

# Forests & Protected Areas

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**Table 10.1:** Recorded Forest Area in Arunachal Pradesh (A.P.)

(in sq. km.)

Year of Assessment	2007	2009	2011	2013
Reserved Forests	10546	10546	10723	10723
Protected Forest	9528	9528	9779	9779
Un classed Forest	31466	31466	31039	31039
Total Forest Area	51540	51540	51541	51541
% of Forest Area to G.A.	61.55	61.55	61.55	61.55

**Source:** State of Forest Report 2009, 2011, 2013, Forest Survey of India, Dehradun

**Table 10.2:** Forest Cover

(in sq. km.)

Year of Assessment	Total Forest Cover
1987	64132
1989	69002
1991	68757
1993	68661
1995	68621
1997	68602
1999	68847
2001	69760
2003	67692
2005	67777
2007	67353
2009	67484
2011	67410
2013	67321

**Source:** State of Forest Report 2001, 2005, 2007, 2009, 2011, 2013  
Forest Survey of India, Dehradun; <http://www.fsi.org.in/>

**Table 10.3:** District wise Forest Cover

(in sq. km.)

District	G.A.	2013 Assessment				% of G.A.	Change	Scrub
		VDF	MDF	OP	Total			
Changlang	4662	1862	1449	920	4231	90.76	-10	2
Dibang Valley	13029	1696	4979	2647	9322	71.55	1	5
Kameng East & Kameng West	11556	3428	4668	2149	10245	88.66	-14	34
Lohit	11402	1964	4024	1623	7611	66.75	4	8
Popumpare	3462	991	1551	703	3245	93.73	-2	0
Siang East	3655	882	1264	671	2817	77.07	-4	0
Siang Upper	7050	1636	2621	1365	5622	79.74	-5	2
Siang West	7813	2473	2717	1578	6768	86.62	-16	0
Subansiri Lower	9548	3004	4245	1427	8676	90.87	3	28
Subansiri Upper	7032	1876	2746	1192	5814	82.68	-7	25
Tawang	2172	366	486	374	1226	56.45	0	17
Tirap	2362	650	664	430	1744	73.84	-39	0

VDF=Very Dense Forest; MDF= Moderate Dense Forest; OP= Open Forest

**Source:** India State of Forest Report 2013, Forest Survey of India, Dehradun

**Table 10.4:** Forest Cover Change Matrix

(in sq. km.)

2011 Assessment	2013 Assessment					Total 2011
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest (VDF)	20828	0	0	0	40	20868
Moderately Dense Forest	0	31409	31409	0	110	31519
Open Forest	0	0	14881	0	142	15023
Scrub	0	0	0	121	1	122
Non Forest	0	5	198	0	16008	16211
Total 2013	20828	31414	15079	121	16301	83743
Net Change	-40	-105	56	-1	90	

Source: India State of Forest Report 2013, Forest Survey of India, Dehradun

**Table 10.5:** Altitude-wise Forest Cover

(in sq. km.)

Altitude Zone	VDF	MDF	OF	Total
0-500	1592	3551	2122	7265
500-1000	2834	4219	3267	10320
1000-2000	7766	10196	4620	22582
2000-3000	6461	9090	1724	17275
3000-4000	2138	4124	2908	9170
>4000	37	234	438	709
Total	20828	31414	15079	67321

Source: India State of Forest Report 2013, Forest Survey of India, Dehradun

**Table 10.6:** Estimates of Tree Cover

Year	Tree Cover	
	Area (sq. km.)	% of G.A.
2009	592.71	0.66
2011	549	0.71
2013	660	0.79

Source: Forest Survey of India, Dehradun

**Table 10.7:** Legal Classifications of Forest

Legal Classification	Area (km <sup>2</sup> )	% of Recorded Forest	% of Geographical Area
Reserve Forests	9722.69	18.86	11.61
Protected Forests	694.3	1.35	0.82
Anchal Reserve Forest	329.38	0.64	0.39
Village Reserve Forest	300.24	0.58	0.36
National Parks	2468.24	4.79	2.94
Wild Life Sanctuary	7059.75	13.70	8.43
Unclassified State Forest	30965.39	60.08	36.90
<b>Total</b>	51540	100	61.55

**Source:** Forest Statistics (Up to Year 2000-2001) Arunachal Pradesh; Department of Forests & Environment, Government of Arunachal Pradesh; <http://arunachalforests.gov.in/Forest%20Statistics.html>

**Table 10.8:** Types of Forest

Broad Forest Type	As per Champion & Seth	Altitudinal Range	Important Species
Tropical Semi Ever Green	2/B/C1/1a, 2/B/C1b/ISI	Near Alluvial Plains	<i>Amoora wallichii</i> , <i>Pterospermum acerifolium</i> , <i>Stereospermum chelonoides</i> , <i>Altingia excelsa</i>
Tropical Ever Green	1/B/C1, 1/B/C2	Upto 610 meters	<i>Kayea assamica</i> , <i>Mesua ferrea</i> , <i>Dysoxylum procerum</i> , <i>Echnocarpus sp.</i>
Tropical Wet Ever Green	8/B/C1	Upto 900 meters	<i>Phoebapaniculata</i> , <i>Actinodaphneobovata</i> , <i>Alnusnepalensis</i> , <i>Phoebe attenuata</i>
Sub Tropical broad leaved	3C3/Bb, 3C/IS2	Upto 900-1900 meters	<i>Bombax ceiba</i> , <i>Lagerstroemia parviflora</i> , <i>Terminalia bellirica</i> , <i>Sterculiavillosa</i>
Sub Tropical Pine	III/9/DS/1	1000-1800 meters	<i>Pinus roxburghii</i> , <i>Pinus wallichiana</i> and <i>Pinus merkusii</i>
Wet Temperate Forests	IV/11/IIIB/C1, IV/11/IIIB/C2	1800-2750 meters	<i>Quercus lamellosa</i> , <i>Quercus sp.</i> , <i>Castanopsis indica</i> , <i>Acer hookeri</i>
Mixed Coniferous Forests	IV/12/C1/3a, IV/12/C/3b	2300-3350 meters	<i>Abies sp.</i> , <i>Tsuga dumosa</i>
Alpine	V/C2, VI/ISC3, VI/16/C1, E1	3000-5500 meters	<i>Rhododendron</i> , <i>Primula</i> , <i>Saussaurea</i> , <i>Saxifraga</i>
Bamboo Brakes	1B/2S		<i>Bambusa pallida</i> , <i>Schizostachyum polymorphum</i> , <i>Bambusa tulda</i> , <i>Dendrocalamus hamiltonii</i>

**Source:** Forest Statistics (Up to Year 2000-2001) Arunachal Pradesh; Department of Forests & Environment, Government of Arunachal Pradesh; <http://arunachalforests.gov.in/Forest%20Statistics.html>

**Table 10.9:** Administrative set up of Forest Department

District	Name of Forest Circles covering the district	No. of Forest Division		No. of Ranges	No. of beat offices	
		Territorial	Survey/WP/SF Research & Wildlife		Accounts beat	Non-accounts beat
Tawang	Western Circle (Banderdewa)	0	1	3	4	-
West Kameng	-do-	3	1	9	6	12
East Kameng	-do-	1	1	14	14	7
Papumpare	DFO Banderdewa, DFO Sagalee.	2	6	27	7	13
Lower Subansiri	-do-	1	-	6	-	5
Upper Subansiri	Central Circle (Pasighat)	1	1	3	-	8
West Siang	-do-	1		7	-	12
East Siang	-do-	1		7	2	7
Upper Siang	-do-	1	-	6	2	6
Dibang Valley	Eastern Circle (Tezu)	1	2	1	0	7
Lohit	-do-	2	2	18	1	18
Changlang	Southern Circle (Deomali)	2	4	13	4	8
Tirap	-do-	1	1	5	1	6
<b>Total A.P.</b>	<b>4</b>	<b>17</b>	<b>22</b>	<b>119</b>	<b>41</b>	<b>109</b>

**Source:** Forest Statistics (Up to Year 2000-2001) Arunachal Pradesh; Department of Forests & Environment, Government of Arunachal Pradesh; <http://arunachalforests.gov.in/Forest%20Statistics.html>

**Table 10.10:** Plantation Statistics Area Planted

(in ha)

Year	Area
2006-07	7699
2007-08	7769
2008-09	9039
2009-10	4170

**Source:** Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE), MoEF&CC, Govt. of India; State Forest Departments

**Table 10.11:** Production of Fuel Wood and Wood from Forests (as on 2011)

Fuel Wood		Wood	
Recorded Forest Area (km <sup>2</sup> )	Production (million tonne)	Recorded Forest Area (km <sup>2</sup> )	Estimated Production (million cum.)
51540	0.007	51540	0.064

**Source:** Ministry of Environment, Forest and Climate Change, Govt. of India (13198)

**Table 10.12:** Details of Fuel Wood Consumption (as on 2011)

No. of Persons using Fuel Wood (Million)	0.882
No. of Persons using Fuel Wood from Forest (Million)	0.698
Quantity of Fuel Wood used (Million tone)	0.402
Quantity of Fuel Wood used from Forest (Million tone)	0.325
% age*	80.93

\*: Percentage of Quantity of Fuel Wood used from Forest with respect to Quantity of Fuel Wood used.

**Source:** Ministry of Environment, Forest and Climate Change, Govt. of India (13198)

**Table 10.13:** Production of Timber

Year	2005-06	2006-07	2007-08	2008-09	2009-10
Production (in '000 m <sup>3</sup> )	40.66	40.50	30.78	35.05	31.37

**Source:** Ministry of Environment, Forest and Climate Change, Govt. of India (14231)  
Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE), MoEF&CC, Govt. of India; State Forest Departments

**Table 10.14:** Estimates of Non-Timber Forest Products (NTFPs)

<b>Cane (NTFP)</b> <b>Unit Kap (72 m)</b>		
<b>Year</b>	<b>Quantity</b>	<b>Value</b>
2006-07	62260	8.25
2007-08	153368	8.47
2008-09	-	-

**Source:** Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE), MoEF&CC, Govt. of India; State Forest Departments

**Table 10.15:** Annual Production and Value of Resins and Tendu Leaves

<b>Year</b>	<b>Resins</b>		<b>Tendu Leaves</b>	
	<b>Weight (100 Tons)</b>	<b>Value (Rs. Crore)</b>	<b>Weight (100 Tons)</b>	<b>Value (Rs. Crore)</b>
2006-07	4.43	0.19	4.43	0.19
2007-08	4.09	0.23	4.09	0.23
2008-09	4.06	0.27	4.06	0.27
2009-10	1.60	(0.10)*	1.60	(0.10)*

\*: Figures in Parenthesis are estimated

**Source:** Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE), MoEF&CC, Govt. of India; State Forest Departments

**Table 10.16:** Production of Bamboos

<b>Year</b>	<b>Value (Nos.)</b>
2006-07	28461
2007-08	34368
2008-09	21706
2009-10	31806

**Source:** Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE), MoEF&CC, Govt. of India; State Forest Departments



**Table 10.17:** Fund Released under National Bamboo Mission

(Rs. in Lakh)

Year	Fund Released
2006-07	1510.35
2007-08	873.6
2008-09	196
2009-10	50

**Source:** Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE), MoEF&CC, Govt. of India; National Bamboo Mission

**Table 10.18:** Joint Forest Management Committees (JFM)s and Area Covered

Year	JFM Committees (in Nos.)	Area Under JFM (sq. km.)
2006	447	241.16
2010	362	214.2

**Source:** Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE), MoEF&CC, Govt. of India; Compendium of Environment Statistics India 2013

**Table 10.19:** Grants-in-Aids for Forests by Thirteen Finance Commission

(in Rs. Crore)

Year	Grant-in-Aids
2010-11	90.98
2011-12	90.98
2012-13	181.96
2013-14	181.96
2014-15	181.96
2010-2015	727.84

**Source:** Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE), MoEF&CC, Govt. of India

**Table 10.20:** Fund Released under National Afforestation Programme  
(in Rs. Crore)

Year	Grant-in-Aids
2006-07	2.93
2007-08	4.85
2008-09	3.25
2009-10	2.37

**Source:** National Afforestation and Eco-development Board, MoEF&CC, Govt. of India. Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE)

**Table 10.21:** Amount sanctioned for National Environment Awareness Campaign  
(NEAC)

Year	Amount (Rs. in Lakh)
2004-05	0.00
2005-06	0.00
2006-07	3.00
2007-08	1.52
2008-09	0.00
2009-10	-
2010-11	1.64
2011-12	0.57
2012-13	0.40

**Source:** Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE), MoEF&CC, Govt. of India; Lok Sabha Unstarred Question No. 4411 (22-04-2013)

**Table 10.22:** Projection for Non-Plan Revenue Expenditure under Forestry and Wildlife

Year	Amount (Rs. in Crore)
2010-11	36.95
2011-12	39.90
2012-13	43.10
2013-14	46.55
2014-15	50.27

**Source:** Ministry of Finance, Govt. of India (11331)

**Table 10.23:** Area of Tree Plantations Raised under Twenty-Point Programme

Year	Area Covered under Public and & Forest Lands (in '000 ha)
2006-07	10.12
2007-08	0.55
2008-09	10.27
2009-10	7.12

**Source:** Ministry of Statistics and Programme Implementation, Govt. of India  
Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE),  
MoEF&CC, Govt. of India

**Table 10.24:** Forest Training Institutions and Trainees

(in Nos.)

Year	Training Schools			Total Trainees		
	Range Officers	Foresters	Forest Guards	Range Officers	Foresters	Forest Guards
2004-05	0	1	1	0	16	9
2005-06	0	1	1	0	12	0

**Source:** Indian Council Forestry Research Education (ICFRE), MoEF&CC, Govt. of India

**Table 10.25:** Estimate of Annually Burnt Forest Area due to Fire (2002-2008)

Recorded Forest Area (in km <sup>2</sup> )	51540
Heavy and Moderate Forest Fires (in km <sup>2</sup> )	881.81
Heavy, Moderate and Mild Forest Fires (in km <sup>2</sup> )	1742.85

**Source:** Forestry Statistics India-2011, Indian Council Forestry Research Education (ICFRE), MoEF&CC,  
Govt. of India

**Table 10.26:** Detail of National Parks, Wildlife Sanctuaries

Name of District	Name of NPs /Sanctuaries/ Conservation Reserve	Year of Establishment	Area (km <sup>2</sup> )
<i>National Parks = 2 Nos.</i>		<i>Wildlife Sanctuaries = 11 Nos.</i>	
<b>National Parks</b>			
Upper Siang	Mouling NP	1986	483.00
Changlang	Namdapha	1983	1807.82
<b>Total</b>			<b>2290.82</b>
<b>Wildlife Sanctuaries</b>			
Upper Siang	D'Ering Memorial (Lali) WLS	1978	190.00
Dibang Valley	Dibang WLS	1991	4149.00
West Kameng	Eagle Nest WLS	1989	217.00
Papum Pare	Itanagar WLS	1978	140.30
Lohit	Kamlang WLS	1989	783.00
West Siang	Kane WLS	1991	31.00
Dibang Valley	Mahao WLS	1980	281.50
East Kameng	Pakke (Pakhui) WLS	1977	861.95
West Kameng	Sessa Orchid WLS	1989	100.00
Lower Subansiri	Tale WLS	1995	337.00
West Siang	Yordi Rabe Supse WLS	1996	397.00
<b>Total</b>			<b>7487.75</b>
<b>Grand Total</b>			<b>9778.57</b>

**Source:** Wildlife Institute of India, MoEF&CC, Govt. of India

**Table 10.27:** Details of Tiger Reserves

<b>Tiger Reserves</b>	<b>Year of Creation</b>	<b>Area of the core / critical tiger habitat (in sq. kms.)</b>	<b>Area of the buffer / peripheral (in sq. kms.)</b>	<b>Total area (in sq. kms.)</b>
Namdapha	1982-1983	1807.82	245.00	2052.82
Pakke	1999-2000	683.45	515.00	1198.45
<b>Total</b>		<b>2491.27</b>	<b>760</b>	<b>3251.27</b>

**Source:** Wildlife Institute of India, MoEF&CC, Govt. of India

**Table 10.28:** Details of Biosphere Reserves

Name	Dehang-Dibang
Date of Notification	02-09-1998
Area (in sq. Km.)	5111.50 (Core 4094.80 & Buffer 1016.70)
Location (State)	Part of Siang and Dibang Valley in Arunachal Pradesh

**Source:** Wildlife Institute of India, MoEF&CC, Govt. of India