



Chapter I

Overview

Forest Department, which came into being in 1909, is one of the oldest Departments in the Government of Sikkim. The Department celebrated its Centenary Year in 2009. Out of the total geographical area of 7096 square kilometers, more than 84% is under the administrative control of Forest Department. Late Sidkeong Tulku, the 10th Chogyal of Sikkim is considered the father of Forestry in Sikkim. The concept of conservation and sustainable management of forest was evolved by him.

Since Sikkim was not directly under the British Colonial Regime, the administration and management of forests in Sikkim was under the Thikdars and Kazis who were the land lords and the second tier administrators below the Chogyal till 1947. Till 1947, Sikkim was divided into different zones and each zone was under the administrative and managerial control of Thikadars and Forest Department functioned in co-ordination with the Thikadars and Kazis who were controllers of the land in Sikkim. The Chogyal issued notification in 1905 to demarcate the area which were not occupied by the people, as Reserved Forest and issued specific order to the Kazis and Thikadars and people were not allowed to cultivate in the demarcated forest land. In 1911, small patches of forests located inside the villages and portion of forests which were in continuity with the demarcated reserved forests and located at the fringes of the villages were demarcated and declared as Khasmal Forests and Gaucharan Forests to meet the demand of the villagers for small timber and firewood and for grazing of their cattle respectively.

The first cadastral survey of the land in Sikkim was done in 1952-53. The land area which was cultivated by individuals under their possession was recorded in their names and the area not under the possession of any individual was recorded as Reserved Forest, Khasmal and Gaucharan. The Chogyal Sir Tashi Namgyal was also conscious about the conservation of forest and protection. He issued a notification in 1959 ordering the citizens not to cut any tree on steep slope, bank of Jhora or Khola to avoid landslide and also in and around water holes.

The villagers were encouraged to plant and grow trees. The concept of Silvicultural availability before cutting a tree was evolved by Chogyal Sir Tashi Namgyal. Only the tree which did not invite any danger in the near future was allowed to be felled, forest Offenders were dealt with stringent action during the regime of Chogyal.

In 1975 (16th May 1975) Sikkim a separate Kingdom erstwhile merged with India. By then, the Forest Department consisted of one CCF, one CF, three DFOs viz DFO East & North, DFP South & West, DFO Soil Conservation, about 6-7 Forest Rangers, around 15-16 Block Officers and about 25 Forest Guard. In 1975, four Gazetted Officers were appointed and sent for training in Indian Forest College, Dehradun. Similarly, four Range Officers and seven Block Officers and about 20 Forest Guards were appointed in 1975 to reinforce forest protection and management in the State.

The only National Park which exists today in Sikkim was declared in 1977, with an area of 750 sq.km located in Northern & Western part of Sikkim which was later increased to 1784 sq.km. The Wildlife Protection Act, 1972 was implemented in Sikkim for protection of Wildlife, for protection of Forest



Indian Forest Act, 1927 was extended and implemented till 1988 wherein the Central Act was replaced by Sikkim Forest, Water Courses and Road Reserve Protection (Preservation) Act, 1988 and amended in 2000. Forest (Conservation) Act, 1980 was also implemented in Sikkim from 1980 to deal with the diversion of forest for non-forestry purpose i.e. for making room for development in the State.

From 1975 to 1994 there was no drastic change in the policy and implementation of programmes. The forests were protected and managed as per the traditional system. Grazing in reserved forest was one of the age old practices which were to be prevented for maintenance of ecological balance and protection of the slope from landslides. Grazing in reserved forest was banned in the year 1995. The forests which were degraded due to intensive grazing started rejuvenating.

Sikkim being located in the Eastern Himalayas has geologically fragile and ecologically sensitive ecosystem which needs to be protected. The Government imposed restriction in felling of green trees in reserved forests and launched several innovative measures and schemes to encourage people to plant trees in their private lands for meeting their bonafide demands. Stall feeding of productive cows was encouraged so that the pressure on forest is reduced. Every year the Government is organizing *Janta Mela* and free distribution of LPG Cylinders to the families below poverty line. Forest Department is giving up to 100 saplings to the people for planting in their private land each year who are desirous of same free of cost.

Empowerment to people is one of the agenda of the Government. In 1998, the Government issued notification introducing the system of Joint Forest Management in which the forests are to be protected and managed jointly by the people and Forest Department. From 1998 till date, 159 Joint Forest Management Committees (JFMCs) and 49 Eco-Development Committees (EDCs) have been constituted and registered all over the State. Implementation of plantation and other forestry related programmes is done by the JFMCs and EDCs.

The State Government under the able leadership of the Hon'ble Chief Minister, Shri. Pawan Chamling launched the **State Green Mission** in 2006. In the Mission plantation of ornamental and flowering trees and shrubs has been carried along all the roads, institutional vacant lands, School complexes, College and University campuses and vacant lands of public and private sector undertakings. The Mission become popular and people from all walks of life participated to make the Mission successful. The Mission is on its 5th year in 2010-11 and is now established as a ritual from 15 June onwards every year by government notification.

In 2009, the Hon'ble Chief Minister conceived the concept of "**Ten Minutes to Earth**" programme with a view to contribute something to the Mother Earth where we live. All the citizens of Sikkim planted trees in 10 minutes from 10.30 am to 10.40 am on 15th July 2009. Total of 6,10,000 seedlings were planted on the occasion. From 2010 onwards this programme is being organized on 25 June by issuing a notification so that on this date i.e. 25 June, the **Ten Minutes to Earth** programme is made mandatory for all citizens including government, semi-government and non-government organizations as well as defence personnel.

Due to the innovative measures taken by the Government and participation of the people in protection and management of forest, environment and Wildlife since 1994, the forest and tree cover was increased from over 43% in 1995 to over 47% in 2009 i.e. an increase of 4% of the total geographical area of the State which is significant achievement. In terms of protection of Wildlife, over 31% of the total geographical area of the State is being managed in the form of Protected Area Network as National



Park and Wildlife Sanctuaries. The only Zoological Park located at Bulbulay, 5 km. from Gangtok town harbors, the rare and endangered species of wildlife of Eastern Himalayas. The Zoological Park has succeeded in captive breeding of Red Panda. The population of Red Panda now has increased from 4 to 12.

In the environmental front, the Government has initiated several innovating measures such as

- a) Green Schools
- b) Constitution of *Pokhri Sangrakshan Samities*.
- c) Lake Conservation Measures.
- d) Distribution of Waste Collecting bags in Vehicles.
- e) Introduction of Environment Cess.
- f) *Himal Rakshaks* etc.

Sikkim is the first State in the Country to constitute the Glacial Commission.

The concept of *Smritivan* (Memorial Forest) was conceived by the Hon'ble Chief Minister, Shri Pawan Chamling in the year 1998. The first *Smritivan* in the country has been created at Bulbulay, Gangtok from 1998 till date where many individuals, groups, organizations, tourists, VIPs and officials visiting Sikkim have planted trees in the name / memory of their near and dear ones. The place that was once barren and devoid of trees has become a dense forest.

During nineties Shri Pawan Chamling was adjudged the Greenest Chief Minister of the country by a reputed organization Centre for Science & Environment, New Delhi. Then after, there was no looking back. In 2004, an NGO "Inscription" based at NOIDA ranked Sikkim first in the Green Protection Index. The State Government has been taking concerted efforts for protection of environment for eco-friendly development.

As far as manpower deployment is concerned, Indian Forest Service was extended to Sikkim just after merger with sanctioned strength of 24 which was later increased to 36 in 1985 and again reduced to 30 in 2000. The State Forest Service was constituted in 1976 with total duty posts of 34 (7 DFOs and 27 ACFs). The cadre strength was reviewed in 1996 with total of 60 duty posts comprising of 1 Additional Director, 2 Joint Directors, 26 DFOs and 31 ACFs. It was further reviewed in 2007 during which time the composition was as under:-

Director -	3 posts
Addl. Director -	3 posts
Joint Director -	6 posts
DFO -	26 posts
ACF -	<u>87 posts</u>
Total duty Posts-	<u>125 posts</u>

Similarly, Sikkim Subordinate Forest Service Rules were framed in 1996 with the following sanctioned strength.

Range Officer -	75
Block Officer -	150
Head Forest Guard-	40
Forest Guard -	400



The Sikkim Subordinate Forest Service Rules were reviewed in 2009 to provide promotional avenue to the forest guards and head forest guards with the composition as under:-

Range Officer -	75 posts
Block Officer -	160 posts
Head Forest Guard -	140 posts
Forest Guard -	<u>300 posts</u>
Total -	<u>675 posts</u>

125 Forest Guards have been appointed in the year 2010, comprising >30% women (42 nos.) and 83 men. This lot including the Forest Guards appointed after 1997 who were not trained, are presently undergoing six months training. 100 Male FGs at SAP Training Centre Pangthang and 44 female FGs at Police Training Centre, Yangang will complete their training in February 2011. This is possibly one of the best initiatives of the government since the start of the new Forest Centenary.

There are many daily wage workers in Forest, Environment and Wildlife Management Department who are working as Peon, Drivers, Malis, Chowkidars, and Nursery Labourers etc. To give opportunity to them to sit for test for appointment in the regular posts, the Government has issued notification and office Memorandum which have been incorporated in the Service Rules to give them chance to sit for test in 50% of the direct recruitment vacancies in the concerned department. Forest, Environment and Wildlife Management Department appointed 10 (ten) drivers, 10(ten) Peons and 01(one) LDC who were working on M.R. in the Department for considerably long period of time. Besides, the Department also appointed 06 (six) Forest Guards, 05(five) Block Officers and 01(one) Peon on Compassionate ground. The present Work Force in the Department comprises of

IFS

Principal CCF-cum-Secretary	1
Addl. PCCF	3
CCF	3
CF	3
DCF	6
Probationers	2
On Central Deputation	1
On State Deputation	9
	<u>28</u>
Vacant posts	<u>2</u>
Total -	<u>30</u>

SFS

Director	1 (Vacant -2)
Addl. Director	1 (Vacant-2)
Joint Director	6
DFOs	32
ACFs	<u>64</u>
Total	104



Statistics

Over 84% of the total geographical area of the state is under the administrative control of the forest department which comprises of over 82% RF and 2% Khasmal and Gaucharan. Sikkim is endowed with a variety of natural flora and fauna and is a paradise of nature lover, botanist, environmentalist, conservationist and trekkers. The state houses over 400 species of flowering plants, 300 species of ferns and its allies, 11 species of oaks, 8 species of tree ferns, > 500 species of Orchids, 37 species of Rhododendrons, 40 species of Primulas, and 28 species of Bamboos belonging to 09 genera. The faunal wealth of Sikkim comprises of 144 species of mammals, 600 species of birds, 700 species butterflies and un-quantified moths and many species of reptiles and amphibians as well as 48 species of fishes. More than 400 species of medicinal plants and herbs are found throughout the state.

AREA STATISTICS FOR SIKKIM- TOTAL STATE (IN SQ. KMS.)

SL. No	CLASS	RESERVE FOREST	REVENUE BLOCK	TOTAL	%OF TOTAL
1.	CROP LAND (TERRACED./SEMI TERRACED)	0.00	604.85	604.85	8.52
2.	FALLOW/ SCRUB IN REVENUE BLOCKS	0.00	155.69	155.69	2.19
3.	SAL DENSE FOREST	5.30	0.77	6.07	0.09
4.	SAL OPEN FOREST	15.93	1.54	70.47	0.25
5.	SAL DEGRADED FOREST	3.32	0.71	4.03	0.06
6.	MIXED DENSE FOREST	464.46	138.88	603.34	8.50
7.	MIXED OPEN FOREST	433.37	333.38	766.75	10.81
8.	MIXED DEGRADED FOREST	194.56	235.06	429.62	6.05
9.	DENSE CONIFER FOREST	351.94	16.14	368.08	5.19
10.	OPEN CONIFER FOREST	340.63	21.55	362.18	5.10
11.	DEGRADED CONIFER FOREST	156.89	16.30	173.19	2.44
12.	OAK-RHODODENDRON FOREST	100.34	26.24	126.58	1.78
13.	SCRUBS IN RESERVE FOREST	101.87	0.00	101.87	1.44
14.	FOREST BLANKS	90.56	0.00	90.56	1.28
15.	ALPINE SCRUB	611.44	27.72	639.16	9.01
16.	ALPINE PASTURES	431.32	0.00	431.32	6.08
17.	ALPINE BARREN	815.80	2.35	818.15	11.53
18.	SNOW	1018.23	5.41	1023.64	14.43
19.	GLACIERS	208.23	0.00	208.23	2.93
20.	LAKES	32.30	0.70	33.00	0.47
21.	RIVERS/MAJOR STREAMS	31.81	32.50	64.31	0.91
22.	DRY RIVER BEDS	31.49	9.10	40.59	0.57
23.	BUILT –UP AREA	0.30	3.24	3.54	0.05
24.	LAND SLIDE AREAS	5.37	5.16	10.53	0.15
25.	MISCELLANEOUS	6.93	6.30	13.23	0.19
	Total	5452.39	1643.59	7095.98	100.00



District-wise Forest Cover (IN SQ. KMS.)

District	Geographic Area (G.A)	2007 Assessment				Percent of G.A	Scrub
		Very dense forest	Mod. Dense forest	Open forest	Total		
East Sikkim	954	162	411	126	699	73.27	70
North Sikkim	4,226	135	890	290	1315	31.12	202
South Sikkim	750	93	371	107	571	76.13	3
West Sikkim	1,166	110	489	173	772	66.21	81
Total	7,096	500	2161	696	3357	47.31	356

Forest & Tree Cover

Category	Area in sq km	% of Geographical Area
Tree Cover (Forest in Pvt. Lands)	20	0.28
Forest Cover (all categories of Forest)	3357	47.31
TOTAL Tree Cover in Forest & Pvt. Land	3377	47.59

Forest cover in the North – Eastern States (in SQ. KMS.)

State/UT	Geographic Area	Forest Cover (2005 Assessment)				Percent of G.A	Change as compared to 2003 Assessment in Forest Cover in sq km
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total Forest		
Arunachal Pradesh	83,743	14,411	37,977	15,389	67,777	80.93	85
Assam	78,438	1,444	11,387	14,814	27,645	35.24	-90
Manipur	22,327	923	5,541	10,622	17,086	76.53	-173
Meghalaya	22,429	338	6,808	9,842	16,988	75.74	63
Mizoram	21,081	133	6,173	12,378	18,684	88.63	101
Nagaland	16,579	236	5,602	7,881	13,719	82.75	-296
Tripura	10,486	61	4,969	3,125	8,155	77.77	32
Sikkim	7,096	500	2161	696	3357	47.31	95



KEY BIODIVERSITY STATISTICS OF SIKKIM

Geographical Area	7096 sq.km.
Capital	Gangtok
No. of Districts	4
No. of Sub-Divisions	9
Climate	Tropical, Temperate and Alpine
State Flower	Nobile Orchid- <i>Dendrobium nobile</i>
State Tree	Rhododendron - <i>Rhododendron niveum</i>
State Animal	Red Panda – <i>Ailurus fulgens</i>
State Bird	Blood Pheasant – <i>Ithaginis cruentus</i>
Protected Area Network	2183.10 sq.km (30.77%)
No. of important Mountains & Peaks	28
No. of Glaciers	84
No. of Lakes (Wetlands)	227
No. of Hot Springs	9
No. of Rivers & Streams	104
Major Rivers of the State	Teesta and Rangit

No. of Species:

Flowering Plants – 500	Mammals – 144
Rhododendron – 36	Birds – 552
Orchids – 550	Reptiles – 33
Conifers – 16	Amphibians – 16
Ferns & allies – 362	Fishes – 48
Tree Ferns – 9	Butterflies – 650
Bamboos – 28	
Oaks – 11	
Medicinal Plants – 424	

Increase in Forest Cover:

Year	Recorded Forest Area (sq.km)	% total geographical area
1975	2650	37.34
1987	2756	38.84
1995	3127	44.06
2005	3289	46.35
2009	3377	47.59