forest cover within and outside this area is depicted below.

Table 9.1.2 Forest Cover within and outside Recorded Forest Area

Forest Cover within Recorded Forest Area (Area in sq km)	
Very Dense Forest (VDF)	1,938
Moderately Dense Forest (MDF)	13,052
Open Forest (OF)	9,459
Total	**24,449**
Forest Cover outside Recorded Forest Area	
Very Dense Forest	19
Moderately Dense Forest	999
Open Forest	2,680
Total	**3,698**
Total Forest Cover	**28,147**
Tree Cover	**3,753**
Total Forest & Tree Cover	**31,900**
Of State's Geographical Area	19.57 %
Of India's Forest & Tree Cover	3.98 %
Per capita Forest & Tree Cover	0.06 ha



Pie Charts showing forest cover within and outside RFA

Table 9.1.3 Altitude-wise Forest Cover (Area in sq km)

Altitude Zone (m)	Geographical Area	VDF	MDF	OF	Total
0-500	1,35,122	1,091	8,356	8,453	17,900
500-1000	25,747	848	5,271	3,333	9,452
1000-2000	2,099	18	424	353	795
Total	**1,62,968**	**1,957**	**14,051**	**12,139**	**28,147**

(Based on SRTM, Digital Elevation Model)

Table 9.1.4 Forest Cover in different Patch Size Classes

S.No.	Patch Size Range (sq km)	No. of Patches	Area (sq km)	%age
1.	≥0.01 ≤1.0	17,409	1,425	5.06
2.	> 1.0 ≤ 10	644	1,894	6.73
3.	> 10 ≤ 100	132	4,063	14.44
4.	> 100 ≤ 500	18	3,183	11.31
5.	> 500 ≤ 1000	3	2,467	8.76
6.	> 1000 ≤ 5000	2	3,537	12.57
7.	> 5000 ≤ 10000	2	11,578	41.13
	Total	**18,210**	**28,147**	**100**

Table 9.1.5 Growing Stock		
	Growing Stock	%Contribution to country
Growing Stock in Recorded Forest Area	156.038 m cum	3.70
Growing Stock in TOF	62.348 m cum	3.89
Potential Production of industrial wood from TOF	2.49 m cum	3.34
Bamboo bearing area within forest area of the state	7,578 sq km	4.83
Total number of culms	1,076 millions	3.83
Total green weight equivalent of culms	9903 (000' tonnes)	5.25

9.1.4

Carbon Stock in forest

The total Carbon stock of forests in the State is 262.69 million tonnes (963.197 million tonnes of CO_2 equivalent) which is 3.71 % of total forest carbon of the country.

9.1.5

Decadal Change in water bodies within Forest

An increase of 317 sq km has been observed in the water body coverage within Forest as compared to 2005. The graphical and tabular comparison is depicted below.

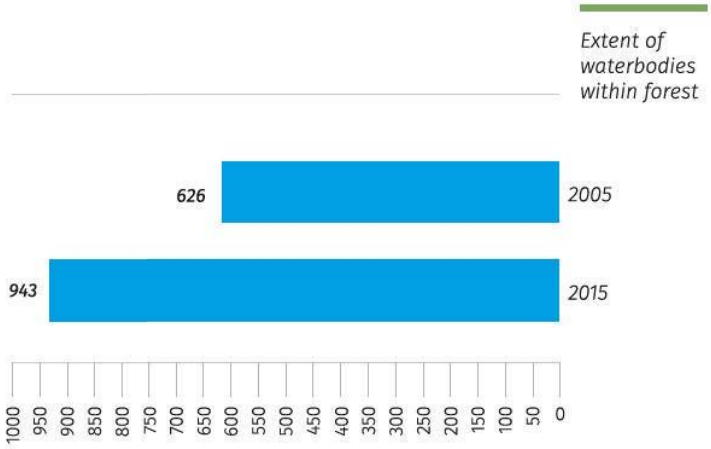


Table 9.1.6 Water bodies within Forest for the years 2005 and 2015		
Area/Coverage	2005	2015
Extent of water bodies (sq km) within Forest	626	943
% of water bodies to Forest Cover	1.38	3.35

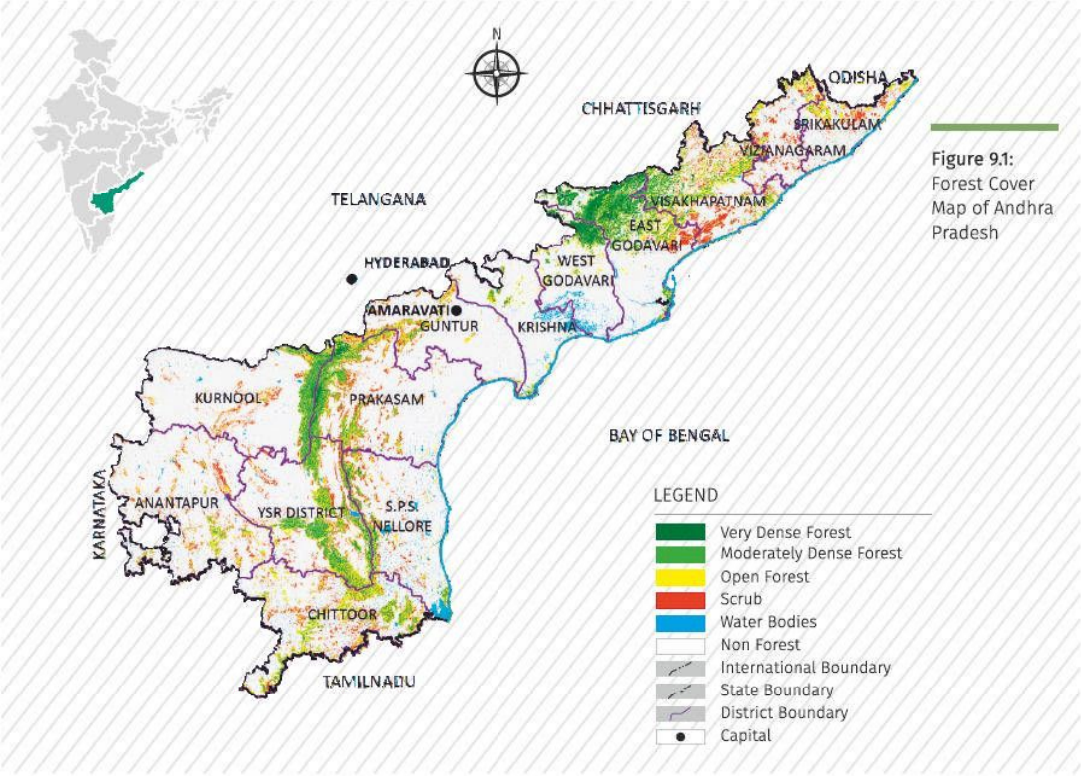


Figure 9.1: Forest Cover Map of Andhra Pradesh

Table 9.1.7 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			
Anantapur	19,130	0	213	774	987	5.16	301	1,111
Chittoor	15,152	0	1,233	1,968	3,201	21.13	611	1,277
East Godavari[T]	12,805	1,108	2,566	1,052	4,726	36.91	-62	403
Guntur	11,391	1	291	586	878	7.71	10	453
Krishna	8,727	38	131	314	483	5.53	138	20
Kurnool	17,658	87	1,510	577	2,174	12.31	64	681
Prakasam	17,626	254	1,818	1,219	3,291	18.67	-5	1,213
Sri Potti Sriramulu Nellore	13,076	27	628	676	1,331	10.18	166	704
Srikakulam[T]	5,837	0	118	662	780	13.36	160	525
Visakhapatnam[T]	11,161	25	2,063	1,604	3,692	33.08	352	1,368
Vizianagaram[T]	6,539	0	209	653	862	13.18	65	781
West Godavari[T]	8,507	377	556	425	1,358	15.96	57	1
YSR (Kadapa)	15,359	40	2,715	1,629	4,384	28.54	284	1,023
Grand Total	**1,62,968**	**1,957**	**14,051**	**12,139**	**28,147**	**17.27**	**2,141**	**9,560**

*Change compared to updated 2015 assessment.

Table 9.1.8 Forest Cover Change Matrix						(area in sq km)
Class	2017 Assessment					Total ISFR 2015 updated
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	391	30	0	0	0	421
Moderately Dense Forest	1,515	11,621	793	97	326	14,352
Open Forest	51	1,880	7,779	836	687	11,233
Scrub	0	295	1,826	4,885	1,514	8,520
Non Forest	0	225	1,741	3,742	1,22,734	1,28,442
Total ISFR 2017	**1,957**	**14,051**	**12,139**	**9,560**	**1,25,261**	**1,62,968**
Net Change	1,536	-301	906	1,040	-3,181	

9.1.6

Reasons for change detected in 2017 assessment

The main reason for net increase of 2,141 sq km in forest cover in the State can be attributed to plantation and conservation activities both within and outside the Recorded Forest Areas as well as improvement in interpretation due to better radiometric resolution of the recent satellite data from Resourcesat-2. The decrease in the forest cover in East Godavari and Prakasam districts are mainly due to rotational felling of commercial plantations.