

7.9 HARYANA

7.9.1 Introduction

The State of Haryana, having a geographical area of 44,212 km², lies between latitude 27°39' and 30°55' N and longitude 74°27' and 77°36'E. Physiographically, the State is divided into three zones viz. the Shiwaliks, the Aravalli hills and the Indo-Gangetic plains. The Yamuna and the Ghaggar are the important rivers of the State. Agriculture is the main occupation of the population with more than 80% of the land area in the State under agriculture.

Considering its size, wide range of climatic variation is observed in the State. Climate of the State varies from moist sub-tropical in north bordering Himachal Pradesh to arid in southern part bordering Rajasthan. The annual rainfall varies from 213 mm in south-west to 1,400 mm in the north-east and the temperature ranges between 1°C to 45°C. The land use pattern of the State is given in Table 7.9.1.

As per Census 2001, the total population of the State is 21.14 million of which the rural population constitutes 70.08%. The population density is 478 persons per km². The projected population of the State is 24.60 million (as projected by the Office of RGI, for the year 2009) which constitutes 2.07% of the country's population. The livestock population as per Livestock Census 2003 is 8.89 million, which has decreased marginally since the previous Census (1992).

7.9.2 Recorded Forest Area

The recorded forest area of the State is 1,559 km² which is only 3.53% of geographical area. Reserved Forests constitute 15.97%, Protected Forests 74.28%, and Unclassed Forests 9.75% of the total forest area. Most of the roadside plantations in the State have been notified as Protected Forests.

7.9.3 Protected Areas

Haryana has two National Parks and 8 Wildlife Sanctuaries covering an area of 303.92 km² which constitutes 0.69% of the State's geographical area. The State has taken an initiative in conserving the depleting population of vultures by establishing a conservation centre at Pinjore.

7.9.4 Joint Forest Management

The State is among the pioneers in implementing JFM which began in 1976. Sukhomajri, one of the success stories of the JFM programme in the country is attributed to the State. About 56,000 ha of forest area is being managed by 875 committees under JFM in the State. About 165,500 families are involved in JFM.

Source: MoEF, 2005.

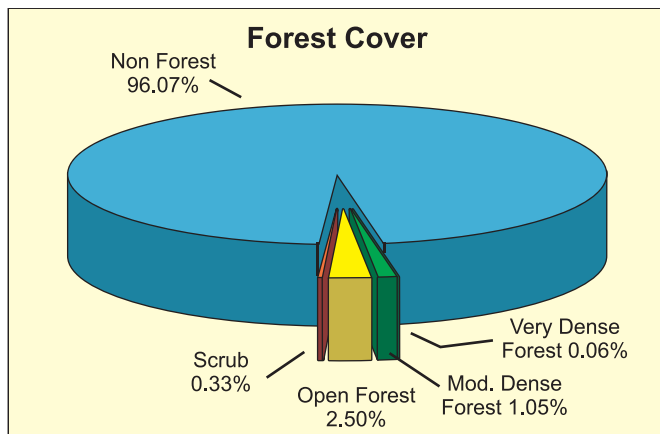
7.9.5 Forest Cover

The forest cover in the State, based on

Table 7.9.1: Land use pattern

Land Use	Area in '000 ha	Percentage
Total geographical area	4,421	
Reporting area for land utilization	4,372	100.00
Forests	39	0.89
Not available for cultivation	524	11.99
Permanent pastures and other grazing lands	27	0.62
Land under misc. tree crops & groves	12	0.27
Culturable wasteland	65	1.49
Fallow lands other than current fallows	8	0.18
Current fallows	141	3.23
Net area sown	3,556	81.34

Source: Land Use Statistics, Ministry of Agriculture, GOI, 2006.



interpretation of satellite data of Oct - Dec 2006, is 1,594 km², which is 3.61% of the State's geographical area. In terms of forest canopy density classes, the State has 27 km² very dense forest, 463 km² moderately dense forest and 1,104 km² open forest. The distribution of forest cover of the State is shown in Fig. 7.9.

Comparison of the current forest cover (satellite

data of Oct - Dec 2006) with the previous assessment (satellite data of Oct - Nov 2004 & Jan 2005) shows a loss of 10 km² of forest cover.

The change matrix, given in Table 7.9.2, reveals that there has been an increase of 1 km² in very dense forest, 14 km² in open forest and a decrease of 25 km² in the moderately dense forest.

On the basis of ground truthing by the officials of FSI and the information gathered from the State Forest Department, main reason for the increase in forest cover in the districts of Bhiwani, Rohtak and Hisar is plantations whereas, the decrease in forest cover in the districts of Yamunanagar, Kurukshetra and Karnal is fellings by villagers.

District wise forest cover in different canopy density classes and scrub along with the changes compared to 2005 assessment is given in the Table 7.9.3.

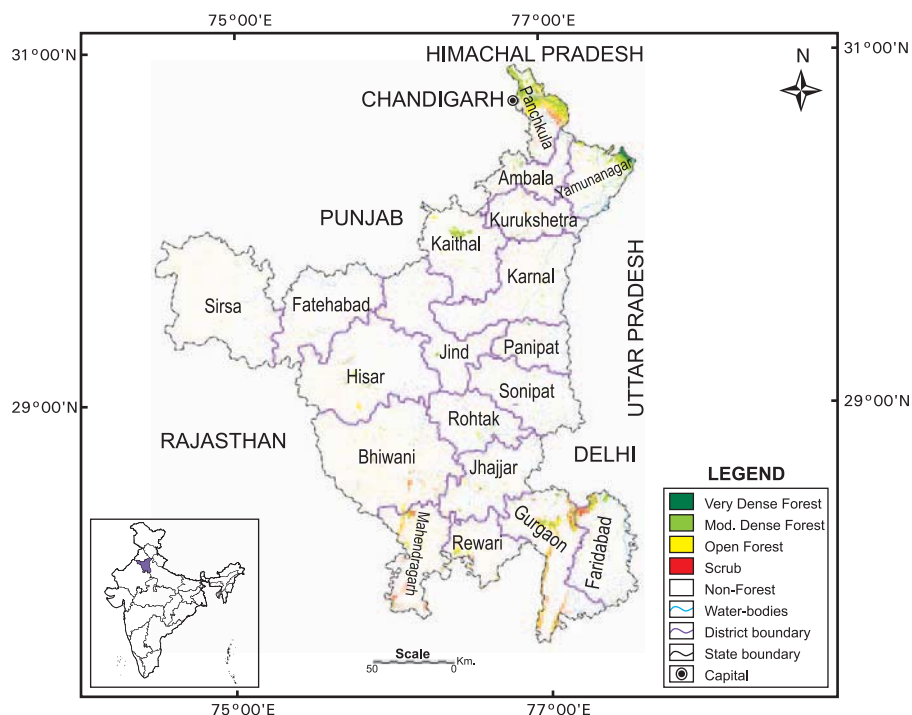


Fig 7.9 : Forest cover map of Haryana

Table 7.9.2: Forest cover change matrix

(area in km²)

2005 Assessment (Data of Oct-Nov 2004 & Jan 2005)	2007 (Data of Oct - Dec 2006)					Total of 2005
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	25	1	0	0	0	26
Moderately Dense Forest	2	413	34	1	38	488
Open Forest	0	26	920	6	138	1,090
Scrub	0	1	7	122	17	147
Non-Forest	0	22	143	16	42,280	42,461
Total of 2007	27	463	1,104	145	42,473	44,212
Net Change	1	-25	14	-2	12	

Table 7.9.3: District-wise forest cover in 2007

Number of districts: 19

(area in km²)

District	Geographical area	Very dense forest	Mod. dense forest	Open forest	Total	% of G.A.	Change*	Scrub
Ambala	1,574	0	17	27	44	2.80	-2	1
Bhiwani	4,778	0	14	133	147	3.08	12	18
Faridabad	2,151	0	29	64	93	4.32	-3	20
Fatehabad	2,538	0	2	16	18	0.71	1	0
Gurgaon	2,766	0	52	177	229	8.28	-2	50
Hisar	3,983	0	13	29	42	1.05	6	1
Jhajjar	2,702	0	3	29	32	1.18	-3	2
Jind	1,834	0	5	15	20	1.09	0	0
Kaithal	2,520	0	36	36	72	2.86	-1	0
Karnal	2,317	0	6	31	37	1.60	-5	0
Kurukshetra	1,530	0	10	19	29	1.90	-5	1
Mahendragarh	1,859	0	16	54	70	3.77	1	23
Panchkula	1,268	6	151	243	400	31.55	-2	24
Panipat	898	0	4	14	18	2.00	-2	1
Rewari	1,745	0	8	43	51	2.92	0	4
Rohtak	1,582	0	3	20	23	1.45	3	0
Sirsa	4,277	0	3	53	56	1.31	2	0
Sonipat	2,122	0	4	16	20	0.94	-2	0
Yamunanagar	1,768	21	87	85	193	10.92	-8	0
Total	44,212	27	463	1,104	1,594	3.61	-10	145

* Change compared to 2005 assessment (revised).

7.9.6 Altitude Zone wise Forest Cover

Forest cover of the State in different altitude zones is given in Table 7.9.4.

Table 7.9.4: Altitude zone wise forest cover

(area in km²)

Altitude Zone	VDF	MDF	OF	Total
0-500m	16	344	952	1,312
500-1000m	11	99	134	244
1000-2000m	0	20	18	38
Total	27	463	1,104	1,594

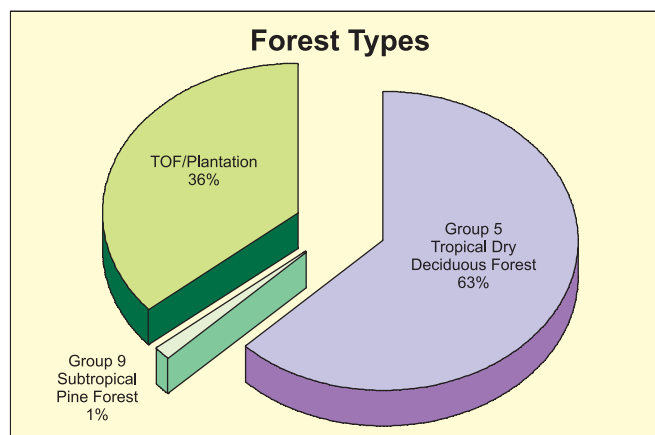
(based on SRTM Digital Elevation Model)

7.9.7 Forest Cover in different Forest Types

The State has 5 different forest types as per Champion & Seth's classification system (1968), belonging to 2 type groups viz Tropical Dry Deciduous and Subtropical Pine Forests. Distribution of forest cover in different forest type groups found in the State is given in the pie diagram.

7.9.8 Tree Cover

Tree cover of the State has been estimated using sample data of TOF inventory collected over a period of six years i.e. 2002-08. The estimated tree cover in the State is 1,409 km² which is 3.19 % of the geographical area of the State. Three districts of the



State (Panipat, Rohtak and Yamuna Nagar) have been inventoried. The forest and tree cover of the State is presented in the Table 7.9.5.

Table 7.9.5: Forest & tree cover

(area in km²)

Category	Area	% of Geographical area
Tree Cover	1,409	3.19
Forest Cover	1,594	3.61
Forest & Tree Cover	3,003	6.80