

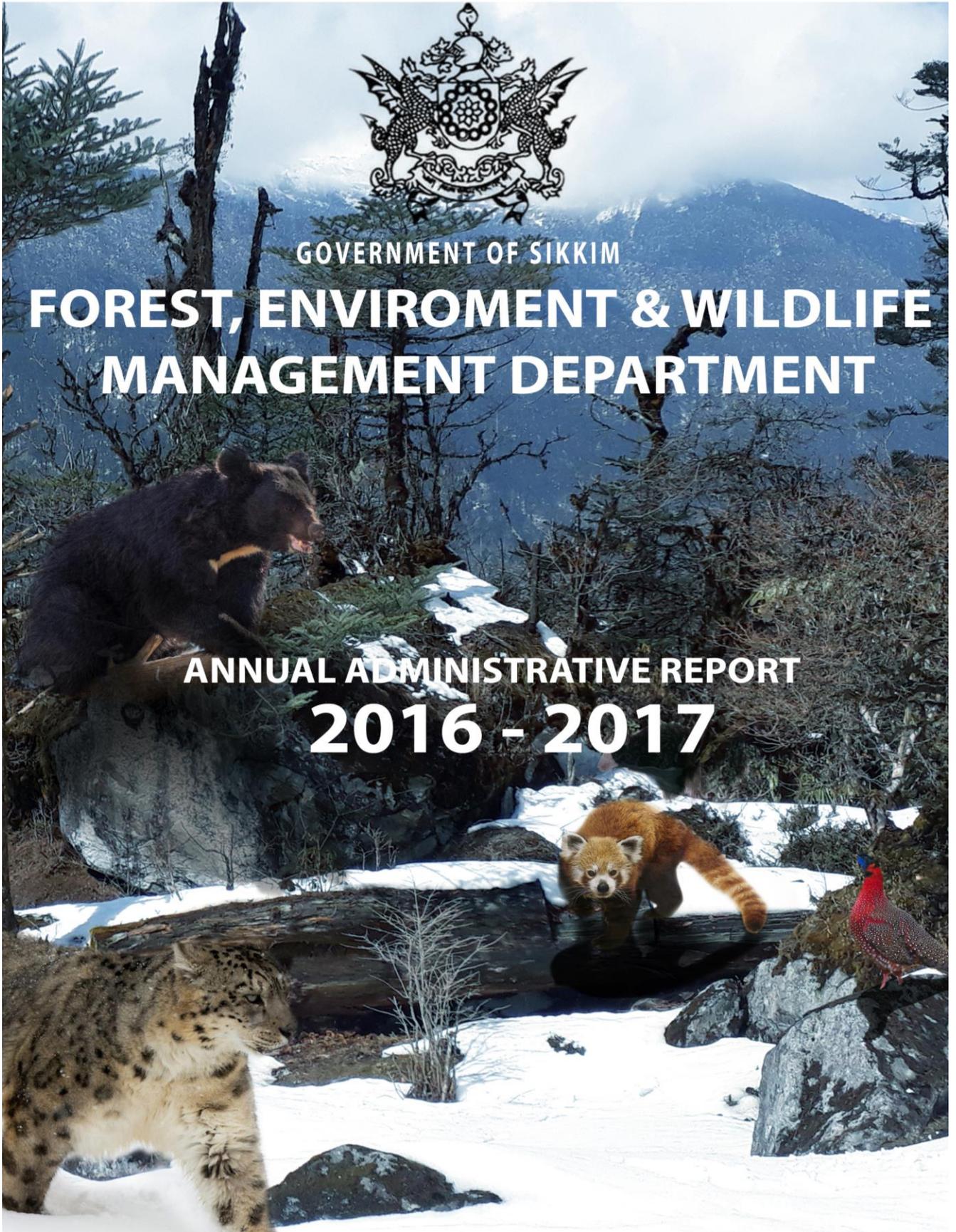


GOVERNMENT OF SIKKIM

# FOREST, ENVIROMENT & WILDLIFE MANAGEMENT DEPARTMENT

ANNUAL ADMINISTRATIVE REPORT

# 2016 - 2017





**Minister,**  
*Forest, Environment and Wildlife  
Management/Mines, Minerals &  
Geology and Science & Technology  
and Climate Change Department,  
Government of Sikkim.  
Phone: 03592-280228*

## **MESSAGE**

The critical role played by forest in our lives is now increasingly well understood. Forest provides a range of essential ecosystem services. The very system of human race depends on sustenance of forest ecosystem and conservation of biodiversity. However, with the ever increasing demand on the forest resources for goods & services, forests are under tremendous biotic pressure.

Keeping this in view, the State Government have constantly followed a path of eco-friendly development and launched unique and innovative programmes like Harit Kranti, Smritivan, State Green Mission, Ten Minute to Earth during this last 25 years. Use of non-biodegradable materials like plastic carry bags manufacture, sale & use of bursting of all types of firecrackers in the State have been banned. Burning of agricultural wastes and garbage and the use of disposable items made from Styrofoam in Government functions have also been prohibited.

To guide & inculcate the young minds for future generation, Environment Education has been introduced in all Government Schools and is the first State in the Country to do so. Sikkim is also the first State to launch the Green School Programmes (GSP).

Sikkim has always been in the forefront of environment movement. In recognition of State Governments vision in the sphere of environment & sustainable development, Hon'ble Chief Minister, Dr. Pawan Chamling has been conferred with prestigious "Sustainable Development Leadership Award, 2016" on 6<sup>th</sup>. October, 2016 which is a proud moment for all of us. The declaration of Khanchendzonga National Park as the UNESCO's World Heritage Site on 17.07.2016 is a testimony to the timeless effort of our government.

But perhaps the greatest achievement is the awareness among the people about the need to protect and conserve our rich natural resources.

Thus, amidst increasing global concern and the disturbing reports of Global Warming & Climate Change Worldwide, Sikkim under the able leadership of Dr.Pawan Chamling has already played a responsible role in whatever small or big way possible with sustained commitment toward protection of environment.

I am pleased to state that Forest, Environment & Wildlife Management Department, Government of Sikkim is bringing out Annual Administrative Report 2016-17 for record and circulation of information to public and I hope it will be helpful to all concerned.

Tshering Wangdi Lepcha



PCCF-cum-Principal Secretary,  
Forest, Env. & Wildlife Management Department,  
Government of Sikkim,  
Deorali- 737102.  
Phone (O) 03592-281749, 281877  
Fax-03592-281778

## ***FOREWARD***

Sikkim, one of the smallest State, occupying only 0.2% of the total geographical area of India, with an area of 7096 sq.km, accounts for over 25% of the biodiversity of the country. It is amongst the 34 biodiversity hotspot of the world.

Forest and its rich natural resources are important sources of livelihood for the State's primarily rural populations. Forest, Env. & Wildlife Management Department which oversees both the forestry sector & biodiversity conservations has worked hard not only to conserve but also to expand these valuable assets.

During the last two decades, the State Government has initiated a number of unique & innovative policy including State Green Mission, Ten Minute to Earth, Paryavaran Mahotsav, Smritivan, Harit Kranti, As a result, forest & tree cover has increased from 44% in 1994 to 47% as per State of Forest Report 2015 which reflects the sincere effort and commitment of Government towards conservation of our environment.

The State has 30.77% of its geographical area as protected areas which includes one National Park and six sanctuaries. The first ever wildlife population estimation was done in these protected areas. Conservation of Butterfly Park at Rangrang, North Sikkim and Biodiversity Centre at Damthang has also been initiated.

In order to encourage the students towards conservation of our rich biodiversity, Chief Minister's Green School rolling Trophy & State Green Schools Award have been initiated. Teacher's Training Programmes for different schools are also organized under National Green Corps (NGC).

Annual Administrative Report 2016-17 brought out by Planning & Statistical Cell has tried to highlight the activities and measures taken up by the Forest, Env. & Wildlife Management Department, Government of Sikkim for conservation, protection & expansion of qualitative forests.

I hope readers will find this edition of Annual Administrative Report 2016-17 interesting & informative.

(Dr.Thomas Chandy,IFS),  
P.C.C.F-cum-Principal Secretary.

# CONTENTS

	<b>Page Number</b>
<b>I. 1. Introduction</b>	1
2. Chronological order of main events in Sikkim Forestry	2-7
3. Award and Recognition in Forestry	8-11
4. State Government Green initiatives	11-13
5. (a) Increase of Forest Cover	14
(b) Forest Cover	15
(c) District wise classification of Forest Cover	15
(d) Comparative Statement of increase in Forest Cover	16
6. Man Power	17-20
7. Statement of Revenue realized / Expenditure	21
8. Forest Fire	22
Details of approved sites for collection of loose boulders, Stone and sand	22
Forest fire cases	23
9. Nurseries	24-27
10. Forest Check Posts	28
11. State Domestic Product - (Production & Value)	29
<b>II. FORESTRY AND WILDLIFE</b>	<b>30</b>
<b>(A) FORESTRY:</b>	
12. Twenty Point Programme	31
13. State Green Mission	32-33
a) Ten Minutes to Earth	34
b) Paryavaran Mahotsav	35
14. Forest Conservation Cell	36-37
15. Outturn of timber and firewood	38-39
16. Working Plan Circle	40-48
17. Parks & Gardens	49
18. Silviculture	50-52
19. Forest Development Agency (FDA)	53-54

<b>(B) WILDLIFE CIRCLE:</b>	55
20. Wildlife Conservation	56-67
21. Khangchendzonga National Park	68-69
22. Himalayan Zoological Park (Bulbulay)	70-74
<b>(C) RESEARCH:</b>	75
23. (I) Wildlife Research	76-79
(II) Silviculture / High Altitude Research Centre – (HARC)	80
<b>III. Environment &amp; Soil conservation</b>	81
24. Status of Wetlands in Sikkim	82-83
25. Environmental Information System (ENVIS)	84-89
<b>Different Boards and Agencies under FEWMD-</b>	90
26. (1) State Land Use Board (SLUB)	91
(2) State Environment Agency (SEA)	92-93
(3) State Pollution Control Board (SPCB)	94-98
(4) State Biodiversity Board (SBB)	99-100
(5) Sikkim State Wetland Authority (SSWA)	101
(6) State Medicinal Plants Board (SMPB)/ NTFP	102-109
<b>IV. SCHEMES / PROJECTS</b>	110
<b>I. Centrally sponsored schemes (CSS)</b>	111
27. 1. Promotion and Development of Ecotourism in Fambonglho WLS, Golitar, East Sikkim	
2. Establishment of Sidkeong Tulku Bird Park, Rabdentse, West Sikkim	112
3. Eco-Development of Riverside Recreation and Picnic spot at Kitchu Dumra, South Sikkim	113
4. Work carried out under IFMS during 2016-17	114
5. Sericulture	115-118
6. State Level Nodal Agency (SLNA)	119
7. National Mission for Green India (GIM)	120-121
<b>II. Externally Aided Project (EAP)</b>	
28. Sikkim State Biodiversity and Forest Management Project (SBFP)	122-129

## Chapter – 1

### I. INTRODUCTION:

Forestry is the major land use of the State and conservation is of paramount importance to provide a host of ecosystem services such as soil fertility, water supply, amelioration of air pollution, carbon sequestration and climate moderation. Forest, Env. & Wildlife Management Department, headed by the Principal Secretary-cum-PCCF is the Nodal Department for managing the forest areas of the State which is 82.31% of geographical areas of the State. This includes not only the forested areas of the State but also those areas which do not have trees but are equally important from the standpoint of medicinal plants and indigenous ecosystem consisting of several rare and endangered flora & fauna.

The Government in order to preserve these rich biodiversity & natural resources during the last 20 years have initiated a number of steps including ban on grazing in forest areas, ban on plastic, prohibition on sale & use of firecrackers and burning of agricultural waste to reduce carbon emission.

More than 50 lakhs seedlings were planted in various flagship program such as State Green Mission which was initiated during 2006 and Ten Minute to Earth program initiated in the year 2009. In order to protect and preserve historically significant trees, the State Government has notified 53 trees of girth 20 ft.& above as “Heritage Trees” of the State.

Furthermore, the State has dedicated 30.71% of its geographical area as “Protected Area network” which includes 7 sanctuaries and one National Park for habitat maintenance, animal corridor and expansion activities for qualitative result. Kanchendzonga National Park (KNP) is India’s first world heritage site listed in ‘mixed’ criteria recognizing the outstanding universal value for its both natural & cultural significance. KNP has also been declared as one of the 100 top Green Destinations of the world for the 2<sup>nd</sup> consecutive time.

Along with its green initiatives, the State Government is also initiating the steps to strengthen the rural economy through promotion of ecotourism in the State. The potential Ecotourism Zones have been identified and are being promoted with a focus to generate income & employment through Community based value. State Government has started to develop a Biodiversity Park & Ecotourism Centre at Tendong, South Sikkim.

The Sikkim Biodiversity Conservation & Forest Management Project (SBFP) assisted by Japan International Corporation Agency (JICA) is being implemented in the State from the year 2010-11. Under this project, 278 nos.of Self Help Groups (SHGs) have been framed and each is provided with a grant of Rs.60, 000/- per SHG which is being used by member for livelihood purposes.

Under Pradhan Mantri Krishi Sichayee Yojana (PMKSY), piglets, cardamom seedlings, milching cows to 1130 beneficiaries have been distributed. Similarly, 1158 number of farmers are doing sericulture activities under “Intensive Bivoltine Sericulture Development Project (IBSDP)”.

The forest policy followed by the State Government since 1994 is conservation oriented. The approach is favourable to climate mitigation. Continued pursuance of these measures will enable the State to leverage carbon credits once the market for this is established in the country. It will provide ecosystem services to the people on a continuous basis when large parts of the world are suffering from a deficiency of it.

## Chapter – 2

### Chronological order of Main events in Sikkim Forestry:

**1909:**

Forest Department set up. Reserve and Goucharan forests surveyed and demarcated. Forest Manual, a statute book for department adopted for operationalisation, Sidkeong Tulku, the then Crown Prince of Sikkim pioneered the step ably aided by Dillu Singh Ghale, the Bengal Forest Officer on deputation to Sikkim.

**1919:**

Rai Sahab Bhim Bahadur Pradhan joins Forest Department and becomes Forest Manager after five years of service.

**1930:**

German Scientist Ernest Schaefer expedition to Sikkim and identification to SHAP of Himalayan Thar at Phimpfu, North Sikkim as distinct variety, advocates for its total protection.

**1945-46:**

Forests vested to the Darbar from under the ownership of landlords in different districts, a task ably implemented by Atal Singh Dewan, Range Officer.

**1952:**

First Cadastral survey to demarcate Revenue and Forests Lands.

**1956:**

Till 1956 forest were managed by one Forest Manager, one R.O. & 2/3 of F.G.s Post of Conservator, DFOs /R.O.s created. Demarcation up to Ranges & Blocks for Administration.

**1972:**

Indian Peafowl introduced into lowland Sal Forests, South Sikkim.

**1976:**

\*Four Territorial Divisions, Three Functional Sub-Divisions created.

\*Extension of Indian Wildlife (Protection) Act, 1972 to Sikkim.

**1977:**

Khangchendzonga National Park (KNP) of area 850 sq.km. declared.

**1978:**

Sericulture Sub-Division created.

**1984:**

Kyongnosla Alpine Sanctuary and Fambong Lho Wildlife Sanctuary, East Sikkim, Singba Rhododendron Sanctuary, North Sikkim declared.

**1987:**

\*Remote Sensing Cell created, 1988

\*Maenam Wildlife Sanctuary, South Sikkim, declared.

**1988:**

State formulates and adopts Sikkim Forests, Water Courses and Road Reserve (Preservation and Protection) Act, 1988.

**1988-89:**

- \*Extension of Indian Forest Act 1927 to Sikkim.
- \*Directorate of Land Use & Env. merged into Forest Department.
- \*Wood Working Centre handed over to Education Department.
- \*Forest survey of India completes Forest Resources Survey of all districts.

**1992:**

Himalayan Zoological Park creation started.

**1993:**

New Forest Annexe building construction works started.

**1995:**

- \* Sikkim Democratic Front (SDF) Government announces and adopts “Harit Kranti Dashak” for greener Sikkim through people’s participation
- \* Cattle grazing in Reserve Forests, an age old practice that has led to the depletion of forest wealth, banned.
- \* Joint Director Fisheries up graded to Director Fisheries.

**1996:**

Sikkim State Forest Service Cadre was reviewed and the cadre strength was increased to 75. 1 post of Additional Director, 4 posts of Joint Director, 8 posts of Deputy Conservator of Forests and 4 posts of Assistant Conservator of Forests were created.

**1997:**

- \*Indian Forest Service Cadre was reduced to 30 from 36.
- \*Ban on use of non-biodegradable materials like plastics, polybags etc.
- \*KNP extended from 850 to 1784 sq.km. (25.10% of total geographical area).

**1998:**

- \* State award “Rajya Van Sanrakshan Evam Paryavaran Puraskar” constituted. Rathong Chu hydro-electric project and 170 sq.km. proposed firing range in North Sikkim, abandoned.
- \* Barsay Rhododendron Sanctuary, West Sikkim declared.
- \* Introduction of participatory forest management involving active peoples participation through Joint Forest Management Committees (JMCs) (26<sup>th</sup> June, 1998)

**1999:**

- \* Dr.Pawan Chamling, Chief Minister of Sikkim adjudged Greenest Chief Minister of India by Delhi based Centre for Science and Environment.
- \* Government adopts new nomenclature’ Forest, Environment and Wildlife Management Department’ in tune with changing focus and shift approach and objective.
- \* Smriti Van (Memorial Forests) concept by Hon’ble Chief Minister at Bulbuley above Gangtok to take Forestry programme to people’s level. All people, individuals, institutions, clubs, societies and non-governmental organizations participate by planting trees in memory of children, marriage, death etc. at a common venue and care, own and nurture trees to maturity, Smriti Vans now at each Panchayat Unit.

- \* Government formulates, adopts State Forests, Environment and Land Use Policy in view of growing concern for protection of forests, environment and wildlife vis-a vis increased developmental tempo.

#### **2000:**

- \* Khangchendzonga Biosphere Reserve with area 2619.92 sq.km declared.  
Total wildlife protected area 30.77% of total geographical area which is highest in the country.
- \* Eco Clubs and Green fund for schools and colleges.

#### **2001:**

- \* Sacred peaks, caves, rocks, lakes, 'chhortens' and hot springs notified.
- \* Scaling of important peaks including the Mount Khangchendzonga banned.
- \* Network of JFMC/EDCs and Watershed Development Committees (WDCs) created.  
State Biodiversity Park at Tendong, South Sikkim established.

#### **2002:**

- \* Environmental Education introduced in Schools from nursery to class-VIII.
- \* State Medicinal Plant Board (SMPB) set up to concretize action plan of medicinal plants in the State with Hon'ble Chief Minister as Chairman.
- \* Herbal Gardens created in different Panchayats Units.
- \* Sikkim to go organic, ban on chemical fertilizers, pesticides.
- \* Pangolakha Wildlife Sanctuary, East Sikkim declared.

#### **2003:**

- \* Eleven Important Bird Areas (IBAs) in Sikkim identified and recognized by Government.
- \* Government of India, through its scientific wing, the Forest Survey of India records increase of forest cover in the state by 2% between the period 1994-2003, the result of department's relentless regeneration efforts and the Government's intense policy focus.

#### **2004:**

- \* Green indicators, 2004 a report developed by Noida- based groups find the Forest Protection Index of Sikkim to be the highest in the country (0.903).
- \* First State in Himalayas to use Global Positioning System (GPS) to survey and demarcate Reserve Forest boundaries.

#### **2005:**

- \* Sikkim Ecology Fund and Environment Cess Act, 2005 framed. This Act provides for levy of Cess on industries, traders and consumers for articles which pollute environment.
- \* Ban on killing of wildlife strengthened.

#### **2006:**

- \* ENVIS (Environmental Information System) Centre established and website ([www.sikenvis.nic.in](http://www.sikenvis.nic.in)) launched to reach information on status of environment and its related issues to wider level.
- \* Regulation of trekking Rules, 2006 notified.
- \* Kitam Bird Sanctuary, South Sikkim declared.
- \* State Green Mission launched to integrate people with nature and invoke mass support for the cause.
- \* Constitution of State Biodiversity Board to oversee and manage the rich biodiversity of the State.
- \* State Biodiversity Board Strategy and Action Plan (SBSAP) documented.

\* Wetland Conservation Programme formulated and six wetland complexes included in National Wetland Conservation Programme.

#### **2007:**

\* State Glacial Commission formulated.

\* National Bamboo Mission launched.

#### **2008:**

\* State of Environment (SoE) Report, the first of its kind in the state published.

\* Eco-Tourism Directorate created.

\* Hamro Van media venture on local cable TV launched for awareness.

\* Chogyal Palden Thendup Namgyal Park, Gangtok, created.

\* Sikkim Forests, Water Courses and Road Reserve(Preservation and Protection) Act 1988 got assent from President of India (16 May 2008).

#### **2009:**

\* Awarded following appreciation from Centre for Development Finance, a prominent NGO.

1. First in Natural Resources Management.

2. First in performance in Land Use and setting up of State Council for Climate Change.

3. Second best ranking in Environmental Sustainability Index.

4. Tinkitam Fairieanum Conservation Reserve, South Sikkim for the protection of Orchid Paphiopedilum Fairieanum and its environment under declaration.

5. Working Plan under completion, Wildlife Management Plans under implementation.

6. Terms of Reference (TOR) signed between department and Japanese International Eco- Tourism and Natural Resources Conservation.

#### **2010**

CSE awarded three Sikkim Schools under Gobar Times Green Schools National Award 2010:

1. Government Secondary School, Reshi, West Sikkim (Top 10 of India)

2. Government Secondary School, Linkey, East Sikkim (Best Manager in Air)

3. Government Secondary School, Namcheybong, East Sikkim (Best Manager in Energy)

#### **2011**

\* CSE awarded two Sikkim Schools under Gobar Times Green Schools National Award 2011;

• Government Secondary School, Middle Camp, East Sikkim (Top 10 of India)

• Government Secondary School, Lower Samdong, East Sikkim (Top 10 of India)

Organic Certification accredited by the National Programme for Organic Production (NPOP), India for wild harvest of products (Aconitum heterophyllum - tuber/root, Chiretta - whole plant, Seabuckthorn – berries fruits, Seabuckthorn - juice fruits) by Sikkim State Cooperative Supply and Marketing Federation Ltd.

#### **2012**

CSE awarded three Sikkim Schools under Gobar Times Green Schools National Award 2012;

• Government Secondary School, Dentam, West Sikkim (1<sup>st</sup> Rank)

• Government Girls Senior Secondary School, Deorali, East Sikkim (2<sup>nd</sup> Rank)

• Government Secondary School, Tingley, South Sikkim (4<sup>th</sup> Rank)

#### **2013**

\* CSE awarded two Sikkim Schools under Gobar Times Green Schools National Award 2013;

• Government Secondary School, Penlong, East Sikkim (2<sup>nd</sup> Rank in New School Category)

• Government Secondary School, Tingley, South Sikkim (2<sup>th</sup> Rank in Changemaker category)

## **2014**

- \* CSE awarded two Sikkim Schools under Gobar Times Green Schools National Award 2014;
  - Government Girls Senior Secondary School, Namchi, South Sikkim (New School Category)
  - Government Secondary School, Lower Samdong, East Sikkim (Change makers category)
  
- Khangchendzonga National Park declared as one of the top 100 global green destinations by a consortium of top global agencies working on environment and sustainable tourism.
  
- ENVIS (*Environmental Information System*) Centre at Forest, Environment & Wildlife Management Department, Government of Sikkim was ranked 1<sup>st</sup> among 68 ENVIS Centres in India by the Ministry of Environment, Forests & Climate Change, Government of India.

## **2015**

- CSE awarded three Sikkim Schools under Gobar Times Green Schools National Award in 2015.
  1. Sonam Choda Lepcha Memorial government Secondary School, Lingdong, Upper Dzongu, North Sikkim (Rank 4).
  2. Government Junior High School, Mangzing, South Sikkim (Rank 8)
  3. Government Girl,s Senior Secondary School, Geyzing, West Sikkim (First school to complete and submit audit report online). The Green Leaf Trophies and Certicates were presented at Stein auditorium, India Habitat Centre, New Delhi.
- \* Gangtok awarded as Cleanest Hill Station of the country by India Today Group at the Safaigiri Awards 2015.
- \* Gangtok ranked among the top 10 cleanest cities in India and third among the State capitals according to the *Swachh Bharat* ranking done by the Union Urban Development Ministry during August 2015.
  
- \* The State Government through Gazette Notification No.13 dated 27<sup>th</sup> January 2015 imposed prohibition on the burning of agricultural waste, leaves, litter, paper wastes and garbage within the State of Sikkim. The prohibition shall however, not cover the use of processed agricultural wastes, leaf litter and garbage as fuel and control burning of forest litter for the purpose of scientific management of forest fires.

## **2016**

- Government Senior Secondary School, Hee-Yangthang, West Sikkim awarded Paryavaran Mitra Puraskar for being one of the best two exemplary schools of the country for 2015 by the Centre for Environment Education, Ahmadabad on 11<sup>th</sup> Janurary,2016.
  
- WIPRO, Bangalore awarded Government Secondary School, Bongten, West Sikkim as Best Earthian School amongst top 15 earthian schools of the country and also awarded T.N.Khoshoo Memorial Award on the basis of its project “Sustainability and Biodiversity”. The school was awarded certificate and cash prize of Rs.1.00 lakh during the awards function held on 5<sup>th</sup> February, 2016 at Bangalore.
  
- ENVIS (Environmental Information System) Centre at Forest, Environment & Wildlife Management Department, Government of Sikkim was awarded the Best State ENVIS Centre of the country by the Ministry of Environment, Forests & Climate Change, Government of India. The certificate has handed over by Shri Prakash Javadekar, Minister of State (Independent Charge) Environment, Forests and Climate Change during the inaugural function of National Evaluation workshop of ENVIS Centres held on 17<sup>th</sup> February 2016 in New Delhi.

- KNP fulfils UNESCO's criteria for both natural and cultural heritage, and is the first site in India to be awarded the status of a mixed World Heritage Site on 17 July 2016 by the World Heritage Committee at Istanbul, Turkey.
- Sikkim State celebrated 3<sup>rd</sup> successive fifteen day (June 15-30) environment festival 'Paryavaran Mahotsav', a noble and unique initiative conceived by the Chief Minister Shri Pawan Chamling himself. This fifteen day festival witnessed the various events such as Greenathon (Green Run), environment lectures on low carbon life styles at various schools, cleanliness drives at major towns, awareness campaigns and State's flagship plantation programmes; 7<sup>th</sup> successive phase of Ten Minutes to Earth and 10<sup>th</sup> successive phase of State Green Mission with a total plantation of 3, 56,803 seedlings throughout the State.
- Sikkim becomes the first Indian State to ban on use of mineral water bottles in government programmes. State Government through Notification No.25/Home/2016 dated 19/05/2016 has imposed a ban on use of packaged drinking water bottles in any government functions and meetings to reduce the creation of garbage. Use of filtered water or large reusable water dispensers or reusable water bottles during government functions encouraged.
- State Government through Notification No.26/Home/2016 dated 19/05/2016 has imposed ban on sale and use of disposable items such as cups, plates, containers etc made from Styrofoam throughout the State with immediate effect.
- With a purpose to understand and use modern technologies in population estimations of key wildlife species including those responsible for Human-Wildlife conflicts, for proper and sound management of the Wildlife Sanctuaries and National Parks. GPS, range-finder, binoculars, and camera-traps were also distributed to four districts of Wildlife divisions.
- The Forest, Env. & Wildlife Management Department is carrying out the first phase of population estimation in all protected areas of the State to know the status of wildlife population in the state. The main objectives are to estimate the density of large and medium size carnivores, their prey base and the habitat distribution.
- Recognizing the silvicultural importance and ecosystem values of the historically significant trees found all over the State, the Government vide Notification No.83/GoS/FEWMD/Pr.Secy-PCCF dated 04/06/2016 notified 21 number of trees under forest land as "Heritage Trees" of the State. Another 32 trees have been added to the list and now the total figure of Heritage Trees stands at 53.
- The State Government through Gazette Notification No.544 dated 19<sup>th</sup> December 2014 imposed prohibition on the manufacture, sale and use or bursting of all types of firecracker including any sound emitting or illuminating type of firecrackers within the State of Sikkim.

### Chapter - 3

#### Awards and Recognition in Forestry, Environment and Wildlife sector

SN	Year	Awards and Recognition
1.	1999	Shri Pawan Chamling, Chief Minister of Sikkim was adjudged the “Greenest” Chief Minister of India by Delhi-based Centre for Science and Environment (CSE).
2.	2006	India Today ranked Sikkim as 1 <sup>st</sup> amongst twelve eastern states of India in overall performance during the 4 <sup>th</sup> State of States Conclave at New Delhi.
3.	2008	Government Secondary School, Daramdin, West Sikkim was awarded the “Greenest” School of India in terms of water management under the Gobar Times Green Schools Programme by Centre for Science and Environment.
4.	2008	Environmentally Sustainability Index (ESI) 2008 prepared by Chennai-based Centre for Development Finance (CDF) adjudged Sikkim as <ul style="list-style-type: none"><li>- 1<sup>st</sup> Rank/ BEST in Natural Resource Management</li><li>- 1<sup>st</sup> Rank/ BEST in Reducing Pressure on Environment</li></ul>
5.	2008	Rashtirya Nirmal Gram Puraskar for Sikkim: In a glittering award giving ceremony, Sikkim earned the distinction of being the first State in the country to achieve 100 percent sanitation. The award including citation and a gold medal was given away by the president of India, Smt. Pratibha Patil to the Chief Minister of Sikkim, Shri Pawan Chamling.
6.	2009	ESI 2009 rated Sikkim as <ul style="list-style-type: none"><li>- 1<sup>st</sup> Rank/ BEST in Reducing Pressure on Environment</li><li>- 1<sup>st</sup> Rank/ BEST in State’s Response to Maintain Environment</li></ul>
7.	2010	CSE awarded three Sikkim Schools under Gobar Times Green Schools National Award 2010; <ul style="list-style-type: none"><li>- Govt. Sec. School, Reshi, West Sikkim (Top 10 of India)</li><li>- Govt. Sec. School, Linkey, East Sikkim (Best Manager in Air)</li><li>- Govt. Sec. School, Namcheybong, East Sikkim (Best Manager in Energy)</li></ul>
8.	2011	CSE awarded two Sikkim Schools under Gobar Times Green Schools National Award 2011; <ul style="list-style-type: none"><li>- Govt. Sec. School, Middle Camp, East Sikkim (Top 10 of India)</li><li>- Govt. Sec. School, Lower Samdong, East Sikkim (Top 10 of India)</li></ul>
9.	2011	Organic Certification accredited by the National Programme for Organic Production (NPOP), India for wild harvest of products (Aconitum heterophyllum - tuber/root, Chiretta - whole plant, Seabuckthron - berries fruits, Seabuckthron - juice fruits) by Sikkim State Cooperative Supply and Marketing Federation Ltd.

SN	Year	Awards and Recognition
10.	2012	ESI 2011 released by CDF on June 5, 2012 rated Sikkim as <ul style="list-style-type: none"> <li>- Environmentally most sustainable States of India</li> <li>- Best in State's Policy Response</li> </ul>
11.	2012	CSE awarded three Sikkim Schools under Gobar Times Green Schools National Award 2012; <ul style="list-style-type: none"> <li>- Govt. Sec. School, Dentam, West Sikkim (1<sup>st</sup> Rank)</li> <li>- Govt. Girls Sr. Sec. School, Deorali, East Sikkim (2<sup>nd</sup> Rank)</li> <li>- Govt. Sec. School, Tingley, South Sikkim (4<sup>th</sup> Rank)</li> </ul>
12.	2013	CSE awarded two Sikkim Schools under Gobar Times Green Schools National Award 2013; <ul style="list-style-type: none"> <li>- Govt. Sec. School, Penlong, East Sikkim (2<sup>nd</sup> Rank in New School Category)</li> <li>- Govt. Sec. School, Tingley, South Sikkim (2<sup>th</sup> Rank in Changemaker category)</li> </ul>
13.	2014	CSE awarded two Sikkim Schools under Gobar Times Green Schools National Award 2014; <ul style="list-style-type: none"> <li>- Govt. Girls Sr. Sec. School, Namchi, South Sikkim (New School Category)</li> <li>- Govt. Sec. School, Lower Samdong, East Sikkim (Change makers category)</li> </ul>
14.	2014	Khangchendzonga National Park declared as one of the top 100 global green destinations by a consortium of top global agencies working on environment and sustainable tourism.
15.	2014	ENVIS ( <i>Environmental Information System</i> ) Centre at Forest, Environment & Wildlife Management Department, Government of Sikkim was ranked 1 <sup>st</sup> among 68 ENVIS Centres in India by the Ministry of Environment, Forests & Climate Change, Government of India.
16.	2015	Gangtok ranked among the top 10 cleanest cities in India and third among the State capitals according to the <i>Swachh Bharat</i> ranking done by the Union Urban development Ministry during August 2015.
17.	2015	Gangtok awarded as Cleanest Hill Station of the country by India Today Group at the Safaigiri Awards 2015.
18.	2016	Sikkim declared as the first full-fledged Organic State of the country.
19.	2016	Government Sr. Secondary School, Hee-Yangthang, West Sikkim awarded Paryavaran Mitra Puraskar for being one of the best two exemplar schools of the country for 2015 by the Centre for Environment Education, Ahmadabad on 11 <sup>th</sup> January, 2016.
20.	2016	WIPRO, Bangalore awarded Government Secondary School, Bongten, West Sikkim as Best Earthian school amongst top 15 earthian schools of the country and also awarded TN Khoshoo Memorial Award on the basis of its project "Sustainability and Biodiversity". The school was awarded certificate and cash prize of rupees one lakh during the awards function held on 5 <sup>th</sup> February 2016 at Bangalore.

SN	Year	Awards and Recognition
21.	2016	ENVIS ( <i>Environmental Information System</i> ) Centre at Forest, Environment & Wildlife Management Department, Government of Sikkim was awarded the Best State ENVIS Centre of the country by the Ministry of Environment, Forests & Climate Change, Government of India. The certificate has handed over by Shri Prakash Javadekar, Minister of State (Independent Charge) Environment, Forest and Climate Change during the inaugural function of National Evaluation workshop of ENVIS Centres held on 17 <sup>th</sup> February 2016 at New Delhi.
22.	2016	CSE awarded three Sikkim Schools under Gobar Times Green Schools National Award 2015; <ul style="list-style-type: none"> <li>- Sonam Choda Lepcha Memorial Govt. Sec. School, Lingdong, Upper Dzongu North Sikkim (Rank 4)</li> <li>- Govt. Jr. High School, Mangzing, South Sikkim (Rank 8)</li> <li>- Govt. Girl's Sr. Sec. School, Geyzing, West Sikkim (First school to complete and submit audit report online)</li> </ul> The green leaf trophies and certificates were presented on 23 <sup>rd</sup> February 2016 at Stein Auditorium, India Habitat centre, New Delhi.
23.	2016	West District of Sikkim bagged the 'Cleanest District of India' award on the occasion of the 10th Civil Service Day awards ceremony in New Delhi held in April 2016.
24.	2016	Hon'ble Chief Minister of Sikkim Shri Pawan Chamling received 'Certificate of Recognition' along with a cash prize of Rs. 5.0 lakh for making Gangtok the cleanest city in the North-East India from the Hon'ble Prime Minister of India Shri Narendra Modi at Shillong during May 2016. Hon'ble Chief Minister of Sikkim Shri Pawan Chamling also received 'Certificate of Recognition' for making Sikkim being recognized as the first open defecation free State in the North-East India.
25.	2016	The 40th World Heritage Committee on 17 <sup>th</sup> July 2016 at Istanbul, Turkey inscribed Khangchendzonga National Park of Sikkim, India as a UNESCO's World Heritage Site on 'Mixed' criteria recognizing the outstanding universal values for its both natural and cultural significance.
26.	2016	Khangchendzonga National Park, Sikkim listed amongst top 100 global sustainable destinations of 2016 by a consortium of top global agencies working on environment and sustainable tourism.
27.	2016	Gangtok, the capital town of Sikkim declared as the Cleanest Tourist Destination of the country by the Ministry of Tourism, Government of India
28.	2016	Shri Pawan Chamling, Chief Minister of Sikkim was conferred the prestigious Sustainable Development Leadership Award by TERI, New Delhi on 6 <sup>th</sup> of October, 2016 at New Delhi.
		<b>Up till here for 2016-17</b>
29.	2017	The Hon'ble Chief Minister of Sikkim Shri Pawan Chamling was conferred with the First Bhairon Singh Shekhawat Lifetime Achievement Honour in Public Service by the Hon'ble President Shri Pranab Mukherjee in Jaipur, Rajasthan on 15 <sup>th</sup> of May, 2017
30.	2017	Two schools from Sikkim bagged the Swachh Vidyalaya Puraskar in recognition of cleanliness and sanitation. The Hon'ble Union HRD Minister Shri Prakash

SN	Year	Awards and Recognition
		Javadekar presented the awards to Government Senior Secondary School, Hee-Yangthang from West Sikkim and Sonam Choda Lepcha Memorial Government Senior Secondary School, Lingdong from North Sikkim during the award function held at New Delhi on 1st of September, 2017.
31.	2017	The Hon'ble Chief Minister of Sikkim Shri Pawan Chamling was feted with a yet another global recognition as one of the winners of the 5th One World Grand Prix Award September 8, 2017 at Rapunzel Naturkost in Legau, Germany on occasion of the One World Festival.

## Chapter - 4

### STATE GOVERNMENT'S GREEN INITIATIVES.

The State Government under the visionary leadership of Shri Pawan Chamling has been following several exemplary environment conservation policies for over past two decades. As a testimony to the concerted efforts of the State Government, the forest cover of the State has increased by 4% in the last twenty years and the Chief Minister of Sikkim, Shri Pawan Chamling has been conferred with many national and international awards for initiating exemplary environmental actions.

#### State Green Mission

The Government of Sikkim in 2006 launched a unique and innovative programme called "State Green Mission" for raising avenue plantations along the roads and beautification of all vacant and waste lands to further reinforce wide spread recognition of Sikkim being a Green State.

#### Ten Minutes to Earth

Ten Minutes to Earth is another novel, unique and innovative programme conceptualized and initiated by the Chief Minister during 2009 in which the 25<sup>th</sup> day of June every year from 10.30 AM to 10.40 AM is observed by every citizen of the State by dedicating ten minutes of their time in plantation, protection and conservation of Mother Earth.

#### Paryavaran Mahotsav

Announced by the Chief Minister Shri Pawan Chamling in 2013 Paryavaran Mahotsav is a people's programme observed throughout the State from 15<sup>th</sup> to 30<sup>th</sup> June every year. The State Green Mission and Ten Minutes to Earth have now become part of Paryavaran Mahotsav which is to be celebrated every year by all in the State. Cleanliness drives are also organized during this period to clean up our towns and cities.

#### Smritivan

The Hon'ble Chief Minister Shri Pawan Chamling evolved the concept of *Smritivan* in year 1999 with a noble idea of planting trees in memory of near and dear ones. *Smritivan* is a mass voluntary effort to generate active involvement of the people in planting trees in the drive for Green Sikkim. The objective of this scheme is to create *Smritivan* in every gram panchayat unit.

**Mith Trees:** In order to promote and revive the age-old tradition of forging brotherhood relationship with trees, the State Government has notified Sikkim Forest Trees (Amity and Reverence) Rules, 2017 that allows any person to associate with trees standing on his or her private land or on any public land by entering into a *Mith/Mitor Mitini* relationship with a tree or trees, in which case, the tree shall be called a ‘**Mith/Mit tree**’; or by adopting a tree as if it was his or her own child in which case the tree shall be called an ‘**Adopted tree**’; or by preserving a tree in remembrance of a departed relative in which case the tree shall be called a ‘**Smriti tree**’.

**Declaration of Heritage Trees:** Recognizing the silvicultural importance and ecosystem values of the historically significant trees found all over the State that are intimately linked with the evolution of human settlements and agrarian lifestyles of the people of Sikkim, the State Government has notified total 53 trees of girth class 20ft and above under forest land as “Heritage Trees” of the state under the Sikkim Forest (Preservation, Protection and Declaration) of Heritage Tree Rules, 2016.

### **Ban on Grazing**

Grazing in forest areas causes forest degradation so the Government took a decision to ban grazing in reserved forests and plantation areas in 1998. The effect of the ban is perceptible in the form of increased natural regeneration of forests and wildlife and improvement in water availability in nearby villages.

**Planting ten saplings for every tree cut in private land:** The State Government has notified Sikkim Private and Other Non-Forest Lands Tree Felling Rules, 2006 in which for every tree felled, the applicant need to plant ten saplings of trees. When we fell one tree in our *bari* we need to plant ten saplings in its place. This has been a traditional practice in Sikkim and is provided in State laws.

**Ban on cutting, lopping and collection of *dhupi*, *nagbeli* and *mosses*:** The State Government has banned cutting, lopping and collection of any form, or leaves of *dhupi* (*Cryptomeria*, *Cupressus* etc), *nagbeli* (*Lycopodium*) and *lheu* (mosses) for decoration purposes for public or private function.

**Ban on collection of medicinal plants from forest areas for commercial use:** In order to ensure regeneration of medicinal plants species in forest areas for maintaining the ecological balance, the State Government has imposed ban on collection of all medicinal plants for commercial purposes from forest areas.

**Ban on Plastic carry bags:** Use of non-biodegradable materials like plastic carry bags has been banned in the State of Sikkim since 1997. Panchayat members should make villages aware as plastic cause permanent pollution in the soil.

**Ban on Firecrackers:** The State Government in 2014 imposed prohibition on the manufacture, sale and use or bursting of all types of firecracker including any sound emitting or illuminating type of firecrackers within the State of Sikkim as bursting of firecrackers make the environment polluted.

**Ban on Burning of Agricultural Waste:** The State Government in 2015 has imposed prohibition on the burning of agricultural waste, leaves, litter, paper wastes and garbage within the State of Sikkim. Agriculture wastes and organic manure to the soil should not be burned.

**Ban on Styrofoam:** The State Government in 2016 notified ban on sale and use of disposable items such as cups, plates, spoons, containers etc made from Styrofoam throughout the State.

**Ban on use of packaged drinking water bottles in State government functions:** Sikkim is the first Indian State to ban the use of packaged drinking water bottles in government functions and meetings.

**Ban on killing of wildlife:** The State Government has imposed ban on hunting or killing of wild animals.

**Ban on use of NSAID diclofenac:** The State Government has banned the veterinary use of vulture-killer drug NSAID Diclofenac.

**Ban on sale of *pan masala* and *gutka*:** In the interest of public health, the State Government has banned the sale of *pan parag*, *pan masala*, *tulsi*, *madhu supari*, *tamanna*, *gutka supari*, *rajnigandha* and *pass pass* within the State vide Sikkim Government Gazette notification no. 90 dated 10/04/2002.

**Introduction of Environmental Education in Schools:** The State Government conceptualized and introduced eco-clubs and green funds in schools and colleges in the year 2000 and introduced compulsory environment education in schools till class VIII in the year 2002.

**Chief Minister's Green School Rolling Trophy and State Green Schools Awards:** In order to promote environment awareness amongst school children and to acknowledge the efforts of the school eco-clubs for their action towards environment protection and conservation, "Chief Minister's Green School Rolling Trophy and State Green Schools Awards" has been constituted to reward the best eight performing schools with cash prizes of Rs. 5 lakh to the best school, Rs. 1 lakh each to the four Senior Secondary and Secondary schools and Rs. 50,000/- each to one best Junior High School, Primary School and Private School as well. This State award scheme was constituted in the year 2011 and is presented during the State level World Environment Day celebration every year on 5<sup>th</sup> of June.

## Chapter - 5

### (a) Increase in Forest Cover:

SN	FSI Report year	Forest Cover (sq km)	%	Tree Cover (sq km)	Forest + Tree Cover (sq km)	Total %
1	1987	2756	38.84	NA	NA	NA
2	1989	3041	42.86	NA	NA	NA
3	1991	3041	42.86	NA	NA	NA
4	1993	3119	43.95	NA	NA	NA
5	1995	3127	44.07	NA	NA	NA
6	1997	3129	44.10	NA	NA	NA
7	1999	3118	43.94	NA	NA	NA
8	2001	3193	45.00	14	3207	45.19
9	2003	3262	45.97	22	3284	46.28
10	2005	3262	45.97	27	3289	46.35
11	2009	3357	47.31	20	3377	47.59
12	2011	3359	47.34	25	3384	47.69
13	2013	3358	47.32	31	3389	47.76
14	2015	3357	47.31	35	3392	47.80

Inference: Before 1994, the Forest Cover was 3119 sq km i.e. 43.95% of the State's TGA. As on date, Forest & Tree Cover is 3392 sq.km i.e.47.80% of the State's TGA. There has been an increase of about 4% in total Forest and Tree Cover in the State of Sikkim. Several Eco-friendly initiatives of the State government such as Ban on Grazing in Reserve Forest, State Green Mission, Ten Minutes of Earth, Smritivan, Paryavaran Mahaotsav, 10 saplings for every tree cut and so on have added to the green cover of the State amidst several infrastructural and economic development in last 23 years.

**(b) Forest Cover**

1	Very Dense Forest	Within Green wash (sq.km)	Outside Green wash (sq.km)	Total (sq.km)
		390	110	500
2	Moderate Dense Forest	1323	837	2160
3	Open Forest	252	445	697
	Total	1965	1392	<b>3357</b>
4	Tree Cover			35
5	Total Forest and Tree Cover			<b>3392</b>
6	Per capita forest and tree cover			0.556
7	Of State's Geographical Area			47.80%
8	Of India's Forests and Tree Cover			0.43%

Source: Forest Survey of India, 2015.

**(c) District wise Classification of Forest Area**

District	Khasmal/Goucharan	Reserved Forest (RF)	Total Forest Area	Geographical Area
East	105.01	505.50	610.51	954.00
North	60.20	3880.00	3940.20	4226.00
South	104.06	304.75	408.81	750.00
West	119.73	761.75	881.48	1166.00
<b>Total</b>	<b>389.00</b>	<b>5452.00</b>	<b>5841.00</b>	<b>7096.00</b>

Source: FCA Division.

### (d) Comparative statement of Increase in Forest Cover

As per State of Forest Report (SFR) published by Forest Survey of India

	As per 2003 SFR		As per 2009 SFR		As per 2013 SFR		As per 2015 SFR	
	National	State	National	State	National	State	National	State
<b>Very Dense Forest</b>	1.56	6.454	2.54	7.05	2.54	7.05	2.61	7.05
<b>Moderately Dense Forest</b>	10.32	26.832	9.71	30.45	9.70	30.45	9.59	30.44
<b>Open Forest</b>	<b>8.76</b>	<b>12.683</b>	<b>8.77</b>	<b>9.81</b>	<b>8.99</b>	<b>9.82</b>	<b>9.14</b>	<b>9.82</b>
<b>% of Total Forest of Geographic Area</b>	<b>20.64</b>	<b>45.97</b>	<b>21.02</b>	<b>47.31</b>	<b>21.23</b>	<b>47.32</b>	<b>21.34</b>	<b>47.31</b>
<b>Tree cover</b>	-	0.38	-	0.28	-	0.44		0.49
<b>% of Total Forest &amp; Tree Cover of Geographic Area</b>	<b>20.64</b>	<b>46.35</b>	<b>21.02</b>	<b>47.59</b>	<b>21.23</b>	<b>47.76</b>	<b>21.34</b>	<b>47.80</b>
<b>Recorded Forest Area in % of Geographic Area</b>	23.57	82.31	-	82.31	-	82.31	-	82.31

**Chapter - 6**

**MANPOWER:**

**I. IFS CADRE:**

<b>SL.NO.</b>	<b>DESIGNATION</b>	<b>IN POSITION</b>
1	Principal Secretary-cum-PCCF	01
2	Chief Conservator of Forest	01
3	Conservator of Forest	06
4	Additional Director	03
5	Deputy Conservator of Forest	02
6	On central Deputation	11
7	On State Deputation	06
	<b>TOTAL IFS OFFICER:</b>	<b>30</b>

**II. SFS CADRE:**

<b>SL.NO.</b>	<b>DESIGNATION(GAZETTED)</b>	<b>IN POSITION</b>
1	Additional Director	02
2	Joint Director	05
3	Divisional Forest Officer	20
4	Assistant Conservator of Forest	74
<b>I.</b>	<b>TOTAL SFS OFFICER (GAZETTED):</b>	<b>101</b>
	<b>DESIGNATION (NON-GAZATTED)</b>	<b>IN POSITION</b>
1	Range Officer	80
2	Block Officer	123
3	Head Forest Guard	119
4	Forest Guard	309
<b>II.</b>	<b>TOTAL NON-GAZETTED:</b>	<b>631</b>
	<b>TOTAL(I &amp; II)</b>	<b>732</b>
	<b>SERICULTURE DIRECTORATE</b>	
1	Additional Director	01
2	Deputy Director	01
3	Assistant Director	01
<b>I.</b>	<b>TOTAL GAZETTED</b>	<b>03</b>
1	Sericulture Range Officer	01
2	Sericulture Block Officer	01
<b>II.</b>	<b>TOTAL NON-GAZETTED</b>	<b>02</b>
	<b>TOTAL(I &amp; II)</b>	<b>05</b>

### III. FINANCE AND ACCOUNTS SERVICE:

SL.NO.	DESIGNATION(GAZETTED)	IN POSITION
1	Additional Director	01
2	Chief Accounts Officer	01
3	Sr. Accounts Officer	02
4	Accounts Officer	01
<b>I.</b>	<b>TOTAL –(GAZATTED)</b>	<b>05</b>
	<b>DESIGNATION(NON-GAZETTED)</b>	
1	Sr. Accountant	03
2	Accountant	13
3	Jr. Accountant	13
4	Accounts Clerk	03
<b>II.</b>	<b>TOTAL NON-GAZETTED:</b>	<b>32</b>
	<b>TOTAL (I &amp; II)</b>	<b>37</b>

### IV.STATE CIVIL SERVICE:

SL.NO.	DESIGNATION(GAZETTED)	IN POSITION
1	Additional Secretary	01
2	Joint Secretary	01
3	Deputy Secretary	01
4	Under Secretary	02
<b>I.</b>	<b>TOTAL –(GAZATTED)</b>	<b>05</b>
	<b>DESIGNATION(NON-GAZETTED)</b>	
1	Office Superintendent	04
2	Head Assistant	10
3	Upper Divisional Clerk	25
4	Lower Division Clerk	50
<b>II.</b>	<b>TOTAL NON-GAZETTED:</b>	<b>89</b>
	<b>TOTAL (I &amp; II)</b>	<b>94</b>

### V. STATISTICAL SERVICE:

SL.NO.	DESIGNATION(GAZETTED)	IN POSITION
1	Deputy Director	01
2	Assistant Director	01
<b>I.</b>	<b>TOTAL –(GAZATTED)</b>	<b>02</b>
	<b>DESIGNATION(NON-GAZETTED)</b>	
1	Statistical Officer	06
2	Statistical Inspector	01
<b>II.</b>	<b>TOTAL NON-GAZETTED:</b>	<b>07</b>
	<b>TOTAL (I &amp; II)</b>	<b>09</b>

**VI. OTHERS:**

SL.NO.	DESIGNATION(GAZETTED)	IN POSITION
I.		
1	Principal Scientist	02
2	Principal Chief Research Officer	01
3	Sr. Scientist	01
4	Assistant Scientific Officer	01
5	O.S.D	01
6	Divisional Engineer	01
7	Assistant Engineer (Civil)	02
8	Assistant Engineer (Environment )	01
9	Junior Technical Officer	03
<b>I.</b>	<b>TOTAL –(GAZATTED)</b>	<b>13</b>
	<b>DESIGNATION(NON-GAZETTED)</b>	
1	Planning Assistant	01
2	Cartographer	01
3	Assistant Surveyor	01
4	Draftsmen	02
5	Tracer	01
6	Jr. Receptionist	01
7	Talley Clerk	01
8	Sub-Inspector	02
9	Supervisor	24
10	Junior Lab Assistant	01
11	Bearer	01
12	Chowkidar	65
13	Cook	01
14	Peon	88
15	Mali	117
16	Driver	58
17	Pipe Fitter	01
18	Electrician	01
<b>II.</b>	<b>TOTAL (NON-GAZETTED):</b>	<b>367</b>
	<b>TOTAL (I &amp; II)</b>	<b>380</b>

**VII. STENOGRAPHER SERVICE:**

SL.NO.	DESIGNATION(GAZETTED)	IN POSITION
1	Sr. Private Secretary	02
2	Private Secretary	03
<b>I.</b>	<b>TOTAL –(GAZATTED)</b>	<b>05</b>
	<b>STENOGRAPHER (NON-GAZETTED)</b>	
1	Stenographer	02
<b>II</b>	<b>TOTAL(NON-GAZETTED)</b>	<b>02</b>
	<b>TOTAL (I&amp;II)</b>	<b>07</b>

**ABSTRACT:**

<b>SL.NO.</b>	<b>PARTICULARS</b>	<b>IN POSITION</b>
1	TOTAL GAZETTED OFFICERS	164
2	TOTAL NON-GAZETTED EMPLOYEES	1130
3	WORK-CHARGE EMPLOYEES	09
4	ADHOC EMPLOYEES	06
5	ON CONSOLIDATED PAY	11
6	MUSTER ROLL WORKERS	730
	<b>GRAND TOTAL:</b>	<b>2050</b>

**LIST OF FRESH RECRUITMENT DURING 2016-2017 ON COMPASIONATE GROUND**

<b>SL.NO.</b>	<b>PARTICULARS</b>	<b>NUMBER</b>
1	Block Officer	
2	Lower Division clerk	
3	Office Assistant	
4	Office Attendant	01
5	Peon	02
6	Forest Guard	02
7	Driver	
8	Chowkidar	
9	Bearer	
10	Safaikarmachari	
11	Other if any	
	Grand Total:-	<b>05</b>

**Chapter – 7**

**STATEMENT OF REVENUES REALISED DURING LAST ELEVEN YEARS.**

(Rs.in lakhs)

Sl.No.	Financial Year	Estimated ( in lakhs)	Realised (in lakhs)	Percentage	Remarks
1	2006-2007	800.00	802.00	100.25	Excess 0.25%
2	2007-2008	700.50	800.26	114.24	Excess 14.24%
3	2008-2009	800.00	848.09	106.01	Excess 6.01%
4	2009-2010	1000.00	879.00	87.90	Shortfall 12.1%
5	2010-2011	1100.00	1115.17	101.37	Excess 1.37%
6	2011-2012	1100.00	1253.05	113.90	Excess 13.90%
7	2012-2013	1348.00	919.98	68.25	Shortfall 32 %
8	2013-2014	1450.00	1066.68	73.56	Shortfall 26.44%
9	2014-2015	1115.35	933.74	83.72	Shortfall 16.25%
10	2015-2016	1206.00	1246.56	103.36	Excess 3.36%
11	2016-2017	1206.00	1357.00	113	Excess 13%

**STATEMENT OF EXPENDITURE – 2016-17.**

(Rs.in lakhs)

SECTOR	ACTUAL EXPENDITURE					
	PLAN	CSS	FCA	NEC	ANY OTHER	NON-PLAN
<b>SOIL AND WATER CONSERVATION</b>	106.00					459.03
<b>FORESTRY &amp; WILDLIFE</b>	1884.19	482.35		36.13	1646.49	8746.76
<b>ECOLOGY &amp; ENVIRONMENT</b>	79.06	113.52				
<b>TOTAL -</b>	<b>2069.25</b>	<b>595.87</b>		<b>36.13</b>	<b>1646.49</b>	<b>9205.79</b>

## Chapter - 8

### **FOREST FIRE:**

#### **District wise Forest Fire Cases (January-December 2016)**

<b>District</b>	<b>No. of Incidents</b>	<b>Area damaged (Ha.)</b>
South	9	62
West	20	46.1
East	19	152.2
North	6	47
<b>TOTAL</b>	<b>54</b>	<b>307.3</b>

#### **Details of approved sites for collection of lose boulders, stone and sand through open tender for the year 2016-2017.**

<b>Sl.No.</b>	<b>Year</b>	<b>District</b>	<b>No. of sites</b>	<b>Total area (in sq.ft)</b>
1	<b>2016-2017</b>	North	16	272000
2		South	14	1396000
3		East	84	1461500
4		West	30	459694

## Forest Fire Cases since 2002

Calendar Year	Number of fire incidents in forest area	Forest area affected by fire (in ha.)	Estimated Loss		Casualties		
			Loss of Timber				
	Total	Total	Volume in cu.mt.	Value in lakhs	Human Life	Cattle	Wildlife
2002	32	170	2.00	1.00	Nil	Nil	Nil
2003	23	122	2.00	1.00	,,	,,	,,
2004	21	118	2.00	1.00	,,	,,	,,
2005	42	362	3.00	1.50	,,	,,	2
2006	58	408	3.00	1.50	,,	,,	2
2007	31	100	1.00	0.50	,,	,,	Nil
2008	42	328	2.00	1.00	,,	,,	,,
2009	300	1303	20.00	3.50		4	4
2010	34	133	25 no of Chewri bushes	1600 Rhizomos	-	-	-
2011	64	523.60					
2012	21	21	96.5 ha.	4	-	-	Habitat Damaged
2013	74	272.30	Approx. 5000 saplings, Tree-350, Rhododendron- 300 approx. & Ground bushes.		-	-	Habitat Damaged
2014	80	881	-	-	-	-	-
2015	103	502	-	-	-	-	-
2016	54	307.3	-	-	-	-	-

## Chapter – 9

### Nurseries under Forest, Env. & Wildlife Management Department.

Sl.No.	District	Name of Nursery	Name of Division	No. of Nursery	Area in Ha.
1	2	3	4	5	6
<b>High Altitude</b>					
1	West	i) Noonthalay	Wildlife	1	1
2		ii) Tersey		1	1
<b>Sub Total</b>				<b>2</b>	<b>2</b>
3	North	i) Lachen	Territorial	1	0.5
4		ii) Lachung		1	0.5
<b>Sub Total</b>				<b>2</b>	<b>1</b>
5	East	Kyongnosla Herbal	NTFP	1	1
6	North	Thangu RET		1	1
<b>Sub Total</b>				<b>2</b>	<b>2</b>
7	East	Kyongnosla	EPC	1	0.6
<b>Sub Total</b>				<b>1</b>	<b>0.6</b>
<b>Grand Total :</b>				<b>7</b>	<b>5.6</b>

Sl.No.	District	Name of Nursery	Name of Division	No. of Nursery	Area in (Ha.)
1	2	3	4	5	6
<b>Low Altitude</b>					
1	East	Gurdum	WL	1	0.65
2		Rakshey		1	1.00
3		Likchu		1	0.50
<b>Sub total:</b>				<b>3</b>	<b>2.15</b>
TOTAL (LA) WILDLIFE				3	2.15
4	North	Bhop	Env.& SC	1	1.50
5		Phidang		1	1.00
6		Gnon Samdong		1	1.00
<b>Sub total:</b>				<b>3</b>	<b>3.50</b>
7	West	Gyalshing	Env. & SC	1	2.00
8		Sumphu		1	1.20
9		Begha		1	1.00
<b>Sub total:</b>				<b>3</b>	<b>4.20</b>
10	East	Burung	Env. & SC	1	1.00
11		Dhanbari		1	2.50
12		Parakha		1	0.30
13		Chewribotey		1	0.20
14		Dipudara		1	1.00
15		Rongli		1	1.00
16		Lagyap		1	0.5
17		Jitlang		1	0.5

<b>Sub total:</b>				<b>8</b>	<b>7.00</b>
18	South	Mangba-Samatar	Env. & SC	1	1.00
19		Passi & Mamring		1	0.70
<b>Sub-total:</b>				<b>2</b>	<b>1.70</b>
<b>TOTAL (LA) ENV. &amp; SC.</b>				<b>16</b>	<b>16.40</b>

20	East	Karthok	Territorial	1	1.00
21		Sangchem		1	2.00
22		Bagey Khola		1	1.60
23		Baluwakhani		1	0.50
24		Pangthang		1	0.50
25		Lingdum		1	1.00
<b>Sub total:</b>				<b>6</b>	<b>6.60</b>
26	West	Yuksom	Territorial	1	1.00
27		Gyalshing		1	0.50
28		Ridge Park		1	2.00
29		Buriakhop		1	1.20
30		Okhrey		1	0.50
31		Tikpur		1	1.50
32		Hee Kyongbari		1	1.00
33		Phedimbotay		1	1.00
<b>Sub total:</b>				<b>8</b>	<b>8.70</b>
34	North	Pakshep	Territorial	1	2.00
35		Tingchim		1	1.00
36		Heegyathang		1	2.00
37		Lingdong		1	2.00
38		Phodong		1	0.40
39		Rafom		1	0.50
40		Mensithang		1	2.50
41		Kabi		1	1.00
42		Chawang		1	0.60
43		Mangan		1	
44		Dzongu		1	
<b>Sub total:</b>				<b>11</b>	<b>12.00</b>
45	South	Dorongpani	Territorial	1	1.80
46		Melli		1	2.00
47		Baguwa 10th Mile		1	2.00
48		Public Garden Rock Garden nursery (Chamgoan Park) (LA)		1	2.00
49		Ravong Dew		1	0.40
50		Ralong Deorali		1	1.40
51		Kamdaley		1	2.40
52		Bhanzyang		1	1.00
53		Chisopani		1	1.20
<b>Sub total:</b>				<b>9</b>	<b>14.20</b>
<b>TOTAL (LA) TERRITORIAL</b>				<b>34</b>	<b>41.50</b>

Sl.No.	District	Name of Nursery	Name of Division	No. of Nursery	Area in (Ha.)
1	2	3	4	5	6
54	East	Lagyap Nursery	Social Forestry	1	2.60
55		B-II Nursery		1	2.00
56		Assam-Lingzey		1	1.20
57		Burtuk Nursery		1	1.00
58		Gaidhara		1	2.00
59		Salingay Bagey		1	1.00
<b>Sub total:</b>				<b>6</b>	<b>9.80</b>
60	North	Namprikdang	Social Forestry	1	1.00
61		Dikchu Laborbotey		1	1.00
<b>Sub total:</b>				<b>2</b>	<b>2.00</b>
<b>TOTAL (LA) SOCIAL FORESTRY</b>				<b>8</b>	<b>11.80</b>
62	West	Okhrey	SBFP	1	1.50
63		Kaluk		1	1.00
64		Tikjuk		1	1.00
65		Daramdin		1	1.00
66		Sherethang		1	1.00
<b>Sub total:</b>				<b>5</b>	<b>5.50</b>
67	South	Rayong	SBFP	1	1.00
68		Mamring Ursery		1	1.00
69		Sagbari		1	1.00
<b>Sub total:</b>				<b>3</b>	<b>3.00</b>
70	East	Pangthang	SBFP	1	2.00
<b>Sub total:</b>				<b>1</b>	<b>2.00</b>
71	North	Namprikdang Nursery	SBFP	1	1.00
72		Butterfly Park Nursery Rangrang		1	0.50
<b>Sub total:</b>				<b>2</b>	<b>1.50</b>
<b>TOTAL (LA) SBFP</b>				<b>11</b>	<b>12.00</b>

Sl.No.	District	Name of Nursery	Name of Division	No. of Nursery	Area in (Ha.)
1	2	3	4	5	6
73	South	Mamring	NTFP	1	1.00
<b>Sub total:</b>				<b>1</b>	<b>1.00</b>
74	West	Sipsu	NTFP	1	1.00
<b>Sub total:</b>				<b>1</b>	<b>1.00</b>
75	East	Pangthang TSP Nursery	NTFP	1	1.00
76		Rorathang Amla Nursery		1	1.00
<b>Sub total:</b>				<b>2</b>	<b>2.00</b>
77	North	Namsing TSP Nursery	NTFP	1	1.00
78		Tingda Amla		1	1.00
<b>Sub total:</b>				<b>2</b>	<b>2.00</b>
79	South	Bharikhola Nursery	Silviculture	1	1.50
<b>Sub total:</b>				<b>1</b>	<b>1.50</b>
<b>TOTAL (LA) SILVICULTURE</b>				<b>1</b>	<b>1.50</b>
80	East	Pinetum Nursery/Forest Colony	EPC	1	0.40
<b>Sub total:</b>				<b>1</b>	<b>0.40</b>
<b>TOTAL (LA) EPC</b>				<b>1</b>	<b>0.40</b>
81	North	Mensithang	KNP	1	1.00
<b>Sub total:</b>				<b>1</b>	<b>1.00</b>
<b>TOTAL (LA) KNP</b>				<b>1</b>	<b>1.00</b>
82	East	Bulbulay Nursery	FCA	1	2.00
<b>Sub total:</b>				<b>1</b>	<b>2.00</b>
<b>TOTAL (LA) FCA</b>				<b>1</b>	<b>2.00</b>
<b>TOTAL(LA)</b>				<b>82</b>	<b>94.75</b>
<b>TOTAL (HA)-</b>				<b>07</b>	<b>5.60</b>
<b>GRAND TOTAL:-</b>				<b>89</b>	<b>100.35</b>

## Chapter – 10

### FOREST CHECK POSTS:

<u>SL.NO.</u>	<u>NAME OF CHECK POSTS.</u>	<u>DISTRICT:</u>
01.	Ranipool	<b>East.</b>
02.	Bojoghari	East.
03.	Chandmari	East.
04.	Sichey	East.
05.	Rhenock	East.
06.	Reshi	East.
07.	Pakyong	East.
08.	Singtam	East.
09.	32 No.	East.
10.	Rangpo	East.
11.	Dipu Dara Khamdong	East
12.	Sirwani	East.
<b>13.</b>	Mamring	<b>South.</b>
14.	Manpur	South.
15.	Tarku	South.
16.	Melli	South.
17.	Jorethang	South.
18.	Namchi	South.
19.	Kabi	<b>North.</b>
20.	Chungthang	North.
21.	Dikchu-Nayabazar	North.
22.	Legship	<b>West.</b>
23.	Dentam	West.
24.	Soreng	West.
25.	Okhray	West.
26.	Naya Bazar	West.
27.	Gyalshing	West.

## Chapter – 11

### State Domestic Product (SDP) during 2016-2017.

(Rs. In lakhs)

Sl.No.	Items	North		East		Total	
		Quantity	Value	Quantity	Value	Qty.	Value
01	Sand	941937	9.89	106050	1.11	1047987	11.00
02	Stone	661302	5.95	4101700	36.91	4763002	42.86
03	Stone Chips	913292	16.44	7508120	135.15	8421412	151.59

Sl.No.	Items	South		West		Total	
		Quantity	Value	Quantity	Value	Qty.	Value
01	Sand	3080370	35.57	3153653	33.11	6234023	68.68
02	Stone	2312299	22.70	400745.55	3.60	2713044.55	26.30
03	Stone Chips	4762694	131.49	300558.33	5.41	5063252.33	136.90

Sl.no.	Silk Cocoon	Quantity	Value
01	Mulbery (in kgs)	570	2.17
02	Eri (in kgs)	50	0.12
03	Muga (in kgs)	4000	0.04

Sl.no.	Item	Quantity	Value
01	Industrial Wood (in cft)	12183.5	25.02
02	Fire Wood (in piles)	174.5	1.28
03	Charcoal	-	-

# FORESTRY AND WILDLIFE

**Chapter- 12**

**(A) FORESTRY:**

**Twenty Point Programme:**

**TARGET AND ACHIEVEMENT UNDER 20 POINT PROGRAMME.**

<b>52 a – Area covered under plantation</b>					<b>52 b- Seedling planted</b>		
Sl.No	Year	Target	Achievement	% Ach.	Target	Achievement	% Ach.
			(ha)				
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
1	1971-80		7463			6.59	
2	1980-95		37658.32			60.79	
3	1995-96		7189.5			11.99	
4	1996-97		7500			12.5	
5	1997-98		6356.56			13.05	
6	1998-90		7537			2.5	
7	1999-00		6923			20.91	
8	2000-01		8048			15.15	
9	2001-02	12000	6217	51.81	22	12.42	56.45
10	2002-03	7500	3696	49.28	22	14.73	66.95
11	2003-04	7500	6125.19	81.67	22	8.66	39.36
12	2004-05	8000	6191	77.39	22	10.32	46.91
13	2005-06	12000	8012.87	66.77	15	6.13	40.86
14	2006-07	15000	3550.26	23.66	15	9.75	65
15	2007-08*	12000	3456.73	28.8	*78	30.84	39.54
16	2008-09	12000	3862.37	32.2	78	23.04	29.55
17	2009-10	25000	8006.85	32.02	162.5	48.61	29.54
18	2010-11	5000	2734.07	54.68	32.5	55.68	105.6
19	2011-12	6000	7454.76	124	39	50.33	129.06%
20	2012-13	7450	9019.23	121.06	48	60.27	125.57
21	2013-14	6160	4805.00	78.00	40.04	31.92	79.72
22	2014-15	6160	4095.30	66.48	40.04	23.07	57.62
23	2015-16	4810	1324.76	27.54	31.27	16.30	52.14
24	2016-17	4095	3376.47	82	26.62	22.98	86

## Chapter-13

### **STATE GREEN MISSION:**

- The Government of Sikkim launched a unique and innovative program called “State Green Mission” with the view to raise avenue plantation along the roads and beautification of all vacant lands to further reinforce wide spread recognition of Sikkim being a Green State.
- Hence the State Government has taken initiative to generate Avenue Plantation in massive scale by using all the manpower in various departments in the Government and other nature lovers from the Government and Non Governmental Organization including different Eco clubs and Self Help Groups. Accordingly Government had takeout a notification vide no 15/Home/06 dated 24/2/2006 in this regard. The Hon’ble Chief Minister Shri Pawan Chamling formally launched this Mission On 27<sup>th</sup>. February 2006 in the presence of all Ministers, officers and the public of Sikkim in the programme organized by the Forest Environment and Wildlife Management Department at Chintan Bhawan, Gangtok.

### **Aims and Objectives**

- The major objectives of the programme are to create green belt and avenues for meeting aesthetic recreational needs of the people and beautify the areas for tourist attraction. This programme is expected to provide fringe benefits like reduction in the surface run-off discharge and checking erosion in the downhill side and will also create a store house of genetic diversity by planting all the indigenous trees, shrubs, herbs, climbers, creepers, conifers and green foliages including fruits and medicinal plants.
- The greenery generated out of this programme will also reduce noise pollution to the neighboring household population, attract the avifauna, butterflies, squirrels etc and their shelter. Sikkim becoming a Garden State, the mission will also work with objective to promote tourism as a sustainable and eco friendly activity in the state of Sikkim. The programme is also expected to generate awareness on environment & forests and bringing in sense of participation and ownership among people in the whole process.

### **Implementing Mechanism**

A State Level Committee under the chairmanship of Hon’ble Chief Minister is formed to oversee and to provide policy and administrative support to this mission. The Forest, Environment and Wildlife Management Department is the Nodal Department. At constituency level, there is Green Task Force headed by the Area MLA to implement the programme in the field. One District level officer is appointed as Nodal Officer for each constituency. The Forest Department will provide all technical guidance, saplings and manure for the programme. All the Government departments will provide managerial and labour force from the existing establishment. At ward level, one village protection committee is constituted headed by the concerned ward Panchayat member.

**No. of seedlings planted during State Green Mission from 2006-07(Phase I) to 2016-17 (Phase XI)**

District	Phase I	Phase II	Phase III	Phase IV	Phase V	Phase VI
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
East	265625	211357	73885	556518	152824	398397
West	158389	274577	148019	119411	111900	11340
North	33000	340008	219497	96032	75456	8044
South	118603	187572	56697	479390	23240	66843
<b>Year wise total</b>	<b>575617</b>	<b>1013514</b>	<b>498098</b>	<b>1251351</b>	<b>363420</b>	<b>484624</b>

District	Phase VII	Phase VIII	Phase IX	Phase X	Phase XI
	2012-13	2013-14	2014-15	2015-16	2016-17
East	63530	123210	79180	77376	205950
West	45400	27756	34535	38567	67413
North	8386	51960	10570	46669	235360
South	25000	63458	38000	115172	110624
<b>Year wise total</b>	<b>142316</b>	<b>266384</b>	<b>162285</b>	<b>277784</b>	<b>619347</b>

(a) **TEN MINUTES TO EARTH:**

Ten Minutes to Earth is a novel, unique and innovative programme conceptualized and initiated by the Chief Minister of Sikkim Shri Pawan Chamling during 2009 in which the 25<sup>th</sup>.day of June every year is observed by every citizen of the State as an annual ritual by dedicating ten minutes of their time in plantation, protection and conservation of Mother Earth.

The department provides free seedlings through distribution booths set up at every forest check post and several other prime locations throughout the State.

**No. of seedlings planted during Ten Minutes to Earth Programme on 25<sup>th</sup>.June  
(2009 to 2016)**

**(Updated)**

District	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year
	2009	2010	2011	2012
East	2,03,740	1,85,000	64,277	54,255
West	1,86,039	1,15,586	21,895	17,305
North	60,465	54,104	9,224	7,541
South	1,60,450	1,17,341	18,472	8,232
<b>Year wise total</b>	<b>6,10,694</b>	<b>4,72,031</b>	<b>1,13,868</b>	<b>87,333</b>

District	5 <sup>th</sup> year	6 <sup>th</sup> year	7 <sup>th</sup> year	8 <sup>th</sup> year
	2013	2014	2015	2016
West	54,115	50,110	46,169	65000
North	10,775	6,721	4,416	6628
South	14,105	2,009	10,094	4560
<b>Year wise total</b>	<b>5,365</b>	<b>6,000</b>	<b>18,340</b>	<b>16590</b>
	<b>84,360</b>	<b>64,840</b>	<b>79,019</b>	<b>92778</b>

**(b) PARYAVARAN MAHOTSAV:**

In order to keep up with the vision of developing Sikkim into a model green State, the Chief Minister of Sikkim, Shri Pawan Chamling declared June 15-30 as Paryavaran Mahotsav fortnight in Sikkim. The declaration came during his public address on the occasion of launching 8<sup>th</sup> phase of State Green Mission on the 15<sup>th</sup> day of June, 2013 at the divine venue Tathagata Tsal, Ravangla in South Sikkim.

Paryavaran Mahotsav or the ‘Environment Festival’ is a people’s programme celebrated throughout the State from 15<sup>th</sup> to 30<sup>th</sup> June every year. Paryavaran Mahotsav has added vigor and dynamism to the green Sikkim campaign. It has set up a holistic platform duly integrating the state’s flagship programmes viz.State Green Mission and Ten Minutes to Earth which have now become the integral part of Paryavaran Mahotsav celebrated every year by the State Government.

During this fortnightly festival, various activities are carried out throughout the State.

- Flag off programme on 15<sup>th</sup> June every year, setting up of free seedling distribution booths, information booths.
- Mass plantation and sensitization drives as a part of State Green Mission.
- Ten Minutes to Earth plantation drive on 25<sup>th</sup> of June from 10.30 am onwards every year.
- Mass cleanliness drives of major towns and village.
- Eco-paintings/Essay Writing/Debate/Quiz competition at all school eco-clubs.

## Chapter-14

### **FOREST CONSERVATION CELL:**

Forest Conservation (FC) Cell, a separate working unit headed by the Nodal Officer, is dealing the forest land diversion cases with the inception of Forest (Conservation) Act 1980. This is a unique piece of legislation, enacted by the Parliament in the year 1980, and came into force in the State of Sikkim with the subsequent Rules and Guidelines framed by the Govt of India from time to time.

The Govt. of India launched the on-line submission of Proposals in the web site portal "On-Line Submission & Monitoring of Forest Clearance Cases" designed by the Ministry of Environment Forests & Climate Change, New Delhi and made it mandatory with effect from 15<sup>th</sup> August 2014. Accordingly, the proposals are being received through the on-line as well as in off-line mode also and processed at each level of authority procedurally, and monitored simultaneously till the forest clearance are granted on case to case basis.

Since 1980, the Act has facilitated various developmental activities like construction of power projects, irrigation project roads, railway lines, school, hospitals, rural electrification, telecommunication, drinking water facilities, mining and others etc in forest lands and checked the indiscriminate diversion of pristine forest areas. The followings are the achievements made by the FC Cell till the year under Report:-

#### **ACHIEVEMENT UNDER FOREST (CONSERVATION) ACT, 1980 (UPDATED TILL THE YEAR ENDING DECEMBER 2017)**

Sl No	Description	Achievement
1	Total number of approved cases as on 31-12-2017	440 Nos
2	Total forest land diverted for non-forestry purposes	2546.021 Ha
3	Total Compensatory afforestation stipulated under the Act	5087.35Ha.
4	Total CA achieved and updated since 1980 to 31-12-2017	3683.37 Ha

#### **Diversion of forest land**

Sl No	Category of approved cases	North		East		South		West		Total	
		No	Area	No.	Area	No	Area	No	Area	No	Area
1	Defence	12	199.927	6	414	0	0	0	0	18	613.927
2	Drinking Water	0	0	16	3.73	14	20.2	4	4.075	34	28.005
3	Hydel	13	122.77	15	241.7157	5	138.295	5	46.241	38	549.0217
4	Irrigation	0	0	1	3.21	3	0.88	1	0.35	5	4.44
5	Mining	1	0.0464	1	0.6176	0	0	0	0	2	0.664
6	Others	30	20.98	56	68.871	32	123.58	15	12.81	133	226.241
7	Road	41	472.14	42	208.5451	51	64.913	32	53.829	166	799.4271
8	Railway	0	0	1	11.89	0	0	0	0	1	11.89
9	School	0	0	2	1.862	1	0.06	0	0	3	1.922
10	Transmission	4	26.8003	14	81.5748	18	161.343	4	40.765	40	310.4831
	<b>Total</b>	<b>101</b>	<b>842.6637</b>	<b>154</b>	<b>1036.018</b>	<b>124</b>	<b>509.271</b>	<b>61</b>	<b>158.07</b>	<b>440</b>	<b>2546.021</b>

LIST OF APPROVED CASES UNDER THE FOREST (CONSERVATION) ACT, 1980.

Year	Forest land diversion (in hac)	STIPULATION Compensatory Afforestation		
		In forest land (in hac)	In Non forest land (in hac)	Total (in hac)
Till 2009-10	2070.10	4099.58	84.56	4181.13
2010-11	162.45	322.95	0.00	322.95
2011-12	83.17	166.93	0.00	166.93
2012-13	24.10	42.95	0.00	42.95
2013-14	48.46	94.23	0.00	94.23
2014-15	4.74	6.26	0.00	6.26
2015-16	89.87	154.44	0.00	154.44
2016-17	26.22	51.16	0.00	51.16
2017-18 *	36.92	64.31	0.00	64.31
<b>Total</b>	<b>2546.02</b>	<b>5002.79</b>	<b>84.56</b>	<b>5087.35</b>

\*As on 31/12/2017.

YEAR-WISE PROGRESS OF ADHOC CAMPA FUND (Rs.in lakhs).

During the year	Opening balance	Receipt from Adhoc CAMPA	Interest accrued	Total Receipt	Fund utilized	Closing balance
2009-10	x	800.92	14.89	815.81	443.11	372.70
2010-11	372.70	1023.34	23.43	1419.47	1334.81	84.66
2011-12	84.66	904.00	19.88	1008.54	1007.56	0.98
2012-13	0.98	875.23	20.54	896.75	545.30	351.45
2013-14	351.45	950.00	31.95	1333.40	939.97	393.43
2014-15	393.43	1370.00	0	1763.43	999.80	763.63
2015-16	763.63	1149.55	0	1913.18	546.61	1366.57
2016-17	1366.57	900.00	0	2266.57	586.41	1680.16
<b>GRAND TOTAL</b>		<b>7973.04</b>	<b>110.69</b>		<b>6403.57</b>	<b>1680.16</b>

## Chapter-15

### Outturn of Timber and Fire Wood:

Utilization Circle is the commercial wing of the Department. Extraction of trees posing danger, trees from diverted forest lands, poles from thinning of plantations and conversion into timber, firewood and sale of these forest produce is done through the Circle. The Circle operates two sawmills, at Chuba, East Sikkim and Bharikhola, Jorethang, South Sikkim. The Circle is also engaged in conversion and distribution of Sal timber to REDRH beneficiaries as per the policy decision taken by the Government. In this year, a total of 2840 cft of Sal timber has been distributed free of cost to REDRH beneficiaries. **Vision:** The Circle is taking into consideration modernization of the Government sawmills for increase in efficiency of the mill leading to increase output and hence increased revenue to the State Government. Other avenues are also being looked into, like producing of miscellaneous wooden handicrafts which would increase revenue as well as utilize the waste products in the mill.

**Conclusion:** Being the commercial wing of the Department this Circle is persistently working for increase in the Government revenue and has regularly been generating revenue more than the targeted revenue. With new and modern technological introductions in the sawmill operations and exploring other avenues to revenue increase, the Circle is aiming at collecting additional revenue to the State.

Detail of extraction and sale of forest produce and import fee during 2016-2017 under Utilization Circle.

Sl.No.	Particulars	Production	Price	Value (Rs.in lakh)
1	Industrial Wood/Timber	12183.5 cft.	As per Notification	25.02
2	Firewood	174.5 pile	No.305/GOS/FEWMD	1.28
3	Charcoal		Dated 30/3/2016	
4	Any other			
5	a)Disposed of trees/logs	88 nos.		1.71
6	b)T.P.charge			
7	Sawing charge			0.93
8	VAT 13.5% on Rs.2502447			3.37
9	Import			
	a) Import of timber	83906.07 cft.		20.46
	b) License fee			0.46
	<b>Total</b>			<b>53.23</b>

**Details of Extraction and Sale of Forest Produce for the last twenty-two years.**

Year	Timber		Firewood		Charcoal		Total
	Quantity extracted and sold (Cubic feet)	Revenue realized (Rupees)	Quantity extracted and sold (Piles)	Revenue realized (Rupees)	Quantity extracted and sold (Bags)	Revenue realized (Rupees)	Revenue realized (Rupees)
1997-1998	2153.50	2.75	36	0.50	986	0.57	3.82
1998-1999	1004.75	1.41	58	0.22	180	0.18	1.81
1999-2000	1535.52 1872 Nos (Ballies)	2.23	157	0.84	620	0.45	3.52
2000-2001	1741.75 1393 Nos (Ballies)	2.93	168	0.83	245	0.18	3.94
2001-2002	11869.54 1225 Nos (Ballies)	22.31	95	0.18	77	0.37	22.86
2002-2003	13421.31 cft.	20.13	379.72	1.90	213	0.28	22.31
2003-2004	4863.50cft.	10.28	151.82	0.76	176	0.26	11.30
2004-05	3852.62 cft.	8.23	169.15	0.85	13	0.21	9.29
2005-06	3367.52cft	8.14	111.80	0.77	13	0.19	9.1
2006-07	1876.43cft	2.81	224	1.21	-	-	4.08
2007-08	1007.53 cft	1.91	90.80	0.56	-	-	2.47
2008-09	2659.95 cft 354 no of trees 1493 no of ballies	11.01	149.65	0.81	-	-	11.82
2009-10	1627.98cft 183 nos.trees	8.77	150.5	0.82	-	-	9.59
2010-11	5966 cft.+ 619 nos.trees	26.90	248.50	1.55	-	-	28.45
2011-12	5697.41 cft.+111 nos.trees	22.55	271.00	1.64	-	-	24.19
2012-13	6073.4 cft	21.05	222 piles	1.36	-	-	22.41
2013-14	9551.52 cft.	28.07	294.50 piles	1.84	-	-	29.91
2014-15	7139 cft.	24.47	197 piles	1.21	-	-	
2015-16	6791 cft	21.13	212 piles	1.27	-	-	22.40
2016-17	12183.5 cft	25.02	174.5 piles	1.28	-	-	26.30

## Chapter-16

### WORKING PLAN CIRCLE

Working Plan Circle is stationed at Head Office, Gangtok which controls and look after the overall activities Preparation of Working Plan/Working Scheme/Management Plans and Survey and Demarcation. Presently, the Working Plan Circle is having following officers and staffs to carry out the Working Plan Circle's activities.

#### **Staff Position:**

Officers	CF (WP)	1
	DFO (WP)	1
	ACFs (WP)	2
Technical	Junior Technical Officer	3
	Planning Assistant (SG)	1
	Cartographer	1
	GIS Engineers	2 (Adhoc basis)
	Junior Research Fellow (JRF)	1
Field Staff	Range Officer	1
	Blocks Officers	3
	Forest Guards	1
Office staff	UDC	2
	LDC	1
	LDC (MR)	2
	Peon	3

#### **WORK UNDERTAKEN BY WORKING PLAN AND GIS.**

- Reassessment of Old Preservation Plot, North, East and West were done during the financial year 2016 under the fund provided by (SBFP) Sikkim Biodiversity Forest Management Project.
- Conducted one week Training Programme on “ Theory and Application of Geospatial Technologies” to newly appointed Block Officers w.e.f 29<sup>th</sup> May to 3<sup>rd</sup> June 2017 funded by JICA assisted Sikkim Biodiversity Conservation and Forest Management Project.
- National Vegetation Carbon Pool Assessment Project is under progress. Its aims is to assess the total Amount of Carbon in Sikkim Forests. The Sample Plots are being laid at North, West, East and South Sikkim. The Samples of Herbs, Shrubs, Litters and Humus are also being brought to laboratory for making further analysis.
- **Training and capacity building:**  
Apart from all above, regular General Refresher Course to of Frontline staffs R.O., B.O., HFG and FGs were given trainings on various aspects at regular intervals from the fund received from DFE (Directorate of Forest Education, Dehradun) and JICA assisted Sikkim Biodiversity and Forest Management Project (SBFP) FEWMD on various aspects of GIS/Remote sensing, toposheet reading, etc.

- **Implementation of Centrally Sponsored Scheme (CSS), Integrated Forest Protection Scheme in Sikkim (IFPS):**

Works done in this regard are as follows:

- Demarcation of Forest area at North Districts at 2005 to 2006 in Phodong RF, Lachen, Lachung, Mangan and Tshungthang.
- Forest Fire Management at North during the year 2009 to 2010
- Encroachment Management at North in the year 2009 to 2010.
- Implementation of Working Plan Prescription under Environment CESS at North District Territorial in the year 2016 to 2017.
- Compartment Boundary Pillar Demarcation at Dombang RF, North Districts on 2016.
- Thinning Works for North, Working Plan Implementation at 2016.



**Measuring dry weight.**



**Measuring of Tree.**

**a) REMOTE SENSING CELL:**

The Remote Sensing Cell of the Circle, GIS fully equipped with Modern and Latest Scientific Machineries and instruments for generating very useful outputs for management of forest. The Software used in Lab are Arc GIS and ERDAS Version 10.4.1 and 2013 and 2016 respectively and Hardware like Workstation 3 nos, High Configuration Desktop 3 nos, Xerox (Cannon) and Colour Printer. These modern tools and Technology help in effective Management Planning and Resource can be put in use in every field.

**WORK UNDERTAKEN BY GIS:**

- Prepared maps for Wildlife Sanctuaries Managements.
- Eco-Sensitive Zone maps data base prepared based on Satellite Imagery of all Seven Wildlife Sanctuaries and National Parks.
- Prepared trekking trail maps of all PAs under JICA Scheme.
- Prepared new 16 (sixteen) Sub- Division map data base for Directorate of Census Department (total 25 nos).
- Cultural map prepared for KNP World Mixed Heritage Site
- Grid map prepared for Wildlife estimation in respect of all PAs of Sikkim.
- Digitization of Wetland layers prepared based on Satellite Imagery List IV.
- GPS Polygon data obtained from field was converted into KML Format and uploaded in CAMPA Website under FCA (Forest Conservation Act) for Forest Clearance Purposes.
- GPS Polygon data obtained from field was mapped under RET (Rare Endangered and Threatened Species Project under NTFP).
- District wise identification for Fire Hazard Zonation areas since 2004-2014.
- All GIS related departmental works done by GIS Lab (WPC).

**b) National Carbon Project (Vegetation Carbon Pool Assessment Project):**

Indian Space Research Organization's (ISRO) National Remote Sensing Centre (NRSC), Hyderabad had tied up with FEWMD in 2008-09 for remote sensing based Carbon assessment of representative forest areas of Sikkim. Again in 2015, the two agencies tied up for carbon re-assessment of the same plots to find out if there were any differences. Accordingly, an MoU was signed between the two parties on 2/05/2015. As per the MoU, the Carbon assessment is to be carried out in all four districts in a phase wise manner: Year-I (20 sample sites), Year II (20 sample sites) and Year III (10 sample sites).

At present, the assessment for only year I (20 sample sites) have been completed and the data sent to NRSC. The work for year II will be commencing soon.

**c) GIZ:**

The Indo-German Project for Climate Change Adaptation in the North Eastern Region (NER) in partnership with the Union Ministry of development of North Eastern Region (MoDoNER) has as such declared their goal that “Rural people in the NER enhance their livelihood resilience and adaptive capacities to the impacts of climate variability and change”. GIZ concentrates on implementation through:

- a. climate policy advice
- b. knowledge management and experience sharing
- c. pilot measures for climate-resilient agriculture and forestry

Oak forests are endemic in Sikkim and one of the most endangered forest ecosystems in the state. Oak forests covers roughly 16 % of the country and 23 % of the forested area in Sikkim which makes Oak forests the pre-dominant forest eco-systems in the state. However, due to degradation by various factors over the last 3 decades, more than 50% areas of the Oak forests have become open, very open or even blank.

Thus, in order to address the problem of diminishing oak forests in Sikkim, GIZ has kept the following objectives in Sikkim as follows:

- a. To protect and improve the stocking of the degraded oak forest by assisted natural regeneration and artificial regeneration.
- b. To secure and enhance soil and water conservation by managing these forests.

Under GIZ oak project, the direct seeding of oak seedlings at forest areas of each District, collecting directly from the crown and forest floor is being done. At present, the oak direct seeding work was carried out from Nov-Dec 2017 in the observation plots of 50m\*50m each in the following four areas of Sikkim:

- a. Kartok RF (East)
- b. Fambonglho Wildlife Sanctuary (East)
- c. Yuksom RF(West)
- d. Maenam WL Sanctuary(South)

Each observation site has 20-25 seeding spots with each seeding spot having 9 micro seeding spot. Each micro-seeding spot has 3-5 oak seed planted on it. In order to check the influence of grazing on germination, half the observation plots are fenced with iron mesh and the other half left open.

Since, the germination of oak seeds take around six months, the success of germination will be known only in the days to come.

**d) FOREST PLUS:**

**BACKGROUND:**

The Partnership for Land Use Science (Forest-PLUS) program is a five-year initiative jointly designed by USAID/India and the Government of India's (GoI) Ministry of Environment, Forest, and Climate Change (MoEFCC). Forest-PLUS contributes to USAID/India's Development Objective of helping India's transition to a low emissions economy by introducing land use practices in forested landscapes that improve forests' climate change, environmental, and livelihoods benefits. Under the first program component, Forest-PLUS is developing tools, technologies, and methods for an ecosystem approach to sustainable forest management, for measuring forest carbon, and for building institutional structures for effective forest resource governance. Under the second component, Forest-PLUS aims to deploy these tools, technologies, and methods in four demonstration landscapes representing forest types widespread in India, supported by training programs and communication campaigns that target a variety of audiences. Forest-PLUS implements its activities in close consultation with government and non-government partners, particularly MoEFCC, the Green India Mission (GIM), the State Forest Departments, and the Forest Survey of India (FSI).

Sikkim is a landlocked Indian state located in the Himalayan Mountains. With just over 6 lakh inhabitants, Sikkim is the least populous state in India and geographically the second smallest state after Goa in total area. The recorded forest area in Sikkim is 5,841 km<sup>2</sup>, which comprises 82.31 % of the geographical area of the state. Sikkim has one national park and seven wildlife sanctuaries covering an area of 2,179 km<sup>2</sup>, which is also the highest in the country in terms of percentage. It also harbors approximately 4,500 flowering plants, 550 Orchids, 36 Rhododendrons, 16 Conifers, 28 Bamboos, 362 Ferns and its allies, 9 Tree Ferns, 30 Primulas, 11 Oaks, 424 Medicinal plants, 144 mammals, 550 Birds, 48 Fishes and 600 Butterflies. Legally, the forests have been divided into Reserve Forests (93.66%) and Protected Forests (6.34%). Due to altitudinal gradation, the plethora of vegetation ranges from deciduous to alpine. The forests of the state consist of tropical forests, subtropical forests, temperate forests, sub-alpine forests and alpine forests. The forest cover is of luxuriant vegetation quality, with approximately 80% forests falling under very dense and moderately dense forests. The Sikkim State Action Plan on Climate Change (2012-2030) highlighted Human- Wildlife Conflict (HWC), forest fragmentation, the incidence of invasive species and forest fires issues as the key problems for the forestry sector of the state.

## **TRAINING AND CAPACITY BUILDING:**

Forest-PLUS started its training programs in Sikkim with the introductory trainings on global climate change and subsequently organized training on EAFM (Ecosystem approach to Forest Management) and MRV and has trained more than 1500 persons including officials from Sikkim Forest Department and community members.

Sl. No	Particulars	No. of Trainings	Total Participants	
			Community	SFD
1	Global Climate Change, Vulnerability, adaptation and mitigation	4	35	86
2	Cluster level trainings on Global Climate Change	15	2000	-
3	Ecosystem Approach to Forest Management (EAFM)	3	-	75
4	Carbon MRV	1	70	50
5	Training on Apiculture	1	30	-

## **INSTITUTION AND GOVERNANCE:**

### **State level Jurisdictional REDD+ Project**

In state level consultations with the Forest, Environment and Wildlife Management Department, Government of Sikkim, decision was taken to develop a Sikkim Jurisdictional REDD+ project. The REDD+ PDD (Project Design Document) is ready and presently being reviewed by the SFD. As part of the PDD development, the following activities were undertaken:

- Baseline development for REDD+ in Sikkim
- Training and capacity building of various stakeholder groups in Sikkim
- Identification of drivers of deforestation and forest degradation in Sikkim
- Developed tools, technique and methods for forest carbon measurement in Sikkim.
- Developed specific convergence models, which will be helpful for leveraging funds for implementation of REDD+ activities in Sikkim

### **Action learning pilot on Human-wildlife conflict (HWC) mitigation:**

Forest-PLUS organized several stakeholder consultations with the SFD officials and community members where human-wildlife conflict (HWC) emerged as a major issue in all the districts of the State. Crop raiding and livestock damage by the wild animals came across as a main source of conflict in the region, negatively impacting the sensitive rural economy. Communities also reported a lack of proper compensation mechanism.

With this background, Forest-PLUS designed an action-learning pilot program in two pilot sites- Pangolakha WLS in East and Kitam Bird Sanctuary in South with following major objectives:

- To provide key policy inputs for framing an inclusive policy on HWC mitigation and management
- Sharing information on conflict resolution mechanisms, remedial technologies, good management practices and innovative solutions
- Promotion of dialogue and cooperation among key stakeholder groups
- Capacity building and sensitization of policy makers for updating mechanism for wildlife damage compensation.

### **IMPROVED TOOLS, TECHNOLOGIES AND METHODS:**

#### **Promotion of Smokeless Biomass Briquette as an alternative source to fuelwood demand**

With increasing pressure on the earth's resources, turning different types of organic waste into clean-burning fuel helps save forests and cuts greenhouse gas emissions by replacing fuel wood and fossil fuels for cooking and heating purposes. Besides being cleaner and easier to handle, biomass briquettes are also less polluting. Forest-PLUS in Sikkim has trained 30 members from 5 Gram Panchayat as Master Trainers on Bio-briquetting. A series of village level trainings and demonstration programs were organized on bio-briquette making whereby more than 1900 community members with 60% women have been trained in the landscape.

National Bank for Agriculture and Rural Development (NABARD) supported the initiative and 15 training events targeting 30 selected Women Self Help Group (WSHGs) were organized.

#### **Promotion of efficient wood combustor for drying of Large Cardamom to check pressure on forests**

Large-Cardamom is an important cash crop in Sikkim and its traditional drying method requires large quantities of fuelwood. Working on this issue, Forest-PLUS has introduced an efficient wood-combustor specific for drying of Large Cardamom in Sikkim for demonstrative purpose. Pilot site has been set up at Dalapchand Village in East Sikkim on the fringe of Pangolakha WLS.

### **Mobile application ‘mFOREST’ for field inventory to calculate forest carbon stocks.**

Field inventory data remains an essential part of forest inventories, despite advances in remote sensing technologies. With the deployment of a mobile application built by Forest-PLUS called mFOREST, inventory crews and community members can efficiently and effectively collect field inventory data and use it to calculate forest stocking and density.

### **OUTREACH AND COMMUNICATION:**

#### **Awareness and sensitization program on Climate Change, vulnerability, mitigation and adaptation to Communities- JFM, EDC, SHGs, PRIs, SFD and students**

To create awareness on climate change issues and make general mass understand our environment, make them capable to identify the local drivers of degradation, mitigation measures to combat those drivers Forest-PLUS has been organizing awareness and sensitization program regularly in the landscape.

#### **Monks for Climate- with Monastic representatives and other religious institutions on spreading awareness on global climate change issue**

Monks in Sikkim have a considerable reach within the state. Thus, the involvement of the monks was felt to be an effective entry point to reach out to a greater number of people amongst the populace of Sikkim and thus spread the message of climate change within the state. To begin with, a Workshop - ‘Monks for Climate’ was organized in collaboration with the Dharma Chakra Centre of Rumtek Monastery. The program was attended by 229 monks from Rumtek Monastery and other monasteries in the vicinity. Along with this, school students from the Karmae Dharma Chakra Centre School and community members also attended the program. Following up Forest-PLUS and the environment cell of the Rumtek monastery collectively taking up various environmental activities in the landscape.

#### **Campaign on Jurisdictional (JNR) REDD+: The key areas of intervention under the jurisdictional REDD+ project in Sikkim includes:**

**Workshop on jurisdictional REDD+ in Sikkim for monastic representatives and teachers:** On 16 December, 2016 Forest-PLUS organized a workshop as a part of the Jurisdictional REDD+ campaign in Gangtok, a total of 45 representatives from 39 Monastic schools and Sanskrit schools across East District participated in the event.

**Workshop on jurisdictional REDD+ for PRI and CBO representatives:** Forest-PLUS organized as a part of the Jurisdictional REDD+ campaign in Sikkim a day long workshop on 8<sup>th</sup> March in Rolep, East Sikkim for representatives of Community Based Organizations (CBO) and Panchayat Raj Institutions (PRI). About 100 participants attended the workshop representing SFEWMD, EDC, JFMC, SHG and GPU from Rolep, Rongli and Regu Block areas in East Sikkim.

**Workshop on Jurisdictional REDD+ for monks and teachers religious institutes:** Forest-PLUS organized a day long workshop on Jurisdictional REDD+ on the 14<sup>th</sup> of July at the National Institute of Tibetology, Gangtok East Sikkim. The workshop talked mostly about the Climate Change and was attended by representatives from over 100 monastic schools and Sanskrit Patshalas from across the state.

#### **CELEBRATING FORESTS CAMPAIGN:**

Forest-PLUS conducted the campaign “Celebrating Forest” where a mobile van travelled from place to place displaying poster panels. The communication campaign covered the East and South districts in a span of 12 days. Reaching out to various stakeholders like government officials and community members imparting key messages of Climate Change and the role of forests in mitigating Climate Change.

## Chapter-17

### PARKS AND GADEN:

The Parks and Garden division was created in the department of Forest, Environment and Wildlife Management, Government of Sikkim in the year 1975. It was earlier called/titled as “Station Garden” during the Chogyal regime.

The main objectives of the Parks and Garden division are:

- \*Floral decoration during National, State and other functions
- \* Landscaping and beautification of garden in Gangtok and other parts of the State.
- \* Creation of flower nursery and raising of seeds/seedlings and other nursery activities.
- \* Construction of gates and beautification activities during the visit of VVIP and others.

Total numbers of Parks and Gardens (2017): 17 numbers.

Sl.No.	Name of Parks and Gardens
01	Raj Bhawan Garden
02	Mintokgang Garden
03	VIP Garden / Bungalow
04	Ridge Park
05	Bhanu Park, Gangtok
06	Forest Colony Complex
07	Millennium Garden
08	City Garden
09	Rustumji Park
10	Assembly Garden
11	Chintan Bhawan
12	Mannan Bhawan
13	Forest Secretariat
14	Saramsa Garden
15	Butterfly Water Garden
16	Rongnichu Water Garden
17	Singtam Bhanu Park

## Chapter-18

### Silviculture Division

The Use of Poly bags in Forest Nurseries for raising quality planting materials enhancing survival percentage is detrimental to the environment. This practice produced non biodegradable material on the planting areas in the natural forest.

During the Financial year 2016-17, Forest, Environment and Wildlife Management Department Govt of Sikkim had sanctioned an amount of Rs. 45.00 Lakhs for the phasing out uses of Poly bags with root trainers in the forest nurseries in Sikkim State. This work was to be executed by the Silviculture Division.

With the approval of the competent authority, Kabi Loop nursery was selected for executing this work.

#### **Detail Location of work carried out:-**

1. **Name of Nursery:** - Kabi Loop Nursery.
2. **Block:** - Kabi Block.
3. **Range :-** Phodong Range
4. **Division:** - North Division.
5. **Circle :-** Territorial

**A. Commencement of Work :- February 2017**

**B. Completion of Work :- March 2017**

**C. Total cost involved: - Rs. 44, 38,482=00 Lakhs.**

1. Fabricated Iron rack 28 Nos @ Rs 41,200/-i/c vat,Cess  
& Simfed admn.Charge Rs. 12,51,656/-
2. Procurement of 12 holed PVC root trainer;- 8500 Nos Rs . 27,94,418/-
3. Provision of water sprinkle system ..... Rs. 1,99,750/-
4. Transportation and Installation... .....Rs 1,79,998/-
5. Installation of Sign board.....Rs. 12,660/-

**Total Rs. 44,38,482/-**

**(Rupees- Forty four lakhs Thirty eight thousand Four hundred Eighty two) Only.**

#### **D. Work components.**

- I. **Installation of fabricated GI rack;**- Fabricated iron racks have been installed in the nursery with a dimension of 6.5ft height, 4 ft breath and 20ft length. It is a 2 layered rack to accommodate 200 numbers of 12 holed PVC root trainer. It has also been provided roofing with 50:50 green colour agro net in order to protect the grown seedlings from **hailstorm** and **torrential rainfall**. Total 28 Nos of

fabricated Iron rack with 5600 number of 12 holed root trainers for the production of 67200 seedlings.

The 1<sup>st</sup> layer is at the height of 6 inch from the ground level to adjust the height of root trainer. There is 30 inches (2.5 ft) gap between 1<sup>st</sup> and 2<sup>nd</sup> rack to provide sufficient space for growing seedlings in the root trainer.

II. **PVC Root Trainer**;- 12 holed PVC root trainers have been kept on the fabricated Iron rack in two layer. 100 Nos of root trainer are adjusted in one layer and there are 200 number of root trainer are in one rack. It has been designed to keep the root trainer on a sliding rack system for easy handling since it becomes heavy with 12 numbers of grown seedlings. It can be easily mounted and removed from the rack. The dimension of the 12 holed PVC root trainer is 12.5 inch length, 10.5 inch breath and 5.5 inch height. Total **8500** Numbers were procured in during 2016-17 and **5600** have been installed at Kabi north Sikkim and the rest **2900** have been stored at Forest Secretariat Deorali Gangtok for the installation in the next nursery during 2017-18.

III. **Installation of Water sprinkler system**;- For regular and uniform watering of seedlings grown on the root trainer, all the fabricated iron rack have been fitted with water sprinkle system. Water pipe line have been connected with 300 meter long 20mm dia polythene pipe along the downhill slopes from water source to the nursery. 1 (One) syntax water tank of 2000 ltr capacity has also been installed in the nursery to make uniform water supply for the seedlings grown in the root trainer inside iron rack. In order to ensure constant water pressure for water sprinkle system, one water pump has also been provided. There is water distribution system for simultaneous water supply water sprinkle system in different iron rack.

IV. **Supply of Materials**;- All the Items like Fabricated Iron rack, 12 holed Root Trainer and water sprinkle system were supplied though Sikkim State Cooperative Supply & Marketing federation Ltd. (SIMFED) after duly transferring the cost of materials.

V. **Quality planting material production;-** This is for the use of at least 15 to 20 years period for quality planting materials to cater for plantation without any environment degradation .

**A.** 33600 seedlings every year (total 67200 Nos. but takes 2 year for plantable size).

Ist year	2 <sup>nd</sup> Year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> Year	6 <sup>th</sup> year	7 <sup>th</sup> year	8 <sup>th</sup> Year	9 <sup>th</sup> year
2017	2018	2019	2020	2021	2022	2023	2024	2025
33600	33600	33600	33600	33600	33600	33600	33600	
		33600	33600	33600	33600	33600	33600	33600

During the 1<sup>st</sup> year (2017) 33600 seedlings are raised in half of the root trainer or in 2800 root trainers. During 2<sup>nd</sup> year, again 33600 seedlings are raised on the other half of the root trainer 2800 root trainers so that every year planting materials are produced.

Production of planting materials shall be continuously in simultaneous manner using 50 % of root trainer raising and growing up to 2 years. In the hilly region like Sikkim most for planting material are produced from the nursery.

## Chapter-19

### Forest Development Agency (FDA)

Work carried out under FDA (T) during 2016-17

Sl.No.	Name of FDA	Projected period	Total outlay (in lakhs)	Total physical target (in ha)	Fund released till date	Fund utilized	Physical achievement (in ha)
1	NORTH	2016-17	59.37	291	0	0	291
2	EAST	2016-17	87.68	339	0	0	339
3	SOUTH	2016-17	62.18	231	0	0	231
4	WEST	2016-17	45.89	243	0	0	243

Name of JFMCs.

Sl.No.	East	West	South	North
1	Tumlabong	Melli Aching	Assangthang	Rangrang
2	Aho	Thingling Khechuperi	Sanganath	Mangan
3	Naitam	Yuksom	Damthang joubari	Namok Soyam
4	Assam Lingzey	Labing Gerethang	Chuba Phong	Tingchim
5	Rumtek	Tashiding	Maniram Phalidara	Singik sincheet
6	Changey Senty	Topung	Singithang	Pakshep Kazor
7	Sherathang	Rimbi	Mamley Kamrang	Meyong Manul
8	J.N.Road	Nambu	Wok-Omchu	Reghim Nampatam
9	Rongli	Simpheing	Lungchok Kamarey	Zimchung Malig
10	Rolep	Darap	Temi	Toong Naga
11	South Regu	Gyalshing Omchung	Tarku	Mangshila
12	North Regu	Kyongsa	Bermiok-Tokal	Cheang Phamtam
13	Dalapchen	Changey Bongten	Namping	Phodong Rongong
14	Kopchey	Sardong	Poklok Denchung	Ramthang Tanek
15	Lamaten	Sakyong	Salghari	Paney Phensong
16	Chujachen	Geetang Karmatar	Sorok Syampani	Labi Bakcha
17	Aritar	Sindrabong	Mikhola Kitam	Kabi Rongpa
18	Lingdok	Maneybong Sopakha	Sumbuk Kartakey	Lingchom Tingda
19	Luing	Bega Mangmoo	Turuk Ramabong	Gor Tareng
20	Nampong	Khandu	Mellidara Payong	Lingdem Leven
21	Lingdum	Hee Kyongbari	Sadam Suntoley	Hee Gyathang
22	Rateychu	Barthang Bermiok	Tanzi Bikmat	Lum
23	Syari	Martam Mazgaon	Rateypani	Phidang
24	Tumin	Sanku	Rongbull	Goan Sangdong
25	Raley Khasey	Chingthang	Borong Phamtam	Lingtem

26	Samdong	Sangadorjee	Rayong Tinkitam	Lingdong Barfok
27	Kambal	Sribadam	Rayong Namlung	Chungthang
28	Phadamchen	Deythang Maneydara	Barfung Zarrong	Lachen
29	Lingtam	Malbasey	Lamaten Tingmoo	Thangu
30	Subaneydara	Soreng	Ravong Sangmoo	Rabom
31	Gnathang	Tharpu	Kewzing Bakhim	Sarchok Dombang
32	Patuk	Chakung	Yangang Rangang	Lachung Singring
33	Phegyong Zingla	Zoom	Ben Nampruk	
34	Byong	Suldung Kamling	Nagi Maneydara	
35	Dochum Sirwani	Okarey Ribdi Bhareng	Turung phamphok	
36	Tirkutam	Tikpur Siktam	Rameng Niz Rameng	
37	Central Pendam	Lungchok Salangdang	Kateng Bokrong	
38	Namgaythang	Lower Thambong	Kabrey Jholungey	
39	Chadey	Upper Thambong	Bonok Mamring	
40	Nazitam	Rumbuk Buriakhop		
41	Pakyog			
42	Karthok			
43	Linkey Tareythang			
44	Upper Namcheybong			
45	Pachey Khani			
46	Taza			
47	Amba			
48	Pahey			
49	East Pendam			
50	Parkha			
51	Chochenpheri			

# WILDLIFE SECTOR

## Chapter- 20

### (B) WILDLIFE:

#### 1. Wildlife Conservation:

Wildlife Conservation has become worldwide priority sector now-a-days, National Parks and Sanctuaries which act as *sanctum sanctorum* have been commissioned all over the world for better protection and conservation of wildlife. India with the total forest cover of 7,01,673 Km<sup>2</sup> which is 21.34 % of the total land mass of 3,28,263 Km<sup>2</sup> is treasure trove of natural wealth and is one of the 12 mega bio-diversity countries of the world. The Protected Areas comprising National Parks and Wildlife Sanctuaries with Tiger Reserves and Elephant Reserves covering an area of 1,62,024.69 Km<sup>2</sup> which make up about 4.93 % of the total geographic area of the country is as mentioned in the following table. In addition to this, there are 150 recognized Zoological Parks having around 40,000 wild animals in captivity in the country. The Wildlife (Protection) Act, 1972 is the umbrella legislation for wildlife conservation in the country.

#### Protected Areas of India (as on July, 2017)

	No.	Total Area (km <sup>2</sup> )	Coverage % of Country
<b>National Parks (NPs)</b>	103	40500.13	1.23
<b>Wildlife Sanctuaries (WLSs)</b>	543	118917.71	3.62
<b>Conservation Reserves(CRs)</b>	73	2547.19	0.08
<b>Community Reserves</b>	45	59.66	0.002
<b>Protected Areas (PAs)</b>	<b>764</b>	<b>162024.69</b>	<b>4.93</b>

Sikkim, the 22<sup>nd</sup> State of India in the North-Eastern region lying in the Eastern Himalayas which is one of the 18 biodiversity provinces in the world is a bio-diversity “hotspot”. In the landmass of just 7096 Sq.kms, the State has varied eco-systems from humid tropical valleys to temperate montane habitat, alpine meadows and trans-Himalayan cold desert. It is a veritable house of rich bio-diversity and it includes:

#### Floral wealth:

- Flowering plants: 4458 species of the total 15000 species found in the Country.
- Orchids: 527 of the total 1229 species
- Rhododendrons: 38 of the total 90 species
- Ferns: 480 of the total 1200 species
- Lichens : 505 of the total 2302 species
- Primulas : 58 of the total 102 species
- Conifers: 9 species
- Oaks : 11 species
- Tree ferns : 8 species

#### Faunal wealth:

- Mammals: 144 of the total 350 species
- Birds: 552 of the total 1224 species
- Butterflies : 689 species
- Moths : 2000 species
- Fishes: 48 of 2546 species
- Amphibians (Frogs & Toads): 33 of the total 197 species
- Reptiles: 35 of the total 408 species

### Protected Areas of Sikkim (as on November, 2017)

	No.	Total Area (km <sup>2</sup> )	Coverage % of Country
<b>National Parks (NP)</b>	1	1784	25.14
<b>Wildlife Sanctuaries (WLSs)</b>	7	399.10	5.62
<b>Biosphere Reserves(BR)</b>	One	2931.12	0.0
<b>Protected Areas (PAs)</b>	<b>8</b>	<b>5114.22</b>	<b>30.76</b>

In the field of wildlife conservation, the State of Sikkim has made significant progress with the establishment of one National Park, one Biosphere Reserve with the National Park as the Core Zone, seven Wildlife Sanctuaries and one Wildlife Conservation Reserve for the purpose of protection and conservation of wildlife.

#### 2. Details of Wildlife Protected Areas (WPA) are as under:

Sl.No.	Name	District	Total Area
1.	Shingba Rhododendron Sanctuary	North	43.00 Sq.km
2.	Fambonglho Wildlife Sanctuary	East	51.76 Sq.km
3.	Kyongnosla Alpine Sanctuary	East	31.00 Sq. Km.
4.	Pangolakha Wildlife Sanctuary	East	128.00 Sq. Km
5.	Kitam Bird Sanctuary	South	6.00 Sq. Km.
6.	Maenam Wildlife Sanctuary	South	35.34 Sq. Km.
7.	Barsey Rhododendron Sanctuary	West	104 .00Sq. Km.
8.	Khangchendzonga National Park	North/ West	1784 Sq.km.

The Wildlife Protected Area covers as much as 30.76 % in terms of geographic area (7096 sq.kms) and 82.31% in terms of total recorded forest area (5841.39 sq.kms) of the State. It is the highest PA network State in the country today.

The State Government for the promotion and protection of plants and animals has declared as State Tree, State Flower, State Animal and State Bird of the following plants and animals:

- (a) Rhododendron species, *Rhododendron niveum*, as the State Tree.
- (b) Orchid *Dendrobium nobile*, as the State Flower.
- (c) Red Panda *Ailurus fulgens*, as the State Animal and
- (d) Blood Pheasant, *Ithaginis cruentus*, as the State Bird.

The Government is committed to protect and conserve bio-diversity including wildlife resources and it has prioritized this in its policies for protection, preservation and propagation in in-situ as well as ex-situ habitats.

3. Physical & financial targets and achievements of schemes implemented by the Wildlife Sector during the year 2016-17 are as under:

3.1 INTEGRATED DEVELOPMENT OF WILDLIFE HABITATS:

3.1.i Under North Wildlife Division

Shingba Rhododendron Sanctuary, North Sikkim 2016-17.

SL No	Item of work	Quantity	Fin (Rs. in lakhs)	Location/GPS
<b>A</b>	<b>Non recurring activities</b>			
1.	Construction of Bench Terracing at Land slide / Avalanche soil erosion area.	5 Ha	6.30	27° 43'40.55''N 88° 44'26.24''E
<b>B</b>	<b>Recurring Activities</b>			
2.	Maintainance and cleaning and clearing of existing nature trails for WL tourism and patrolling squad at Phuniten Shingba.	12 km	3.0	27° 45'41.61''N 88° 43'2.84''E
3.	Anti –poaching and trap demolition	2 camp	1.0	
4.	Mobilization of rescue efforts while rescuing from Himalayan black bear menace	LS	2.0	
5.	Ex-gratia payments for crop damages cattle lifting and human injury	LS	2.0	
6.	Signages along the roadside	10 nos	1.20	
	<b>Grand Total</b>		<b>15.5</b>	
<b>C</b>	<b>Flexi Fund (10%)</b>			
1	Wildlife Week celebration	LS	0.50	NSA School Mangan North
2	Purchase of warm uniform such as feather jacket, gloves etc.	LS	1.05	For frontline staff of North WL Division
	<b>Grand Total</b>		<b>17.05</b>	

3.1. ii. Under East Wildlife Division

(a) Kyongnosla Alpine Sanctuary:

<b>A</b>	<b>Non recurring Activities</b>			
1	Plantation to check and control of soil erosion	3.35	Namnang dara	3.35
<b>B</b>	<b>Recurring Activities</b>			
2	Maintenance of Natural Trails N27°22'45.2" E88°43'37.6" N27°22'37.5" E88°43'44.6" N27°22'42.0" E88°43'47.1"	7.5	4122 to Watch tower Via Goral rock	7.5

Sl No	Item of Work	Unit cost ( Rs. in lakhs)	Location	Funds Utilized
3	Mobilisation of Rescue team for Himalayan Black bear and other activities.	2.00	KAS	2.00
4	Anti-poaching and Trap demolition activities	1.00	KAS	1.00
5	Provision of Signages	2.00	KAS	2.00
	<b>Total of A. &amp; B.</b>			<b>17.35</b>
<b>C</b>	<b>Flexi Fund (10%)</b>			
1	Maintenance of patrolling pickup Vehicle	1 job	KAS	1.06
2	Corridor development	1 km	KAS	0.68
	<b>Grand Total</b>			<b>19.09</b>

(b) **Fambongho Wildlife Sanctuary, East Sikkim:**

<b>A</b>	<b>Non recurring Activities</b>			
1	Solar fencing from Rapen towards Rapen Gufa Dara to prevent Man Animal Conflict.	10	Ray Mendu, Balwani, Thartharay	5.00
2	Soil & Moisture Conservation works inside the Sanctuary.	0.70	Gopini Chowk and Bhalukhop	3.50
<b>B</b>	<b>Recurring Activities</b>			
3	Repairing of existing Solar fencing line from Thangshing to Sumick	0.60	Thansing, to Sumick	3.00
4	Upgradation & development of existing Water Holes.	0.70	Gharay, Rameteydara	2.10
5	Compensation & Relief measures for Man & Animal Conflict and crop damages.	2.00	FWLS	2.00
6	Mobilization of rescue team for Himalayan Black Bear , Monkeys & other wild animals.	2.00	FWLS	2.00
7	Engaging of sanctuary fire watchers for three months	Rs 220 /day	FWLS	1.98
8	Strengthening of front line staff	1.00	FWLS	1.00
			<b>Total A&amp;B</b>	<b>20.58</b>
<b>C</b>	<b>Flexi fund (10%)</b>			
1	Purchase of Phantom drone	2.06	FWLS	2.06
	<b>Grand Total</b>			<b>22.64</b>

(c) **Pangolakha Wildlife Sanctuary, East Sikkim.**

<b>A</b>	<b>Non recurring Activities</b>			
1	Construction of dry wall fencing	7.41	Haticheray	7.41

Sl No	Item of Work	Unit cost (Rs. in lakhs)	Location	Funds Utilized
2	Construction of patrolling trail from Bhotay Phatak to Premlakha	2	Bhotay Phatak to Prem Lakha	4.00
<b>B</b>	<b>Recurring Activities</b>			
3	Repair of resting shed at Haticheray	2.5	Haticheray	2.50
4	Compensation and relief measures for crop damages by wild animals and ex-gratia payment for domestic animal kills by Wild animals.	1.50	PWLS	1.50
5	Mobilisation of Rescue team for Himalayan Black bear and other activities.	2.00	PWLS	2.00
6	Engagement of sanctuary watchers for 4 month	0.36	prone areas of FWLS	2.16
	<b>Total A&amp;B</b>			<b>19.57</b>
<b>C</b>	<b>Flexi fund (10%)</b>			
1	Wildlife Week celebration	0.56	Phadamchen Secondary School	0.56
2	Purchase of Thermal imaging machine	0.80	PWLS	0.80
3	Purchase of CO <sub>2</sub> Cylinder for Sure shot gun	0.60	PWLS	0.60
	<b>Grand Total</b>			<b>21.53</b>

### 3.1.iii. South Wildlife Division

#### (a) Kitam Bird Sanctuary.

<b>A</b>	<b>Non recurring Activities</b>			
1	Gully plugging to control soil erosion by vegetative method	5 ha.	Debrey pani kitam	2.0
<b>B</b>	<b>Recurring Activities</b>			
2	Ex-gratia payment for crops damages and human injury by wildlife	LS	Villages in and around the PA	2.0
3	Repair of Chowkidar's hut at 10 <sup>th</sup> Mile Baguwa at Kitam Bird Sanctuary	1 job	10 <sup>th</sup> Mile Baguwa	3.0
4	Engagement of Firewatcher	900 man days.	Within KBS	1.98
5	Maintenance of Solar Fencing	3 km	Lower Kitam,	3.0
6	Maintenance of Natural Trail	2 km	Sansari Dara to Watch Tower	2.0

Sl No	Item of Work	Unit cost (Rs. in lakhs)	Location	Funds Utilized
7	Livestock immunization	LS	Lower and Middle Kitam	1.0
	<b>Total A&amp;B</b>			<b>14.98</b>
<b>C</b>	<b>Flexi Fund</b>			
1	Habitat development by sowing paddy seeds for peacocks	3 ha	Siresay	1.20
2	Purchase of Rubber bullets of Sure shot gun		Kitam	0.30
	<b>Grand Total</b>			<b>16.48</b>

**(b) Maenam Wildlife Sanctuary**

A	Non recurring Activities			
1	Creation of water harvesting structure in dry and fire prone areas at	4 Nos	Munal Dara, Dadeli Line chowk, Tshering chowk	3.20
2	Development of vegetative barrier at landslide prone areas	10 Ha	Gufa dara	5.0
<b>B</b>	<b>Recurring Activities</b>			
3	Maintenance of nature trails for patrolling by front line staff and for wildlife tourism	5Km	Wildlife checkpoint Rabong to Monal Dara	5.00
4	Anti poaching and trap demolition activities	LS	Bhaley dhunga and Bermeli	2.0
5	Maintenance of salt licks at Nighalaydhap	5 Nos.	Selalay, Nunthalay, Dungdungay, Dhajay, Nigayaldhap	1.5
6	Mobilisation of Rescue team for Himalayan black bear and others activities	LS	Yangyang, Sopkay, Borong, Ralong	2.0
	<b>Total A&amp;B</b>			<b>18.70</b>
<b>C</b>	<b>Flexi Fund (10%)</b>			
1	corridor development	3 km	Bandang	1.37
2	wildlife week celebration		Rabong	0.50
	<b>Grand Total</b>			<b>20.57</b>

**3.1.iv. Under West Wildlife Division.**

Barsey Rhododendron Sanctuary

A	Non recurring Activities			
1.	Plantation of mixed fruit plants inside Wildlife Sanctuary for habitat improvement	5 ha	Alay Tar Thulo dhap	2.50

<b>Sl No</b>	<b>Item of Work</b>	<b>Unit cost (Rs. in lakhs)</b>	<b>Location</b>	<b>Funds Utilized</b>
2.	Soil & Moisture Activities like contour dry stone walls, contour terraces across the slop followed by planting	10 ha.	Lasuney Thal dareli	7.00
<b>B</b>	<b>Recurring Activities</b>			
3.	Protection of forest fire by engaging 10 watchers for 4 months surrounding within the PA	1220/md	Within BRS	2.64
4.	Ex-gratia payment for crop damages, livestock lifting and human injury by wild animals in fringe area of PA	1 no.	Fringe villages of Soreng	3.00
5.	Anti Poaching & trap demolition activities in & around PA	LS	Within BRS	2.00
6.	Mobilisation of rescue team during wild animals menace	LS	Within BRS	2.00
	<b>Total A&amp;B</b>			<b>19.14</b>
<b>C</b>	<b>Flexi Fund (10%)</b>			
1.	Wildlife Week celebration High School Uttarey, West Sikkim	LS	Uttarey, forest fringe village	<b>0.50</b>
2.	Maintenance of check post Red Panda Gate at Dentam	1 Unit	Red Panda Gate, Dentam	<b>0.71</b>
3.	Maintenance of Hilley Check post at Soreng	1 Unit	Hilley Check post Soreng	<b>0.70</b>
	<b>Grand Total</b>			<b>21.05</b>

**5 Sikkim Ecology Fund and Environmental Cess for the year 2016-17 under Wildlife Circle**

<b>SN</b>	<b>Particulars</b>	<b>Amount in Rupees</b>
1.	Accumulated State share for Rabdentse Bird Park	Rs. 64,90,000.00
2.	Purchase of Exotic Birds for Rabdentse Bird Park with transportation charges	Rs. 4,00,000.00
3.	Purchase of exotic birds for Rabdentse Bird Park and construction of brick enclosures as per CZA approval	Rs. 16,00,000.00
4.	Training of frontline staff for wildlife rescue 3 Nos. @Rs.1.00 lakhs	Rs. 3,00,000.00
5.	Purchase of tranquilizer drugs for wildlife.	Rs. 3,00,000.00
6.	<b>Human Wildlife Conflicts (ex-gratia payment and rescue operations)</b>	
a	Purchase of 2 nos Injection Rifle JMST Model Dan Inject with Telescope, 11 mm barrel with its accessories from M/s Hi-Tech Advance Products, P-27, Sukhliya, Indore i.e; 2 sets x rs.3,36,400/-	Rs. 6,72,800.00
b	GI wire fencing along the boundary to protect Agricultural crops and domestic animals from being raided by wild animals	Rs. 10,00,000.00
7	<b>Release of ex-gratia payments</b>	
a	<b>East Wildlife Division</b>	
i	Fambonglho Wildlife Sanctuary	Rs. 3,40,000.00
ii	Pangolakha Wildlife Sanctuary	Rs. 3,40,000.00
iii	Barapathing RF	Rs. 1,20,000.00
b	<b>West Wildlife Division</b>	Rs. 4,50,000.00
c	<b>North Wildlife Division</b>	Rs. 5,00,000.00
d	<b>South Wildlife Division</b>	
i	Maenam Wildlife Sanctuary	Rs. 4,00,000.00
ii	Kitam Sanctuary	Rs. 3,00,000.00
e	<b>Khangchendzonga National Park</b>	Rs. 7,00,000.00
f	Awareness Camp 5 location @ Rs.20000.00	Rs. 1,00,000.00
g	Preparation of chilly ropes	Rs. 1,00,000.00
h	Ex-gratia payment outside PAs i.e; RF areas	Rs. 2,27,000.00
i	Purchase of safety jacket	Rs. 2,50,000.00
	<b>Grand Total</b>	<b>Rs. 1,45,89,800.00</b>

## 6 Training Courses for handling Tranquilizing gun and use of drug composition:

The two phases of training was conducted during 21<sup>st</sup> & 22<sup>nd</sup> July 2016 (1<sup>st</sup> Phase) & 30<sup>th</sup> to 31<sup>st</sup> March, 2017 (2<sup>nd</sup> Phase) at Himalayan Zoological Park, Bulbulay by Wildlife Circle, Forest, Env. & Wildlife Management Department under the support of Himalayan Zoological Park Division. The participants were Range Officers, Block Officers, Head Forest Guard and Forest Guards of Wildlife and Territorial Sector. CF (WL) emphasized on the creation of tranquilization team in the four respective districts under Wildlife & Territorial Division including KNP/KBR and HZP divisions and assures to provide safety kits to tranquilizing team for the use during combing operation. The participants have been trained on the preparation of Dart, Tranquilizing Drugs mixing, Tranquilizing gun shooting, post tranquilization operation, caging of animals, safety measures to be taken during rescue and tranquilizing animals. Dy. Director (HZP), Vet. Compounder, Jr. Zoo Keepers was the trainer of the training. Best Shooters were awarded with Trophy and the Cash Prizes as motivational incentives, accordingly the participants were also awarded certificate by the CF (WL) and directed each of the participants to give best effort during the rescue operation and wildlife menace in any part of the state and to build up good relation and confidence with the public in large.



## 7. Training for the operation and functioning of Drone at Himalayan Zoological Park, Bulbulay from 3<sup>rd</sup> to 4<sup>th</sup> August 2017.

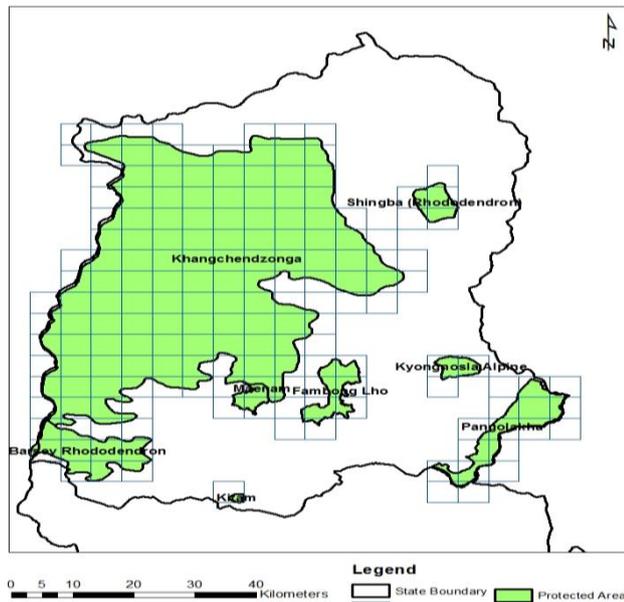
For combating various management issues such as incidences of Himalayan Black Bear, Forest Fire, study of vegetation and so on, the Fambonglho Wildlife Sanctuary has purchased a drone (Phantom Pro DJI) under the provision of Flexi Fund Component-IDWH-CSS (90:10). However, for the optimum use of the equipments a training was to be imparted at ACF, RO and BO level. The resource person for the training was from Kambill systems, New Delhi. The training was successfully conducted from 3<sup>rd</sup> to 4<sup>th</sup> August 2017 at Himalayan Zoological Park, Bulbulay.

## 8. Training of Sniffer Dog Squads for strengthening wildlife enforcement

Four Forest Guards from Wildlife Sector were sent for training on Dog Squads for Strengthening Wildlife Enforcement. w.e.f. March, 2017 (for nine months) at BSF Academy, Madhya Pradesh. The Department is going to deploy sniffer dog squad for strengthening protection activities and checking illegal trade of wildlife trophies and medicinal plants. The feasible locations for accommodation of 4 dogs handlers and Kennel for two dogs as permanent station are selected as one in Rangpo near BO, Quarter-cum-Office and another is in Melli-Jorethang Road, Forest Check Post.

**9. Wildlife Population Estimation** works undertaken at all the following Protected Areas (Wildlife Sanctuaries and National Park) of Sikkim under Forests, Environment & Wildlife Management Department and has been successfully carried out during November, 2016 to December, 2017. The amount has been funded by JICA assisted SBFP to the tune of Rs.150.00 lakhs.

As a part of scientific monitoring of major wildlife species, a State level assessment of wildlife populations for all eight Protected Areas of Sikkim was conducted for the first time by the Department of Forests, Environment & Wildlife Management, Government of Sikkim with the technical support and guidance from the Wildlife Institute of India Dehradun. The main objective was to estimate the density of large and medium sized carnivores, their prey base and the habitat distribution. This exercise has given a fair assessment of the status of wildlife richness and population status in the State which will be useful to plan wildlife management in the protected areas and set a benchmark for future similar studies and research. The four month long exercise involving modern wildlife surveying techniques such as camera trapping of images was funded within the JICA- assisted Sikkim. Biodiversity Conservation & Forest Management Project.



Protected Areas of the State where wildlife estimation to be conducted



*Gaur camera trapped from PWS, East Sikkim*

The entire exercise was undertaken in the post- monsoon & winter months when spotting of wildlife is easier. Protected area wise survey teams involving field staffs, Eco-Development Committees, Joint Forest Management Committees, local NGOs were set up to install cameras along carefully identified transects, considering potential habitats in all Protected Areas. A total of 262 camera traps were installed out of which 37 species were captured from 189 locations, with some significant findings such as gaur, marble cat, three morphs of golden cat and melanistic morph of common leopard.

As per the camera trap photos of snow leopards from the Khangchendzonga National Park (western part) above 4000m it was inferred that at least 4-5 snow leopard individuals were present during the survey in western part of Khangchendzonga NP. These findings are comparable with the findings of an abundance estimation study carried out in the same region in 2011 by Wildlife Institute of India, where presence of four individuals was mentioned (Sathyakumar et. al. 2014).

In Sikkim, potential snow leopard habitat is estimated as 2845 km<sup>2</sup> (Bhatnagar et al. 2016), out of which, 816 km<sup>2</sup> can be classified as “good habitat” and rest 2029 km<sup>2</sup> can be classified as “poor habitat”. Extrapolation of the density estimates of 4.25 snow leopard/100 km<sup>2</sup> (Sathyakumar et al. 2014) for “good habitats” and 0.21/ 100 km<sup>2</sup> (Bhatnagar et al. 2016) for “poor habitats” indicates the presence of about 39 snow leopard individuals in the entire State of Sikkim which shows increase in the number of snow leopard in comparison to earlier studies and research. The population estimation of Red Panda, the State animal, is 378 in the protected areas. Snow Leopard camera trapped KNP



In the next phase the exercise is proposed to be carried out in the reserved forest areas falling outside protected areas as well as in the PAs to get a more complete picture of wildlife populations in the State

## 10 Other Activities

- The State Government has imposed ban on manufacturing, procuring, stocking, sale or use of nylon thread and other synthetic thread coated with glass and such other harmful substances for kite flying or similar activities as they are likely to cause grievous injury and inconvenience to animals including birds as well as human beings during festivals or other occasions vide notification number GOS/FEWMD/PR.SECY-PCCF/44 dated 20/05/2017, published in Extraordinary Gazette number 204 dated 5<sup>th</sup> June, 2017.
- The State Government with the recommendation of the Standing Committee of State Board of Wildlife meeting held on 10<sup>th</sup> July, 2017 has imposed a prohibition on plantation of *Paulownia tomentosa* (*Chinese Teak*) in the State for a period of two (2) years, till the outcome of the research work on this matter, in the State as it has been reported to cause destruction of pollinators and decreased presence of avifauna. Vide notification no. No:127 (i)/GOS/FEWMD/Pr. Secy.-PCCF dated 13/10/2017
- The State Government with the recommendation of the Standing Committee of State Board of Wildlife meeting held on 22<sup>nd</sup> February 2017 has revised and fixed the compensation rates for the human injury and death (outside the protected areas) due to the following wild animals, with immediate effect and this will supersede Sl.no1, para (a) (i) (ii), and (iii) of mentioned Notification no 204/PCCF-PR.SECY/FEWMD/GoS dated 31/01/2015 (Revised notification no 53/WLC/FEWMD dated 27/05/2017, published in Extraordinary Gazette number 205 dated 5<sup>th</sup> June, 2017)
  - i. Tiger (*Panthera tigris*)
  - ii. Snow Leopard (*Panthera uncia uncia*)
  - iii. Bear (*Selenarctus thibetaus*)
  - iv. Leopard or Panther (*Panthera pardus*)
  - v. Tibetan Wolf (*Canis lupus chanko*)

The rates revised are categorized as:

  1. Human injury (simple): Rs.25000/-
  2. Human injury (grievous): Rs.1,00,000/-
  3. Human Death: Rs.4,00,000/-

**11 Human - animal conflict during the year 2016-17.**

Sl. No.	Cattle/Livestock Killed, Injured	Human Killed/Injured	Crop damages	Location	No. of beneficiaries	Action taken	Remarks
<b>North Wildlife Division</b>							
1.	14 nos killed (Cows, goats) by Black Bear	2 nos. Injured 1 killed by Himalayan Black Bear	20 cases against maize, rice damaged caused by Wild pig, Bear	Lachung/ Bitchu/Leema/Seblo, Tsunghang, Kabi-Tingda	49 nos	Paid Compensation	Provision from IDWH-CSS-Rs. 2.00 lakhs, CESS (State)-Rs.5.00 lakhs
<b>East Wildlife Division</b>							
2.	47 nos killed (Goats, calf, chicken) by Black Bear	1 no. by Himalayan Black Bear	46 hac. Cases against maize damages by monkey, wild boar, Black Bear	Byang, Kazi Boan, Burung,Nazitam-Martam, Lingtam, Cheygong, Samsing Goam, Luing Parbing, Parbing, Fary, Sang Martam	279 nos	Paid Compensation	Provision from IDWH-CSS-Rs.3.50 lakhs, CESS (State)Rs.8.00 lakhs
<b>South Wildlife Division</b>							
3.	24 nos killed (Goats, Cow, Pig, Chicken) by Black Beak, Leopard, python	-	453 bales of maize, paddy, simal tarul, pulses damages by wildlife boar, monkey, bear, deer, peacock	Kitam, Belbotay, Neya Ward,Brum, Lingmoo, Manzing	282 nos	Paid Compensation	Provision from IDWH-CSS-Rs.2.00 lakhs, CESS (State) Rs.7.00 lakhs
<b>West Wildlife Division</b>							
4.	08 nos. killed by Bear		65 nos of cases (area involving 41 ha.) cardamom, maize, potatoes by monkey, bear, wild boar	Begha, Yangthang Aarigoan, Lower Bhaluthang, Middle Geyzing, Lower Chumbong, Malbasay, Omchung, Martam, Shanku, Mukrung, Upper Kamling, Sreebadam, Deythang, Kamling Dodak, Gejlling, Buriakhop, Hilley, Ribdi, Okhrey	131 nos.	Paid Compensation IDWH-CSS	Provision from Rs.3.00 lakhs, CESS (State) Rs.4.50 lakhs
<b>Total</b>					<b>741 nos.</b>		<b>Rs.35.00 Lakhs</b>

**KHANGCHENDZONGA NATION PARK:**

**World Heritage Site- KNP**

The Khangchendzonga National Park (KNP) is situated in North and West Districts of Sikkim and includes the world's third highest peak. Mt.Kjhangchendzonga KNP has an extremely impressive altitudinal range, a vertical sweep of 7,366 meters (m) across an elevation range of 1,220 m to 8,586 m above sea level (asl) within a relatively small areas. The Himalayas are narrowest here resulting in extremely steep terrain which magnifies the distinction between the various eco-zones which characterize the area. As a consequence, KNP contains a remarkable range of Eastern Himalaya landscapes and wildlife from sub-tropical to alpine to Trans-Himalayan (Cold Desert) within a small geographical area, Culturally, the National Park is significant as it is considered to be the core of the sacred hidden land or "beyul" which was blessed by Guru Padmasambhava, Mount Khangchendzonga itself is revered as it is regarded as the guarding deity of all Sikkimese people.

On account of these natural and cultural features, Khangchendzonga National Park was declared as a World Heritage Site in July 2016 based on both natural and cultural criteria for mixed criteria), **India's first mixed criteria World Heritage Site.**

**Natural values of KNP:**

KNP has an area of 178,400 hectares and covers approximately 25% of the entire State. KNP was declared in 1977 and its area was more than doubled in 1997 by the State Government to protect an area of spectacular peaks, glaciers and rugged alpine terrain in the Indian part of the Eastern Himalayas. The 1997 extension broadened the range of ecosystems covered and increased the impressive altitudinal gradient. India's highest peak, Khangchendzonga, at 8,586 m asl, literally stands out within the protected area which boasts of 20 peaks above 6, 000 m, the visually prominent Khangchendzonga Massif is actually comprised of five major peaks, which culturally stand for the five treasures salt, gold, turquoise, arms and (combined) medicine and seeds. The massif literally named the "Abode of the Gods", has exceptional symbolical, cultural, religious and spiritual significance for many ethnic peoples and religious beliefs across and beyond the Himalayas.

Numerous lakes and glaciers, including the 26 km long Zemu Glacier flow the barren high altitudes. The glaciers feed important rivers, creeks and wetlands within the seven major watershed of the KNP. The part boasts of an unusually diverse flora and fauna with many rare and endangered species, some of them endemic. The different altitudinal zones provide habitat for markedly distinct faunal and floral assemblages. Eleven broad vegetation types have been identified, each confined to specific elevation ranges and topographic niches and each with corresponding faunal assemblages. Recent camera trapping confirms that the mammal species encompass numerous rare and endangered species and probably the full array of naturally occurring predators. Asiatic Black Bear and at least four canines, including the elusive Asiatic Wild Dog and the Tibetan Wolf have recently been confirmed. The Snow Leopard is the flagship species of KNP, one of the three leopard species and six confirmed (possibly eight) car species found within KNP. The charismatic Red Panda is the State Animal of Sikkim and is likewise found in the lower altitude forests of KNP, in buffer zone and nearby protected areas. Among the insects, butterflies are extremely abundant in Sikkim State which is home to an estimated 46% of India's butterfly species. Sikkim boasts of up to 650 species.

### **Steps taken by the Government to preserve the biodiversity and ecosystems of KNP.**

Mobile pastoralism has been a central element of the traditional local livelihood systems in Sikkim, including what is today KNP, both in the form of transhumance and nomadism. The Government of Sikkim banned open grazing in 1998 in both protected areas and reserved forests, plantations area and near water sources and embarked on stricter enforcement. Cattle sheds have since been removed from KNP. Trekking use is supported by pack animals resulting in some localized grazing impacts but generally the KNP is free from any major signs of overgrazing. A ban on the commercial exploitation of medicinal plants and aromatic plants used for incense was imposed in 2001 and continues even today. Hunting and trapping of birds and mammals has long been a part of traditional livelihood systems, both for food and medicinal purposes. It is today categorically banned, i.e. considered as poaching.

### **Steps taken by the Government to preserve the cultural significance of KNP.**

The Government of Sikkim has taken several steps to preserve the cultural significance of the KNP. In 2001, the State Government of Sikkim issued Notification No.70/Home/2001 listing sacred peaks, caves, rocks, lakes, chortens and hot-springs as “most sacred Buddhist places of worship in Sikkim and protected them under the provision of the places of Worship (Special Provision) Act, 1991: which as extended to Sikkim in July 1991.

The following natural elements and monuments located within the core zone of the KNP are protected under this Notification.

1. The peaks of Khangchendzonga, Mt.Kabru Gangtsen, Mt.Pandim, Mt.Simvo, Goecha Peak, Fork Peak and Mt.Siniolchu.
2. The rock of Yongdrok Drak.
3. And the following five lakes.  
Phu Tsho Karpo/Omai Tsho, Sumoten Tsho, Dholoe Tsho, Kabru Lam Tsho, Yum Tsho/  
Mulotomg Lake (Green Lake)

### **Achievement of KNP in last 24 years.**

1. Increase of KNP area from 850 sq.km.to1784 sq.km.
2. Formation of Khangchendzonga Biosphere Reserve (KBR) which includes 835.92 sq.km of Buffer Zone declared in the year 2000 and 311.20 sq.km of Transition Zone added in the year 2010.
3. Development of new trekking trails.
4. Formation of Eco-Development Committees (EDCs) for collateral coordination with stakeholders and management.
5. Development of infrastructures like Forest Guard quarters, check posts, Range Officer quarters-cum-offices.
6. Upliftment of stakeholders through training and assistance for social welfare activities.
7. Conservation of Wildlife, therefore, increase in trend of wildlife including flora and fauna.
8. Removal of cattle sheds
9. Relocation of Tshoka Village located inside KNP to Yuksom, West Sikkim.

## Chapter- 22

### **Himalayan Zoological Park (HZP), Bulbuley, Gangtok.**

The Himalayan Zoological Park plays an important role in the Conservation Breeding of Endangered Species program. The Park is an active participating zoo in the Red Panda Conservation Breeding program and has been earmarked as Coordinating Zoo for Blue Sheep, Himalayan Tahr and Blood Pheasant. Owing to the already naturalized enclosures and endeavours to create a space with minimal human disturbance, the department has achieved tremendous success in breeding Red Panda and Blue Sheep already. The Goral exhibit also possesses an excellent stock of breeding animals.

#### **Functions & Objectives:**

1. To improve the infrastructure of the Animal Enclosures.
2. To provide essential supporting equipment / instruments for the animals.
3. To improve the behavioral enrichment of the animals.
4. Qualitative feeds to the captive animals.
5. Animal health and numerical strength through captive breeding.
6. Conservation of endangered species of Himalayan fauna.
7. To educate the students and public about importance of wild animals and need for conservation.

The HZP is being managed under the Sikkim Forest, Environment and Wildlife Management Department and has very recently been declared as Society and it is under the Central Zoo Authority, New Delhi. The HZP can now legally accept funds and donations from public sectors and even start Animal Adoption programs that can help support conservation breeding programs being carried out in the zoo.

The HZP is one of the few High altitude zoos in the country that focuses largely on local wildlife. The enclosures are also created such that the animals feel at home in habitats that are not much different than their original wild habitat. Considering that most of the species housed in the park are native to the area, the terrain and vegetation have served well to enhance the “immersion exhibit” concept where enclosures are created such that the habitat inside is not very different from that outside, thus giving visitors the experience of being in the same space as the animals themselves while also allowing the animals the freedom to behave as they would in the wild. The HZP prides itself in the fact that most visitors have even mentioned that the animals here seem happier than those seen in other zoos in the country.

The HZP has also been instrumental in providing orientation and training to new recruits for Forest Guards, Range Officers, Block Officers as well as training frontline staff who may be involved in Bear Tranquilization and Rescue missions. All bear rescues in the state are usually attended to by a team comprising of the Veterinary Compounder and two Zoo Keepers. As bear problems have only increased in number over the years, the Forest Department deemed it necessary to train teams from each of the four districts in bear rescue and management, the HZP has already conducted three such training programs between 2016 and 2017 where the existing rescue team from the HZP, as resource persons have provided hands on training in handling of tranquilization drugs and equipment as well as management and handling of small animal and bird rescue missions.

### Rescue Centre:

A rescue centre is an integral part of any zoo. It provides a place for safe keeping of wild life that is rescued from outside their habitats when they stray out and become subject to human wildlife conflict or else need to be trans-located to the safety of a zoo. Sometimes animals rescued from human habitations are also carriers of vectors and bacteria, therefore it is imperative and scientifically appropriate to keep them in quarantine for some times before rehabilitating them into the wild or making them a part of the zoo display. In Sikkim with several cases of human wildlife conflict coming to the fore in recent years. The tranquilizing team under HZP is involved in all rescue works in the state and they also provide training to the frontline staff such as FGs, BOs and ROs.

### Conservation Breeding programs:

In these programs, it is essential that the animals are subject to minimal stress. The relation between the zoo keepers and the animals is such that animals are accustomed to their keepers' movements in and around the enclosure while the keepers also respect the animals' need for space and privacy. Animals are not handled unless required for veterinary examination, or routine zoo procedures. This level of trust and confidence between the animals and their keepers facilitates a stress free environment for monitoring animal movement and breeding activities. Till date the HZP has successfully bred Red Panda, Blue Sheep, even Grey Peacock Pheasant. Breeding in captivity is an achievement which supports conservation both in ex-situ and in-situ condition. Surplus and fit species can be released in the wild to support the dwindling wild species. These are some of the good aspects and roles of zoos they play to justify their being.

The HZP is involved in conservation breeding programmes of the following:-

#### As Co-ordinating Zoo:

- Blue Sheep (*Pseudois nayaur*)- ACTIVE
- Himalayan Tahr(*Hemitragus jemlahicus*)
- Blood Pheasant(*Ithaginis cruentus*)

#### As participating Zoo:

- Red Panda (*Ailurus fulgens fulgens*) – ACTIVE
- Snow leopard (*Panthera uncial*)
- Tibetan Wolf (*Canis lupus chanco*)
- Musk Deer (*Moschus chrysogaster*)
- Himalayan Monal (*Lophophorus impejanus*)
- Satyr Tragopan (*Tragopan satyra*)

The HZP has also seen success in breeding Blue Sheep and has recorded birth of Three offspring since its arrival in 2013. The zoo is now preparing to receive one breeding female in order to replace the female that was lost in 2016.

### **Red Panda Conservation Breeding Program (RPCBP):**

The HZP takes measures to ensure that all individuals in the Red Panda breeding program are genetically pure. The park has a separate designated space, out of bounds for visitors, for Breeding Red Panda. As the area is isolated and relatively undisturbed, it has seen the birth of several cubs from 1999, all raised by their parents in as wild a state as possible. The HZP is the participating zoo in India to the Red Panda Conservation Breeding Program, with its coordinating zoo at the Padmaja Naidu Himalayan Zoological Park in Darjeeling, West Bengal. With the first breeding pair of individuals Preeti (female, from Rotterdam Zoo, Netherlands) and Jugal (male, from PNHZP, Darjeeling) brought to the HZP in 1997, the park has to date, housed a total of 35 Red Panda over the years, documented in the International Stud Book Records, of which 27 were captive bred individuals born and raised in the zoo itself. The most recent set of cubs was born in June and July 2017.

The Park's location and favourable climatic and vegetation conditions, as well as endeavour to ensure that all enclosures mimic the naturalistic conditions of the wild, has ensured a healthy breeding record for the HZP on a yearly basis. The HZP so far has managed to maintain strict a pedigree with all breeding pairings remaining entirely unrelated and documented in Red Panda Pedigree Chart.

### **Animal exchange program with Darjeeling Zoo:**

The HZP has a tie up with the Darjeeling zoo for the exchange of animals which was initiated in the early 2000s. Under the program Snow Leopard, Red Panda, ungulates like Himalayan Tahr, Blue Sheep etc. have been exchanged between the two zoos.

### **Infrastructural Development:**

The Administration Building, Rescue Centre and Post Mortem-cum-incinerator are under construction. Other developments are minor works like footpath and partition of Red Panda Breeding Centre which facilitate breeding of two pairs of Red Panda at a time. The entry gate has also been modified with fibre glass animals along with a green wall and widening of roads with sit out area for the visitors.

### Visitors' Inflow and Revenue Collection:

During the year 2016-17, revenue of Rs.20,66,775/- (Rupees- twenty lakhs sixty six thousand seven hundred and seventy five) was collected from approximately 60,000 visitors/tourists. Apart from the regular tourist, students and trainees from different schools, trainees from different training centres also visit every year for education, exposure and field experience. For field activities, various school teachers used to bring their children to the zoo as a part of their co-curricular activities.

### **Entry Fee for Himalayan Zoological Park:**

(Notification No.305/GOS/FEWMD 30/03/2016)

Particulars	Unit	Rate (Rs)
Adults (Indian)	Per head	25
Foreigners (Adults and Children)	Per head	50
Kids (below 14 yrs)	Per head	10
Educational visit- for schools and colleges (in Uniform / Escorted by Teachers)	Per head	Free
Heavy vehicles (Buses etc)	Per vehicle	120
Medium sized vehicles (SUV,MUV,Utility vehicles)	Per vehicle	100
Light vehicles (small car, sedan,etc)	Per vehicle	50
Two wheelers	Per vehicle	15
Film making (Commercial)	Per film	15,000
Film making (Educational)	Per film	3,000
Documentary filming (Commercial)	Per film	6,500
Documentary filming (Educational)	Per film	1,500

### **Animals under HZP during 2016-17:**

Sl.No.	Category of Animals /Birds	Species	No.of Male Ration(M:F)	Animals Female	Status on IUCN/WL Act, 1972.	(p)
1	Omnivore	Red Panda <i>Ailurus fulgens fulgens</i>	4 2:2		Endangered Schedule I Part I	
2	Omnivore	Himalayan Black Bear <i>Ursus thibetanus laniger</i>	2 2:0		Vulnerable Schedule II Part I	
3	Carnivore	Snow Leopard <i>Panthera uncia</i>	1 0:1		Endangered Schedule I Part I	
4	Carnivore	Leopard <i>Panthera pardus</i>	1 1:0		Vulnerable Schedule I Part I	

Sl.No.	Category of Animals /Birds	Species	No.of Animals Male Female Ration(M:F)	Status on IUCN/WL (p) Act, 1972.
5	Carnivore	Tibetan Wolf <i>Canis lupus chanco</i>	1 1:0	Schedule I part I
6	Carnivore	Leopard Cat <i>Prionailurus bengalensis</i>	5 3:2	Least concern Schedule I
7	Omnivore	Large Indian Civet <i>Viverra zibetha</i>	1 0:1	Near Threatened Schedule II part II
8	Omnivore	Himalayan Palm Civet <i>Paguma larvata</i>	1 1:0	Least concern Schedule II part II
9	Herbivore	Himalayan Crestless Porcupine <i>Hystrix brachyura</i>	3 Unsexed	Least concern Schedule II part I
10	Herbivore	Himalayan Tahr <i>Hemitragus jemlahicus</i>	2 1:1	Near Threatened Schedule I part I
11	Herbivore	Himalayan Serow <i>Capricornis thar</i>	1 0:1	Near Threatened Schedule I part I
12	Herbivore	Yak <i>Bos grunniens</i>	2 1:1	.....
13	Herbivore	Goral <i>Naemorhedus goral</i>	12 7:5	Near Threatened Schedule III
14	Herbivore	Blue Sheep <i>Pseudois nayaur</i>	2 2:0	Least concern Schedule I part I
15	Herbivore	Barking Deer <i>Muntiacus muntjak</i>	7 4:3	Least concern Schedule III
16	Indigenous	Peafowl <i>Pavo cristatus</i>	2 1:1	Schedule I
17	Indigenous	Kalij Pheasant <i>Lophura leucomelanos</i>	7 2:5	Schedule I
18	Indigenous	Satyr Tragopan <i>Tragopan satyra</i>	1 0:1	Schedule I
19	Exotic	Lady Amherst's Pheasant <i>Chrysolophus amherstiae</i>	2 1:1	.....
20	Exotic	Golden Pheasant <i>Chrysolophus pictus</i>	3 1:2	.....
21	Exotic	Silver Pheasant <i>Lophura nycthemera</i>	2 1:1	.....

# RESEARCH

## Chapter – 23

### (I) **WILDLIFE RESEARCH:**

Biodiversity Research Cell under Directorate of RE&E has one official i.e. Principal Chief Research Officer with five Staff comprising of ACF, LDC cum Herbarium Staff, LDC cum Computer Assistant and Peons.

#### **One Day Programme on Tackling Wildlife Disease issues in Forest Fringe areas on 22 June '16 at Borong Panchayat Hall, South Sikkim**

Government is taking serious note of increasing instances of skin diseases in wild ungulates such as Goral, Serow and Shapi in some forest fringe areas of Sikkim. While curable in domesticated livestock like goats, such diseases have led to mortality in the affected wild animals. To tackle this problem Dept. in collaboration with AHLF&VS Dept. conducted some trainings for field staff and local people of Yuksom (West), Dzongu (North) and Ravangla (South) in 2013-14-15 on sample collection procedures, and some preliminary information has also been collected. We also conducted a Workshop in Gangtok on 6 Feb '16, involving Wildlife Disease experts from outside the state.

An outcome of these exercises was that in addition to research on the causative organism/s, regular immunization of domesticated livestock of the forest fringe villagers (whose goats, etc. may stray into the forests and become potential vectors for disease transmission) could help to allay this danger to great extent.

In continuation of this initiative a sensitization cum awareness programme was organized at Borong Panchayat Hall, South Sikkim on 22 June 2016 for 60 nos. of public and Panchayat Members of affected areas of Ralong-Borong, EDC and BMC Members. This was followed by distribution and administration of essential medicines and health supplements for domesticated livestock along with any treatment in the most affected areas by our team of Resource persons (Veterinarians), Foresters and Paravets who also conducted House-to-House visits for the same.

#### **Objective:**

- Sensitization cum experience sharing on wildlife disease issues in Sikkim
  - House-to-house Distribution of medicines, supplements and treatment of animals where required
- Programme /WORKSHOP SESSION: (10.00am – 2.00pm followed by field visits over few days)**

1. Registration, Arrival of Guests & Chief Guest; Welcoming of Guest, Resource Persons
4. Introduction to Workshop by Usha Lachungpa (Prin. Research Officer (W/L)-cum-AD (SBB)
5. Experience Sharing by VO (South) Dr. Basant, Dr. Sanjyog Rai VO Tashiding
6. Field modalities and advice by Dr. Karma Dorjee, Veterinarian
7. Distribution of token Health Pack to affected villagers
8. Address by Affected Villager/s, Chief Guest and Guests of Honour
10. Vote of thanks followed by Field and House-to-House Visits

#### **WORKSHOP/EDUCATION-LECTURES/SEMINARS/TALKS DELIVERED**

1. 2.4.2016: To deliver a talk on " Biodiversity and Conservation ethics at Accounts & Administrative Training Institute Department of Personnel, Adm. Reforms & Training Government of Sikkim Sonam Tshering Marg, Gangtok

2. 5.5.2016: Seminar on ' Forest Biodiversity and Plant Sciences to deliver a lecture on topic Forest / Biodiversity / Research organized by Department of Botany, Sikkim University, 6th Mile, Samdur, PO Tadong
3. 6.5.2016: Inputs of the Goals and Targets as prescribed by NITI Aayo, (Ref. [http://niti.gov.in/mgov\\_file/sdg/Mapping-SDGs%20V19-Ministries%20Feedback%20060416.pdf](http://niti.gov.in/mgov_file/sdg/Mapping-SDGs%20V19-Ministries%20Feedback%20060416.pdf). in group discussion with other officials of Department Send email to [basnetdipa2@gmail.com](mailto:basnetdipa2@gmail.com) and [paldenopazo@gmail.com](mailto:paldenopazo@gmail.com), latest by May 06,2015 in time for the Chief Secretary's meeting with NITI Aayog Forest Department (L. No: 196/DPERNECAD dated: 03.05.2016
4. 26.5.2016: Talk in Biodiversity to 17 Educational Administrators from various States organised by Centre for culture Research and Training, (Under the aegis of Ministry of Culture, Govt. of India) 15A, Sector=7, Dwarka, New Delhi-110075 at Chumbi Residency, Gangtok.
5. 16.6.2016: One day Workshop on Dissemination of finding of DST Sponsored Research Project " Natural Resources Mapping and Developing Strategy for Water Resources Mapping in Sikkim at College of Agricultural Engineering & Post harvest Technology, Ranipool, Gangtok
6. 28-30.6.2016: "Paryavaran Mahotsav" Cleanliness drive in the Town by Principal Research Officer (WL), DFO (Plg&Adm)SBFP, DFO (Silviculture), DFO (NTFP) N/E, ACF(E&SC) EAST.
7. 2.7.2016 : Sensitization Seminar on ' Implementation of New Waste Management Rules' at Sidkeong Tulku Forest Conference Hall, Deorali, Gangtok organized by State Pollution Control Board-Sikkim
8. 14.7.2016: Attended a programme "Create a Garden of Senses" organized by National Association for the Blind Sikkim Branch, Gangtok at Jawaharlal Nehru Memorial Institute Boomtar, Namchi, South Sikkim
9. 15.7.2016: The Hon'ble Government of Sikkim has desired to make the New Raj Bhavan, a place where art, culture and the beautiful landscape of Sikkim could be exhibited by forming a committee comprising of the retired officers, Government Servants, Scientists etc to plan and advise the Hon'ble Governor at Governor's Secretariat Raj Bhavan, Gangtok-Sikkim
10. 16.7.2016: Training Programme for students on Peer Pressure issue (Introduction to peer pressure, types of peer pressure, effects of it and how to resist it) by SAATHI- Sikkim Against Addiction towards Healthy India, J-55 Tayakhim, Daragaon, Tadong. Gangtok, East Sikkim at Indian Himalayan Centre for adventure & Ecotourism, Chemchey, South Sikkim
11. 10.8.2016: Workshop on " NE-Fresh Online Auction System" under the project " Centralized e-Auction Portal for North Eastern States Centre for Development of Advanced Computing Hotel Mount Siniolchu (Near Enchey Monastery, VIP Colony Road, Gangtok
12. 5.9.2016: Convened Meeting with all the staff of the Department organized by Forest, Env. & Wildlife Management Dept Sidkeong Tulku Forest Conference Hall, Deorali, Gangtok
13. 3.9.2016: Meeting of the Passing Out Parade Forest, Env. & Wildlife Management Dept Tragopan Hall of the Forest Secretariat Building Deorali
14. 06.9.2016: Visit to panorama ozer Choeling secondary School Room-size panorama of KNP UNESCO WHS, depicting flora, fauna, glaciers, rivers, etc using waste materials (paper, old book, bubblewrap, etc), drawing, paintings, charts, cut-outs by class 8 students of school (50+) and teachers Forest, Env. & Wildlife Management Dept. (KNP panorama ozer Chioeling secondary School, Gangtok)
15. 12-15.9.2016: "Eco-System Approach to Forest Management" (EAFM) Working Plan (Forest, Env. & Wildlife Management Dept.) through Forest Plus Royal Plaza, Syari
16. 19.9.2016 : Workshop on " Consultation Workshop on Project design development for jurisdictional REDD+ project in Sikkim" USAID from the American people (Forest-PLUS) Sidkeong Tulku Forest Conference Hall, Deorali, Gangtok
17. 20.9.2016: Wildlife Census committee Forest, Env. & Wildlife Management Dept. Tragopan Hall of the Forest Secretariat Building Deorali
18. 21.9.2016: World Peace Day, 2016 with the theme " Yoga for World Peace and Harmony" Home Department Government of Sikkim Paljor Stadium, Gangtok

19. 24.10.2016: Appointment of staff under SPCB-Sikkim Forest, Env. & Wildlife Management Dept. (SPCB) Tragopan Hall of the Forest Secretariat Building Deorali
20. 14-19.11.2016: Refresher course ' An Integrated Approach to Education' Centre for cultural Resources and Training (Under the aegis of Ministry of Culture, Govt. of India) Janta Bhavan, Paljor Stadium Road, Gangtok, Sikkim
21. 16.11.2016: XXIV Annual Research Council Meeting 2016 Indian Cardamom Research Institute Regional Research Station Spices Board, Tadong, Gangtok Hotel Mount Siniolchu (Near Enchey Monastery, VIP Colony Road, Gangtok
22. 25-26-28.11.2016: Viva Voce for Junior Scientific Assistant and Lab Assistant under State Pollution Control Board-Sikkim Forest Conference Hall
23. 24.11.2016: Combined District & State level Exhibition cum Project Competition of INSPIRE Award 2016 (Combined DSLEPC) Sikkim State Council of Science & Technology Vigyan Bhawan, Deorali and Sikkim Science Centre, Marchak
24. 14.11.2016: Celebration of Children's Day (on the occasion of 127th Birth Anniversary of Lt. Pandit Jawaharlal Nerhu, the first prime Minister of India Human Resource Development department, Government of Sikkim, Gangtok Chintan Bhawan
25. 1-2.12.2016: Talk on Biodiversity/flora & fauna of Sikkim to 75 students 2 batches each On-the job-Training (OJT) of Tourism Students from various government schools of Sikkim, Travel Agents' Association of Sikkim (TAAS) Travel Agents' Association of Sikkim (TAAS) Office
26. 17.12.2016: Workshop on Vulnerability Assessment for Upper Teesta River Basin WWF India Hotel Chumbi, Gangtok
27. 7.1.2017: To visit Kitam (Bird Sanctuary) Rescue Centre at Baguwa South Sikkim organized by Forest Department
28. 2.2.2017: Climate Change Vulnerability and Risk Assessments in Sikkim by Department of Science and technology, Ministry of Science & Technology, Government of India at Hotel Delisso Abode, next to Sadar Thana
29. 16.2.2017: CONCLAVE on: Innovation & Progress of Ecotourism in Sikkim by Directorate of Ecotourism FEWMD, Sponsored by JICA Assisted SBFP at Sidkeong Tulku Forest Conference Hall, Deorali, Gangtok
30. 10.3.2017: Delivered Lecture on Access and Benefit Sharing & IPR Issues related to bioresources of Sikkim BSI, Sikkim Himalayan Region Chintan Bhawan
31. 10.3.2017: Participated in Valedictory with panel discussion and recommendations as Chief Guest BSI, Sikkim Himalayan Region Chintan Bhawan
32. 17.3.2017: Delivered lecture on Biological diversity Act 2002 and Rules 2004 and Sikkim Biological Diversity Rule 2006 and their implication 100 students, 4 teachers at SGC, Tadong organized by SSCS&T
33. 18.3.2017: Conservation of Biodiversity of Sikkim to 156 teachers from 18 different states of India at Janta Bhavan, Paljor Stadium Road, Gangtok, Sikkim organized by CCRT

## **B. RADIO TALK**

1. 04.11.2016: Live Radio Bridge programme, Mission organic 14-15 with 1. Meghalaya, 2. Assam, 3. Manipur and 4. Sikkim Gangtok, L. R. Dhakal, Dr. Bonny Nichols -Anchor All India Radio, Shillong All India Radio Station Gangtok
2. 18.11.2016: Jaiva Vividta Ani Yesko mahatwa: interview in Nepali AIR, Gangtok AIR, Gangtok
3. 27.1.2017: Radio Talk on Nepali: 1. Jaiva Vividhata, 2. jaiva swamiwa ko ullanghan AIR

## **A. WORK RELATED TO SIKKIM BIODIVERSITY BOARD**

1. 23.4.2016: Special Gram Sabha for awareness regarding formation of BMC 20-Thekabong, Parakha GPU, East Sikkim
2. 16-19.5.2016: One day field level Awareness cum training programme on Economic Valuation of Bio-resource for Access and Benefit Sharing at Lachung, Lachen North Sikkim
3. 17-18.6.2016: One day workshop on Cross Sectoral Policy and Integrated Workshop; Biodiversity Conservation; Common Goals; Shared Responsibilities, Multiple Policies under UNEP- GEF-MoEF-ABS Project at Mayfair, Gangtok
4. 8.9.2016 : Development of UNDP/GEF Project on Securing livelihoods, Conservation, Sustainable Use and Restoration of high range Himalayan Ecosystems) Government of India-GEF-UNDP SECURE-Himalayas Project Mangan, North Sikkim
5. 17-19.1.2017: Consultation meet of officials from Union Territories and sharing experience of best practices of Sikkim SBB National Biodiversity Authority, Chennai Meeting with representative of Uts Chennai.

## **B. EXTENSION-MEETINGS ATTENDED**

1. 23.6.2016: Participated in State Level Research Advisory Committee Meeting of Indian Council of Agricultural Research ICAR-National Organic Farming Research Institute Tadong, Gangtok organized by Indian Council of Agricultural Research ICAR-National Organic Farming Research Institute Tadong, Gangtok
2. 23.6.2016: Participated in State Level Research Advisory Committee Meeting of Indian Council of Agricultural Research ICAR-National Organic Farming Research Institute Tadong, Gangtok organized by Indian Council of Agricultural Research ICAR-National Organic Farming Research Institute Tadong, Gangtok
3. 7.7.2016: Committee Constitution meeting for the purpose of publication of Achievement Report of the Department, to be released on the occasion of Independence Day 2016 in the Chamber of Principal Secretary cum PCCF
4. 25.7.2016: As especial Invitee the Executive Committee Meeting of National Association for the Blind, Sikkim Branch National Association for the Blind Sikkim Brance, Gangtok
5. 25.7.2016: Unit Level LIA (Lead Intelligence Agency) Meeting Office of the Commandant, 13 Bn, ITBP Force, MHA/ Govt. of India Lingdum Basti, PO: Ranka Dhaje Distt. East Sikkim, Gangtok Conference hall Rajbhawan
6. 21.12.2016: 6th PSC meeting of UNEP-GEF-ABS-MoEF project organized by National Biodiversity Authority, Chennai Godavari Hall, Delhi

**(II) Silviculture / High Altitude Research Centre (HARC):**

The State Government in the Department of Forest, Environment and Wildlife Management established HIGH ALTITUDE RESEARCH CENTRE (HARC) vide notification No.120/HOME/2009 dated 19/09/2009 for quality standardization of high valued bio resources and cater such duties to characterize the resources.

Further, the State Government has deemed it expedient to establish a Quality Control laboratory (QCL) of Silviculture and Research in Forest, Environment and Wildlife Management Department, Block Castanopsis or “C”, Forest Secretariat, Gangtok vide notification No.GOS/FEWMD/PR.SECY-cum-PCCF/193 dated 8/2/2018.

As the State Government has undertaken several measures for the qualitative improvement of forest, environment, wildlife, organic forest produces, quality organic bio resources, farm products, medicinal plants and such other products. The ‘QCL’ shall act as the State Nodal Laboratory for the analysis of forest produces and such other related activities as may be referred to it including nutraceutical and cosmeceutical item testing.

The “QCL” shall certify the produces and conduct such functions under the framework of guidelines of State Government or any designated authority to harness National and International markets and provide technical information on forest produces and natural resources matrixes.

The “QCL” shall conduct its activities according to the Quality Manual for the qualitative and quantitative results.

# **ENVIRONMENT & SOIL CONSERVATION**

## Chapter - 24

### **Status of Wetlands in Sikkim:**

There are a number of wetlands in the State of Sikkim and most of them are located in high altitude areas of the State. All wetlands small or big are fresh water except Gyamtsona in North District of Sikkim which is brackish. Majority of wetlands in the State are located in East and North Districts and rest are distributed in West District of Sikkim. A number of small lakes / wetlands form wetland complexes in Sikkim Himalayas. Wetlands are source of drinking water, rivers, streams and important tourism destinations in the State.

521 numbers of wetlands in the State are enumerated using Remote Sensing Data along with their GPS coordinates. Around 95% wetlands are within the Reserve Forest/ forest or protected areas as 82% of the State's geographical area falls under recorded forest areas. All these wetlands/wetland complexes are protected and managed under the relevant State/Central Acts and laws as enforced from time to time. Hence, there is no severe problem of encroachment, pollution, weed infestation and anthropogenic activities. But the problem of siltation is substantial in almost all the wetlands due to degradation of catchment areas, climate change such as erratic and untimely rainfall especially when there is no grass cover during winter, early melting of snow in the mountains.

Some lakes such as Tsomgo, Khecheopalri, Gurudongmar, Dudhpokhari, Kathok lakes etc are considered as holy and sacred in the State. People in the State are God fearing and they never tend to pollute or degrade such lakes, instead they come for prayer and obtaining blessings from natural deity fulfilling wishes, people come forward to protect and preserve the wetlands in the State.

The Ministry of Environment, Forests and Climate Change, Wetland Division, Government of India has been funding the State Government for implementation of Management Action Plan for conservation and management of following wetlands out of 6 wetlands included in the National Wetland Conservation Programme in the State of Sikkim.

1. Gurudongmar wetland in North District.
2. Khecheopalri wetland in West District.
3. Tsomgo wetland in East District and
4. Bidang tso wetland in East District.

Following wetland complexes are included in Nation Wetland Conservation Programme by the Ministry of Environment and Forests, Government of India.

1. Gurudongmar wetland in North District.
2. Tembao wetland complex in North District.
3. Tamzey wetland complex in North and East District.
4. Tsomgo wetland complex in East District.

5. Bidang wetland complex in East District.
6. Khecheopalri wetland complex in West District.

Tsomgo wetland is the most threatened wetland in the State due to siltation and anthropogenic activities. However, the timely intervention by Forest Department and Pokhari Sanrakshan Samiti, the lake is now managed well and protected. Pokhari Samrakshan Samiti constituted by Forest Department has played a vital role in conserving this wetland. There are few defence and civilian settlements on the northern and eastern catchment of the lake. Earlier, northern periphery of the lake along the road leading to Nathula Pass was teemed up with around 45 to 50 kutcha sheds for running shops by local people selling eatables and garments which had polluted the lake. Later the Forest Department rehabilitated the people shifting from the lake side down to diverted forest land below the lake. Since then the level of pollution has decreased in the lake.

#### **Pokhari Sarakshan Samiti:**

Another initiative of the Government towards environmental conservation is the constitution of Pokhari Sanrakshan Samitis (PSSs) or Lake Conservation Committees for those lakes which are important from the tourist point of view and which have the potential to be degraded as a result of tourism PSSs have been successfully formed and are in operation for Tsomgo and Khecheopalri lakes. The Pokhari Sanrakshan Samitis have a general and executive body and they collect lake conservation fees from tourists which are used for lake conservation activities. Members of the PSSs include local residents, taxi drivers, NGOs and the Forest, Environment & Wildlife Management Department is the coordinating agency. Activities carried out by these Samitis include cleaning of the lake areas and its vicinity, garbage management, plantation, desiltation, awareness campaigns, bin and garbage bag distribution to taxis, construction of toilets, assistance to tourists etc.

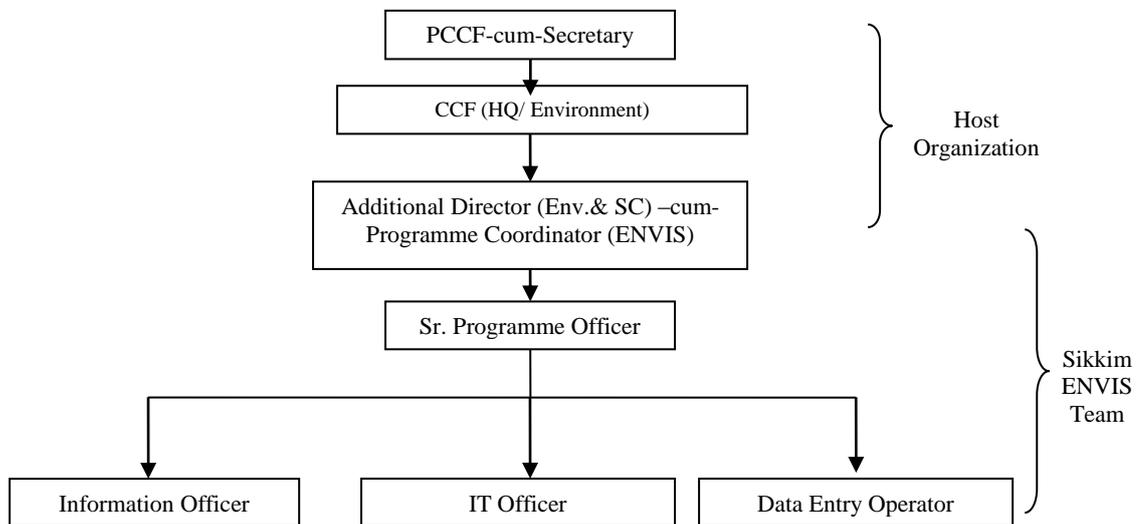
SN	Name of Wetland	Year-wise fund Received by the State										Total
		2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	
1	Tsomgo, East Sikkim	5.00	16.31	15.00	13.95	0.00	18.50	0.00	0.00	0.00	0.00	<b>68.76</b>
2	Gurudongmar, North Sikkim	3.36	13.45	14.00	22.95	7.65	0.00	0.00	0.00	21.00	0.00	<b>82.47</b>
3	Phedang, East Sikkim	8.00	14.85	16.60	13.00	0.00	12.50	0.00	0.00	0.00	0.00	<b>64.95</b>
4	Khecheopalri, West Sikkim	0.00	8.70	38.19	0.00	40.15	0.00	0.00	0.00	21.28	26.60	<b>134.92</b>
5	Tamze, North Sikkim	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.64	23.76	<b>59.40</b>
<b>Grand Total -</b>												<b>410.50</b>

## ENVIRONMENTAL INFORMATION SYSTEM - (ENVIS)

Established in 2002 and fully operational by 2006, Environmental Information System (ENVIS) is a plan programme (100% CSS) under the Ministry of Environment, Forests & Climate, Government of India. ENVIS is a distributed environmental information network with the mandate of collection, collation, storage, retrieval and dissemination to varying users, which include decision-makers, researchers, academicians, policy planners, research scientists, etc. The Focal Point of ENVIS is located in the Ministry that coordinates the activities of all the ENVIS network partners to make ENVIS a web-enabled comprehensive information system.

This Centre is under the overall administrative control of the PCCF-cum-Pr. Secretary with the support of Addl. PCCF, Chief Conservator of Forests, Additional Director (Environment & Soil Conservation) Circle. The day to day affairs of the ENVIS centre are being managed by one Sr. Programme Officer, one Information Officer, one IT Officer and one Data Entry Operator.

**Working Environment:** The ENVIS team in the following hierarchy in its effort in collection, collation, storage and dissemination of Environmental & related information.



*Host Organization: Forest, Environment & Wildlife Management Department  
Government of Sikkim*

### Sikkim State ENVIS Hub Team:

1. Mr. B. B. Gurung, Additional Director (E&SC) -cum- Coordinator
2. Mr. Rajen Pradhan, Senior Programme Officer
3. Mr. Laxuman Darnal, Information Officer
4. Ms. Renu Gurung IT Officer
5. Ms. TulshaGurung, Data Entry Operator

## Services

1. Website Development and Updation: [www.sikervis.nic.in](http://www.sikervis.nic.in), [www.sikkimforest.gov.in](http://www.sikkimforest.gov.in)
2. Publication of Quarterly Newsletters including special edition 'PANDA'
3. Preparation and publication of State of Environment Reports
4. Updation of ISBEID (Indian State-level Basic Environment Information Database)
5. Online/ in-person Query Response System
6. Library Facility
7. Other Publications/Reports/ Archives on Himalayan Journal
8. IT support/ LAN/ Intranet/Internet maintenance and services
9. Environment Awareness Programmes: **National Green Corps (NGC)** School Eco-Club programme amongst 766 schools of Sikkim; Green Teachers Training; Orientation Workshops, provision of environment kits and awareness material etc.
10. Coordination of Chief Minister's Green School Rolling Trophy and State Green School Awards.
11. Continuous Engagement Programme for imparting environment awareness, education and training with agencies like Centre for Science and Environment (CSE) New Delhi, earthain WIPRO, Centre for Environment Education (CEE) Ahmadabad and Guwahati; etc.
12. Exchange of information with the Ministry, Research Agencies and promotion of national and international cooperation and liaison for exchange of environment related information.

## Major Achievements of Sikkim State ENVIS Centre

1. Received National Award as '**Best State ENVIS Centre 2014-15**' from the Ministry of Environment, Forest & Climate Change. The award certificate was presented by Shri Prakash Javadekar, the then Minister of State (Independent Charge) for Environment, Forest and Climate Change at New Delhi on 17<sup>th</sup> February, 2016.
2. Sikkim ENVIS was tagged as '**GURU CENTRE**' during 2012-13 by the Ministry to take a lead role in providing assistance to other ENVIS network of the country.
3. Sikkim ENVIS Website hosts major publications of the government such as State of Environment Report, Climate Change of Sikkim, Biodiversity of Sikkim, Rapid Biodiversity Surveys, collection of Journals and Scientific Papers, Environment Initiatives of the State Government, etc.
4. The implementation of Environment Education, Awareness and Training amongst school eco-clubs have brought **several national awards to Sikkim Schools** conferred by reputed agencies like CSE, CEE and WIPRO on annual basis since 2002.
5. Active coordination and implementation of '**Chief Minister's Green School Rolling Trophy and State Green School Awards**' since 2011. The award is being presented to eight schools annually on the occasion of World Environment Day on 5<sup>th</sup> of June.

## Training, Extension, Awareness and Outreach Activities by ENVIS during 2016-17

### 1. Brain Storming Session for North Eastern ENVIS Centres at Gangtok



ENVIS Sikkim at Forests, Environment & Wildlife Management Department, Government of Sikkim, Deorali Gangtok hosted the 1<sup>st</sup> Quarter Brainstorming Session for 15 Eastern and North-Easter ENVIS Centres of India on 6<sup>th</sup> May 2016 at Sidkeong Tulku Forest Conference Hall, Deorali, Gangtok.

### 2. Chief Minister's Green School Rolling Trophy and State Green Schools Awards 2016



ENVIS Centre actively played a role of the resource agency in scrutinizing and screening the reports from about 200 schools for the State's most prestigious award scheme, the Chief Minister's Green School Rolling Trophy and State Green Schools Award 2016. ENVIS Centre has been playing the role of nodal agency in implementing this award scheme in the State since its inception in 2011.

The 2016 awards were presented to eight schools during the State level celebration of World Environment Day on 5<sup>th</sup> June 2016 at Government Sr. Secondary School Mangan, North Sikkim.

2016		
SN.	SCHOOLS NAME	AWARDS
1.	Sonam Choda Lepcha Memorial, Government Sec. School, Lingdong, North Sikkim	CM Rolling Trophy/ Certificate/ Cash prize- Rs. 5.00 lakhs
2.	Government Senior Secondary School, Hee Yangthang, West Sikkim	CM Rolling Trophy/ Certificate/ Cash prize- Rs. 5.00 lakhs
3.	Government Secondary School, Bongten, West Sikkim	Trophy/ Certificate/ Cash prize- Rs. 1.00 lakhs
4.	Government Girls Sr. Sec. School, Gyalshing, West Sikkim	Trophy/ Certificate/ Cash prize- Rs. 1.00 lakhs
5.	Government Secondary School, Aho Shanti, East Sikkim	Trophy/ Certificate/ Cash prize- Rs. 1.00 lakhs
6.	Government Junior High School, Mangzing, South Sikkim	Trophy/ Certificate/ Cash prize- Rs. 50,000/-
7.	Government Primary School, Som Busty, West Sikkim	Trophy/ Certificate/ Cash prize- Rs. 50,000/-
8.	Greenvale Academy, Machong, East Sikkim (Pvt.)	Trophy/ Certificate/ Cash prize- Rs. 50,000/-

### 3. Teacher's Orientation on WIPRO's Earthian Schools Programme 2016



ENVIS Centre, Forest Environment & Wildlife Management Department in collaboration with WIPRO Bengaluru conducted a one day green teacher's training programme for 80 schools of the State on 20<sup>th</sup> may 2016 at Sidkeong Tulku Forest Conference Hall, Deorali Gangtok.

### 4. Swachh Bharat Pakhwada June 15-30 in line with Paryavaran Mahotsav 2016 Celebration



ENVIS Centre played active role in coordinating the 4<sup>th</sup> successive Paryavaran Mahotsav in Sikkim duly celebrating Swacch Bharat Pakhwada from June 15 to June 30, 2016 . This fortnightly event which included the 11<sup>th</sup> phase State Green Mission and 8<sup>th</sup> Phase Ten Minutes to Earth programme was carried out throughout the State.

The Centre's role was to spread mass awareness and publicity through online and print media. The centre designed and printed programme banners, posters, signages for signature campaign on green pledge, Go Green stickers for vehicles. ENVIS Center Sikkim in collaboration with Centre for Environment Education (CEE) for the general public, tourist and drivers through schools students on various days with different schools from Gangtok. The main objective of the program was to educate and encouraging people to be responsible towards environment and also bring awareness about different initiative taken by the government in order to preserve our ecosystem. Eco- Clubs schools participated for green walk and street play at Mg Marg. The centre coordinated eco- competitions (debate, seminar, paintings, quiz) at various school eco-clubs and publicized the event report online and print media in the form of newsletter.

## 5. Pre-proposal NEAC Workshop with Stakeholder 2016-17



ENVIS Centre at Forest, Environment and Wildlife Management Department, Government of Sikkim organized a short orientation programme at Forest Conference Hall for the environmental NGOs to enable them to participate in the National Environment Awareness Campaign 2016-17 with the theme Swachh Bharat Mission. The programme chaired by Mr. Suraj Kumar Thatal, Additional Director of Forests was attended by 23

NGOs across the State.

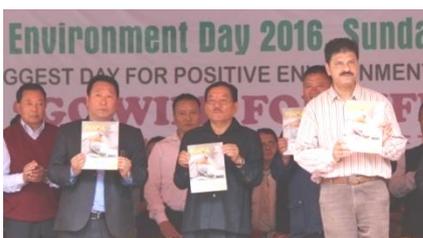
## 6. Green Teacher's Training for 250 schools of Sikkim



ENVIS Centre at Forests, Environment & Wildlife Management Department, Government of Sikkim in collaboration with Centre for Science and Environment, New Delhi organized two- days green teacher's training programme on 29<sup>th</sup> and 30<sup>th</sup> September, 2016 at Forest Conference Hall, Gangtok for 200 schools of the State. The training programme is an ongoing effort for

strengthening the implementation of the National Green Corps (NGC) School Eco- Club programme being implemented in Sikkim since the year 2000. During the training Dr. Thomas Chandy, Principal Secretary cum PCCF released a short film "MUSKAN" themed on Swachh Bharat Abhiyan prepared by Eco- Club of Government Girls' Sr. Secondary School, West Sikkim.

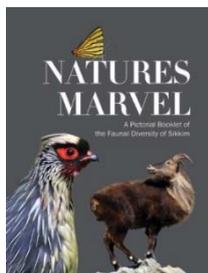
## 7. Release of ENVIS Publication 2016-17



Release of 'PANDA' Newsletter by Hon'ble Chief Minister of Sikkim Shri Pawan Chamling, Hon'ble Minister (Forest) Shri T.W. Lepcha and Principal Secretary cum PCCF Dr. Thomas Chandy during the World Environment Day on June 05, 2016 at Mangan, North Sikkim.

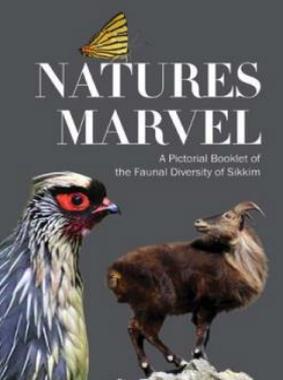


Release of 'Paryavaran Mahotsav 2015' pictorial activity booklet by the Hon'ble Governor, Hon'ble Chief Minister and honorary dignitaries during the Ten Minutes to Earth on the 25<sup>th</sup> of June, 2016 at Himalayan Zoological Park Bulbulay, Gangtok.



Release of 'Natural Marvel' by Principal Secretary cum PCCF Dr. Thomas Chandy during the Green Teacher's Training programme on 29<sup>th</sup> of September 2016.

## ENVIS SIKKIM PUBLICATION 2016-17

 <p><b>PANDA</b> Newsletter Vol 8</p>	 <p><b>Sikkim ENVIS Newsletter</b> Vol 9, Issue 1</p>	 <p><b>Sikkim ENVIS Newsletter</b> Vol 9, Issue 2</p>	 <p><b>Sikkim ENVIS Newsletter</b> Vol 9, Issue 3</p>
<p>56 paged special edition Newsletter Vol 8</p>	<p>8 paged quarterly newsletter Vol 9, Issue 1</p>	<p>8 paged quarterly newsletter Vol 9, Issue 2</p>	<p>8 paged quarterly newsletter Vol 9, Issue 3</p>
 <p><b>Sikkim PARYAVARAN MAHOTSAV 2015</b> A Brief Report</p>	 <p><b>ENVIRONMENTAL INITIATIVES</b> OF THE STATE GOVERNMENT 1994-2016</p>	 <p><b>NATURES MARVEL</b> A Pictorial Booklet of the Faunal Diversity of Sikkim</p>	 <p><b>ENVIRONMENTAL INITIATIVES</b> OF SHRI PAWAN CHHANGLING HON'BLE CHIEF MINISTER OF SIKKIM A GLANCE (1995 TO 2016)</p>
<p>76 paged pictorial activity booklet on Paryavaran Mahotsav 2015</p>	<p>120 paged on Environmental Initiatives of Sikkim State government from 1994- 2016</p>	<p>84 paged a pictorial Booklet on the Faunal Diversity of Sikkim</p>	<p>16 paged bilingual (English and Nepali) booklet on Environment Initiatives of Sikkim State government from 1995 to 2016</p>

(Downloadable from website [www.sikennisic.in](http://www.sikennisic.in))

**Different Boards and**  
**Agencies under Forest,**  
**Environment and**  
**Wildlife Management**  
**Department**

**(1) STATE LAND USE BOARD:**

The Sikkim State Land Use Board (SLUB) was first notified vide Notification No.66, dated 1981. In 1992 the Board was re-constituted under section 64 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974), as the State Land Use and Environment-cum-State Pollution Control Board vide Notification No.1/LU&E/F dated 21/9/1992 under the chairmanship of Chief Secretary, Government of Sikkim with members from Planning, Land Revenue & Disaster Management Department, Rural Management & Development Department, Animal Husbandry, Agriculture, PWD with Member Secretary by the CF/CCF, Land Use & Environment, Forest, Environment & Wildlife Management Department, Government of Sikkim.

**Objectives of Sikkim State Land Use Board:**

- i. To enable the State government for development of data base on land resources on the basis of revenue record. Topo-sheets, satellite imageries, soil survey reports etc.
- ii. Implementation of 19 points National Land Use Policy Outline (NLPO).
- iii. To take up suitable steps preferably through legislative measures, to prevent the conversion of agriculture land for non-agricultural purposes.
- iv. To work as forum for sharing technical and administrative experience pertaining to land utilization through organizing seminars, workshops etc.

**Functions of Sikkim State Land Use Board:**

- a) To conduct regular meetings of the Board to evolve policy decision relating to
  - i. Modification in the existing legislation of the State having a bearing on land use,
  - ii. Watershed management for sustainable agriculture farming
  - iii. Integrated Wasteland Development Project
  - iv. Carrying capacity of land with regard to human and animal population and
- b) To identify and entrust important studies to various institutions like G.B.Pant Institute of Himalayan Environment, Agricultural University Sikkim, Indian Council of Agriculture Research, Tadong and Sikkim University etc.

**Components of Sikkim State Land Use Board:**

- i. Strengthening of nucleus cell to service SLUB.
- ii. Development of infrastructure, such as installation of computer system, creation of software for development of data base on land use.
- iii. Support for special and evaluation studies, review of schemes etc.
- iv. Organizing of seminars / workshop/publicity and awareness campaign in the State.
- v. Support for extension and development of organic farming.
- vi. Preparation of prospective plan of Integrated Wasteland Development Plan.

## **(2) STATE ENVIRONMENT AGENCY (SEA):**

At the State level, an autonomous body namely 'State Environment Agency' is constituted in order to coordinate all activities related to environment such as environment education, environment awareness, environment information etc.

### **The Duties and Responsibilities of the State Environment Agency:**

1. To co-ordinate and implement the activities relating to the environment education, awareness and information etc. through appropriate agency at state level.
2. To monitor the implementation of all the projects and activities relating to environment education, awareness and information etc.
3. To examine and recommend any proposal on the mentioned subject matter in the state for funding by the state, GOI and other agencies.
4. To suggest mechanism to improve the environment through environment information, education and awareness.
5. To maintain accounts under the committee and regularly audit their expenditure and submit report to the appropriate agency.
6. To monitor the activities of the District environment Committee, National Environment Awareness Campaign, Eco-clubs in educational Institutions, NGOs funded by the government agency for the purpose of environment awareness education and information.
7. The state eco-club coordinator shall ensure timely implementation of the eco-club programmes in the schools and submit report to the Committee.
8. To carry out any other function relating to environment education, awareness, information etc.

### **District Environment Committee (DEC):**

At district level, an autonomous body namely 'District Environment Committee' is constituted in order to coordinate all activities related to environment such as environment education, environment awareness, environment information, etc.

### **The Duties and Responsibilities of the District Environment Committee:**

1. To co-ordinate and implement the activities relating to the environment education, awareness and information etc in the District.
2. To monitor the implementation of all the projects and activities relating to environment education, awareness and information etc in the district.
3. To motivate educational Institutions, NGOs and any other organization in the district to involve in environment awareness, education and information activities.
4. To suggest mechanism to improve the environment through environment information, education and awareness to the State Environment Agency.

5. To maintain accounts under the committee and regularly audit their expenditure and submit report to the appropriate agency.
6. To execute projects, schemes etc approved by the State Environment Agency.
7. The district eco-club coordinator shall ensure timely implementation of the eco-club programmes in the schools and submit all reports regarding eco-club to the committee.
8. To monitor the activities of the national Environment Awareness Campaign, Eco-club in educational institutions under National Green Corps, NGOs funded by the government agency and for the purpose of environment awareness, education and information, etc.
9. To work in coordination with the State Environment Agency to perform all the functions relating to environment awareness, information and education.
10. Any other functions relating to environment education, awareness, information, etc., entrusted by the Government or the State Environment Agency.

### **(3) STATE POLLUTION CONTROL BOARD (SPCB):**

#### **1. Acts and Rules Implemented by the Board:**

- a) The Water (Prevention and Control Pollution) Act, 1974.
- b) The Air (Prevention and Control of Pollution) Act, 1981.
- c) The Water (Prevention and Control of Pollution) Cess Act, 1977.
- d) The Public Liability Insurance Act, 1991.
- e) The Environment (Protection) Act, 1986.
- f) Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016.
- g) E-Waste (Management) Rules, 2016
- h) Batteries (Management & handling) Rules, 2016
- i) Plastic Waste Management Rules, 2016
- j) Construction and Demolition Waste Management Rules, 2016
- k) Solid Waste Management Rules, 2016
- l) Bio-Medical Waste Management Rules, 2016

#### **2. National Air Monitoring Programme (NAMP).**

Under National Air Monitoring Programme (NAMP) there are seven (07) new and one (01) old monitoring station is being monitored on weekly basis. The locations of different stations are viz.

- i) Forest Secretariat, Deorali ii) Pelling iii) Namchi iv) Ravangla v) Bagay Khola (Singtam – Rangpo) vi) Mangan & vii) Chungthang.

#### **3. National Water Monitoring Programme (NWMP)**

Under National Water Monitoring Programme (NWMP) there are fourteen (14) monitoring locations, (09) in River Teesta basins and (05) five in River Rangit being monitored on monthly basis.

4. The legal matter pertaining to the environmental issues of the Board in the Supreme Court, National Green Tribunal, Principal Bench, New Delhi and Eastern Zone, Kolkata are being dealt by the Board with the different cases in the National Green Tribunal, Kolkata.
5. SPCB have been funding for generating environmental awareness through Urban Local Bodies and Zilla Upadakshyas.
6. SPCB – Sikkim has been carrying out regular monitoring of industries to check the compliance of the conditions stipulated at the time of issuing consent.
7. SPCB-Sikkim carry out environmental monitoring of hydro electric projects in Sikkim.

8. SPCB-Sikkim has been supporting different organizations like school, monasteries, temples, churches, tourist destinations and other social organisation by way of providing dustbins for proper management of solid wastes.
9. SPCB-Sikkim is generating awareness on the environment issues through print and electronic media.
- 10 SPCB- Sikkim conducted public hearing of three projects during 2016-17 viz. 25 MW Rahi Kyoung Hydro-electric Project, Upper Dzongu, North Sikkim. Passenger Ropeway-Dhapper to Bhaley Dhunga, Yanggang, Sough Sikkim and Tsomgo lake Passenger Ropeway, Tsomgo, East Sikkim.

Physical & Financial Target 2016-17.

Financial Budget Provision:	Rs.2,10,89,170.00
Expenditure -	<u>Rs.1,14,22,857.00</u>
Balance -	<u><b>Rs. 96,66,313.00</b></u>

**WATER AND AIR LABORATORY:**

The Pollution Control Laboratory, Forest Secretariat Annex, the Forest Department has been specified as the State Water and Air Laboratory vide Gazette no.127 dated 09/09/1996 to carry out the functions entrusted to the State Water Laboratory and the State Air Laboratory under sub-section (1) of section 52 of the Water (Prevention and Control of Pollution) Act 1974 and sub-section (1) of section 28 of the Air (Prevention and Control of Pollution) Act 1981 respectively. It deals with day to day analytical work related to both water and air pollution. Samples of air and water are collected for further course of action.

**NOISE MONITORING:**

Due to increase in developmental activities there has been a rise in noise pollution in the whole country. In order to measure the noise level in the state, SPCB has been carrying out regular noise quality monitoring.

One of the key works is the measuring of noise pollution during the festival of Deepavali. As per the study conducted by SPCB-Sikkim it has been observed that recently, the noise level has gone down extremely due to ban imposed by the State Government on use of firecrackers and other illuminating items in the State.

Noise monitoring is conducted on a regular basis by the Board and the status is being forwarded to CPCB, New Delhi. SPCB-Sikkim took the initiative of imposing prohibition on manufacture, sale and use of all types of firecrackers including sound emitting and illuminating type through Sikkim Gazette Extraordinary Notification no.544 dated 19/12/2014. While executing the ban imposed by the State Government awareness among the public has been generated through print and electronic media, Street plays, Rallies through School students and appeal from the Hon'ble Chief Minister and other Celebrities. Further, the Board conducts noise pollution monitoring during the festival of Deepavali. Till date, the noise level readings generated are well within the stipulated standards.

## **ESTABLISHMENT OF INDUSTRIAL UNITS:**

Under the provision of Section 25 of Water (Prevention & Control of Pollution) Act, 1974 and Section 21 of Air (Prevention & Control of Pollution) Act, 1981, no units can be established without the prior consent of the SPCB. Till date 112 no.of industrial units which are of large and medium scale have been granted with Consent to Operate (CTO) under manufacturing sector. Under the service sector consents are being issued to Hotels, Resorts, Health Care Facilities, Garage, Hot mix plant, Wet mix plant, Stone crusher, Sewage Treatment Plant (STP), etc.detailed list indicating its status enclosed.

SPCB-Sikkim has categorized various industries operating within the state into 04 categories viz; Red, Orange, Green and White as per their pollution potential CTE and CTO are issued accordingly. This categorization was notified vide no.112 dated 01/04/2017. The consent fee for each industry is calculated as per the categorization of industries.

## **PUBLIC HEARING:**

Under the provision of Environment Impact Assessment notification, certain development projects are required to obtain Environment Clearance (EC) from the Central Government for category A projects and from State Environment Impact Assessment Authority for category B projects. Before grant of EC, the projects are subjected to Public Hearing and SPCB-Sikkim has so far conducted the following public hearings for 23 including (no.110) for different types of developmental projects.

## **A.HYDRO-ELECTRIC PROJECTS:**

Sl. No	Name of HEP	Name of Developer	Public Hearing conducted	Environmental Clearance Granted By MoEF	Remarks
1	510 MW Teesta State-V Hydro-Electric Project, East	M/s NHPC Ltd	02/12/1997	No.J-12011/1/98-IA.I dt:19/05/1999	Under Operation
2	36 MW Rolep Hydro-Electric Project,East	M/s Amalgamated Trans Power India Ltd.(ATPIL)	22/07/2003	No.12011/31/2003-IA.I dt: 25/02/2004	-
3	99 MW Chujachen Hydro-Electric Project, East.	M/s Gati Infrastructure Ltd.	30/09/2004	No.12011/18/2005-IA.I dt:09/09/2005	Under Operation
4	71 MW Sada-Mangder Hydro-Electric Project, South	M/s Gati Infrastructure Ltd.	16/10/2004	No.12011/26/2007-IA.I dt:25/02/2005	-
5	96MW Jorethang Loop Hydro-Electric Project, South	M/s DANS Energy Pvt.Ltd.	09/04/2006	No.J 12011/19/2006-IA.I dt. 26/7/2006	Under Operation
6	1200MW Teesta Stage-III Hydro-Electric Project, North	M/s Teesta Urja Pvt.Ltd.	08/06/2006	No.J 12011/26/2006-IA.I dt. 04/08/2006	Under Operation
7	500 Mw Teesta Stage-VI Hydro-Electric Project, East	M/s Lanco Energy Pvt.Ltd.	21/06/2006	No.J 12011/55/2006-IA.I dt. 04/08/2006	Under Establishment
8	300 MW Pannan Hydro-Electric Project, North	M/s Himagiri Hydro Energy Pvt.Ltd.	18/09/2006	No.J 12011/56/2006-IA.I dt. 02/01/2007	-
9	96 MW Rongichu Hydro-Electric Project, East	M/S Madhya Bharat Power Corporation Ltd.	28/10/2006	No.J 12011/56/2006-IA.I dt. 04/04/2006	Under Establishment
10	120 MW Rangit Stage-IV Hydro-Electric Project, West	M/s Jal Power Corporation Ltd.	15/12/2006	No.J 12011/11/2007-IA.I dt. 16/05/2007	Under Establishment

11	51 MW Bhasmey Hydro-Eclectic Project, East	M/s Gati Infrastructure Ltd.	15/03/2007	No.J-12011/04/2006-IA.I dt:15/05/2007	Under Establishment
12	120 MW Rammam Stage-III Hydro-Electric Project, West	M/s NSPC Ltd.	04/05/2007	No.J-12011/42/2007-IA.I dt: 17/08/2007	Under Establishment
13	96 Mw Dikchu Hydro-Electric Project, North-East.	M/s Sneha Kinetic Power Project Ltd.	16/11/2007 & 19/11/2007	No.J-12011/91/2007-IA.I dt:01/04/2008	Under Operation
14	66 MW Rangit Stage-II Hydro-Electric Project, West	M/s Sikkim Hydro Power Venture Ltd.	21/9/2008	No.J-12011/6/2009-IA.I dt:10/06/2009	Under Operation
15	97 Mw Tashiding Hydro-Electric Project, West	M/s Shiga Energy Pvt. Ltd.	18/06/2009	No.J-12011/66-IA.I dt:29/07/2010	Under Operation
16	99 Mw Ting Ting Hydro-Electric Project, West	M/s T.T. Energy Pvt. Ltd.	15/09/2010	No.J-12011/65/2006-IA. dt:04/07/2011	-
17	60 Mw Lethang Hydro-Electric Project, West	M/s KHC Lethang Project Pvt. Ltd.	16/09/2010	Environmental Clearance awaited	-
18	520 Mw Teesta Rangit Stage-IV Hydro Electric Project, North	M/s NHPC Ltd	29/03/2012	No.J-12011/67/2008-IA.I dt:09/01/2014	Under Establishment
19	15 MW Rahikyong Hydro-Electric Project, North	M/s Engineering Power Pvt.Ltd.	20/04/2017	Environmental Clearance awaited	-
<b>B</b>	<b>OTHER DEVELOPMENTAL PROJECTS</b>				
1	Martam Compost Plant, 32no.East	UD&HD, Govt.of Sikkim	29/07/2003	-	Under Operation
2	Esveegee Breweries Pvt.Ltd. Manpur, South Sikkim	M/s Esveegee	24/08/2013	No.J-11011/32/2012-IA.I I (I) dt:04/02/2015	Under Operation
3	Dhapper Bhaleydhunga Ropeway, Yangyang, South	Tourism Deptt. Govt.of Sikkim	28/05/2015	No.1051/2013-IA I I I dt:16/03/2016	Under construction
4	Tshongmo Ropeway, Changu, East Sikkim.	Tourism Deptt. Govt.of Sikkim	24/03/2016	No.1012/2014-IA I I I dt:17/12/2014	Under Operation

### **AWARENESS PROGRAMMES / SENSITISATION/ WORKSHOP:**

Generation of awareness is one of the key factors for prevention of environment pollution. SPCB-Sikkim has been deeply engaged in creating awareness through different types of programs to educate general public on conservation and preservation of Environment.

Various programs viz. Lectures, essay and painting competition, slogan completion are held among the student community. The celebration of World Environment Day, Paryavaran Mahaotsav and Ten Minutes to Earth are the regular features of SPCB-Sikkim. SPCB-Sikkim has produced environment film, environment songs, documentaries and also different environment related advertisement, films and material to educate the general masses.

SPCB has taken steps to provide dustbins to ULBs, religious institutions, tourism destination, schools and colleges etc.for keeping the locality clean.

SPCB has also taken initiative to organize exposure visits for the students to different types of industrial units to encourage them to opt for carrier in the concerned field. The Board is also bringing out appeals to generate awareness through advertisement in print and electronic media. Special visit to nearby industrial units are being arranged to the School students and local public through the management of the industry and insisting the industries to maintain transference in operating their Corporal Social Responsibility (CSR) to gain the goodwill of the public and maintain the environment.

For strict compliance of standards prescribed in the CTO, the board is engaged in regular monitoring of industrial activities. The Third Party Monitoring by an accredited consultant has been made mandatory to all the industrial units. One of the industrial unit viz. Esveegee distillery situated at Manpur has started online monitoring.

### **LEGAL CELL:**

SPCB-Sikkim has appointed two legal counsels on contractual basis to deal with the court matters including the NGT matters in addition to the Legal Counsel appointed by the State Government. In the event of any grievances the aggrieved person can approach the Appellate Authority which has been notified vide gazette notification no.138 dated: 21/11/1992.

In order to have a proper check on the pollution level of the State, the state government has brought out different notification to ensure clean and pollution free environment. The Gazette notification related to the Environment pollution prevention control and abatement brought out so far are as under:-

Sl.No.	Subject	Notification No.
1	Ban on sale and use of Plastic bags	GOS/UD^HD/97-98 (85) dated 04/06/1998.
2	Ban on bursting of fire crackers	544 dated 19/12/2014.
3	Prohibition on burning of agricultural waste, leaves, forest litter, paper waste and garbage	13 dated 27/01/2015.
4	Ban on use of mineral water bottles in Government programmes.	25/Home/2016 dated 19/05/2016
5	Ban on use of Styrofoam items	26/Home/2016 dated 19/05/2016

### **FINANCIAL STATEMENT OF THE STATE POLLUTION CONTROL BOARD-SIKKIM SINCE 2007-2017.**

SL.NO.	YEAR	AMOUNT RECEIVED	EXPENTITURE
1	2007-08	Rs.92698670	Rs.77317217
2	2008-09	Rs.62817127	Rs.74567469
3	2009-10	Rs.39266156	Rs.41550661
4	2010-11	Rs.30364850	Rs.24267855
5	2011-12	Rs.28645018	Rs.19364942
6	2012-13	Rs.25418308	Rs.11281835
7	2013-14	Rs.22255067	Rs.11747672
8	2014-15	Rs.23433457	Rs.13517162
9	2014-15	Rs.30451265	Rs.12067888
10	2015-16	Rs.22235667	Rs.14148707

#### **(4) State Biodiversity Board:**

The Sikkim Biodiversity Board (SBB) was established as a statutory body under the government in 2006, after notification of the Sikkim Biological Diversity Rules in 2006, to enable (i) Conservation of our biodiversity, (ii) Sustainable use of bio-resources and (iii) Fair and Equitable Sharing of Benefits under an Access and Benefit Sharing (ABS) mechanism. Headquartered in Forest Secretariat, Deorali, Gangtok, its principal mandate is the establishment of grass-root level Biodiversity Management Committees (BMCs) at GPU level, whose priority is documentation of the existing bio-resources including traditional knowledge holders, village elders, etc. in People's Biodiversity Registers (PBRs), among several other activities such as identification of Biodiversity Heritage Sites (BHS).

Over the decade, annual celebration of International Biodiversity Day in all districts is a regular phenomenon. In 2010 the International Year of Biodiversity (IYB-2010), a One-Species-Per-Day initiative in local media was successfully carried out and was the only one of its kind in the country. A unique exhibition on Seeds and Stamps on Biodiversity was organized, as were others like "Sikkim: an Island in the Sky".

Documenting of Heritage Trees of Sikkim started in 2009; Pictorial Field Guides (Books) on Mushrooms of Barsey Rhododendron Sanctuary and Ferns & Fern Allies of Sikkim; Posters on Butterflies, State Symbols, Endangered Wildlife of Tso Lhmo Plateau; Compilation of lists of Threatened Species of Sikkim for formal notification by MoEFCC.

The SBB secured a UNEP-GEF-MoEFCC-ABS project "Strengthening the Implementation of the Biological Diversity Act with focus on its Access & Benefits Sharing Mechanism" and along with Grant-in-Aid from the Government of Sikkim formed 28 BMCs to date; one PBR facilitated by Foundation for Revitalizing of local Health Traditions (FRLHT) Bengaluru; four more PBRs in the pipeline; a batch of Village Botanists trained by FRLHT, documentation of Tradeable Bio-resources; at least two ABS Agreements in pipeline.

#### **Gist of Achievement of SBB:**

- Activities:**
1. Formation of Biodiversity Management Committees: 28 BMCs at GPU level.
  2. Preparation of one People's Biodiversity Register by Lingee Sokpay BAC, South Sikkim, three more in the making for 03 BMCs.
  3. Awareness programmes at various level for Panchayats, Line Departments, Research institutions, local entrepreneurs and legislators of Sikkim; use of media such as All India Radio (AIR), Gangtok.
  4. Organized training and workshops.
  5. Hosting of website at: [www.sbbsikkim.nic.in](http://www.sbbsikkim.nic.in); launched during International Seminar on Khangchendzonga National Park, Chintan Bhawan, Gangtok.

### Sikkim Biodiversity Board:-

Sl.No	Particulars	Details
<b>1</b>	Name of Circle/Division/directorate/Other	Sikkim Biodiversity Board
<b>2</b>	Function and Objectives	Implementation of Biological Diversity Act 2002
<b>3</b>	Plan and Non-Plan allocations	<p>PLAN (CESS): Rs.15.00 lakhs</p> <p>Funded by NBA</p> <ol style="list-style-type: none"> <li>1. Celebration of IBD: Rs.3.5 lakhs</li> <li>2. Outsourcing of fund: Rs.71,080/- + Rs.7,86,597 (BF)</li> </ol> <p>Projects:</p> <ol style="list-style-type: none"> <li>1. NMHS Project: Rs.2,71,100/-</li> <li>3. UNEP-GEF-MoEF-ABS Project: Rs.32,49,000/-</li> </ol>
<b>4</b>	Work implemented at (location)	Across Sikkim
<b>5</b>	Activities Undertaken during 2016-17	<ol style="list-style-type: none"> <li>A. Formation of 03 BMCs</li> <li>B. Awareness programmes</li> <li>1. One day awareness programme on ABS consultation at Mangan on 09.05.2016 under UNEP-GEF-MoEF-ABS Project</li> <li>2. Training on Economic valuation: Lachung on 17.05.2016 and Lachen on 19.05.2016</li> <li>3. Celebration of International Biodiversity Day on 22.05.2016</li> <li>4. One day workshop on Cross Sectoral Policy at Mayfair Resort on 18.06.2016</li> <li>5. One day training cum Negotiation skills on 28.06.2016</li> <li>6. Village consultation programme for finalization of PBR at West Pendam on 04.12.2016</li> <li>7. Training on BD profile oat Gyaten Karmataar BMC on 10.02.2017</li> <li>8. One day awareness programme for formation of BMC at Sherathang on 20.06.2016</li> <li>9. Meeting on Marketing of Medicinal Plants with stakeholders on 25.10.2016</li> <li>10. Awareness programme for Member Secretaries of BMC by nodal officers <ul style="list-style-type: none"> <li>Geyzing: 09.02.2017</li> <li>Mangan: 11.02.2017</li> <li>Namchi: 24.02.2017</li> <li>Gangtok: 13.02.2017 for East Division</li> <li>23.02.2017 for KNP Division</li> </ul> </li> </ol>

## **(5) SIKKIM STATE WETLAND AUTHORITY (SSWA)**

The Wetlands are important aquatic ecosystems, vital parts of the hydrological cycle, highly productive, support large biological diversity, provide a wide range of ecological services, such as water purification, aesthetic enhancement of landscape, source of fresh water in the hills, support many significant recreational, social and cultural activities.

Therefore, Sikkim State Wetland Authority(SSWA) as a Nodal Agency, with Hon'ble Minister, Forest, Environment and Wildlife Management Department as Chairman was constituted vide Notification No.347/GOS/FEWMD dated 30/03/2016.

### **1. Regulation:**

- (i) to regulate and control all activities detrimental to maintenance of biodiversity and other ecological components, processes and services of wetlands;
- (ii) to ensure compliance with the existing National e.g. Wetland (Conservation) and Management) Rules, 2010 and State level regulatory frameworks related to wetlands.
- (iii) to approach the State Government for enactment of any regulation for achieving conservation and sustainable management of wetlands in the State.

### **2. Wetland Management:**

- i) to coordinate and facilitate implementation of the following activities (within the ambit of site management plants) by organizations, institutions, departments, and local communities, namely:-
  - (a) Restoration of hydrological regimes, including improvement of water quality:
  - (b) Control of silt load from catchments:
  - (c) Management of plant and animal invasives:
  - (d) Ecological restoration and habitat improvement:
  - (e) Sustainable development of capture and culture fisheries:
  - (f) Livelihood improvement and disaster risk reduction with communities living in and around wetlands.
- ii) To work towards resolution of trans boundary, trans catchment and multi-stakeholder conflicts:
  - (a) to develop and maintain a wetland inventory, assessment and monitoring system, based on scientific guidelines, to assess and respond to changes in wetland components, processes of services;
  - (b) to commission strategic environmental assessments for developmental projects likely to create detrimental impacts on wetland biodiversity and ecosystems of services;
  - (c) to collect and disseminate periodic reports on status of wetlands of the State.

(6) **STATE MEDICINAL PLANTS BOARD (SMPB):**

A National Level Body as Medicinal Plants Board was set up vide resolution No.18020/19/97 dated November 2000 by the Department of Indian System of Medicine & Homeopathy, Ministry of Health and Family Welfare, Government of India to look after formulation of Policy, overall coordination and to ensure sustained availability of medicinal plants, their *in-situ* and *ex-situ* conservation and to harness their export potential.

Subsequently, the State Government of Sikkim constituted the State Medicinal Plants Board vide Notification No. 100/FEWD dated 20/06/2002 under the chairmanship of the Chief Minister and the Minister, Forest, Environment and Wildlife as vice Chairman and members drawn from departments like Health and Family Welfare, Science and Technology, Agriculture, Horticulture, Forest, members from Regional Research Centre (Ayurvedic), Botanical Survey of India and two non official members. The Principal CCF-cum-Secretary, Forests was appointed as the Chief Executive Officer and Member Committee was constituted under the Chairmanship of the principal CCF-cum-Secretary Forests under the State Medicinal Plants Board.

The State Medicinal Plant Board has been constituted to oversee formulation of projects/schemes related to medicinal plants, implementation of such schemes for cultivation of medicinal plants, their collection, storage and marketing research, protocol for cultivation and quality control and protection of Intellectual Property Rights and other issues related to the medicinal plants.

Till date 26 (Twenty six) nos. of projects are undertaken by SMPB with a total estimated cost of Rs. 3113.07 lakhs allocated by National Medicinal Plant Board as Grant-in-aid for the promotion of medicinal plants sector in the state. The Government of Sikkim has banned the commercial exploitation of naturally growing medicinal plants from forest areas except from those areas under plantation through NTFP vide Notification No.376/FEWMD dated 7<sup>th</sup> August, 2006.

Important activities of SMPB/NTFP includes:

1. Promotion of medicinal plants cultivation
2. Production of quality planting material.
3. *Ex-situ* & *In-situ* conservation of medicinal plants.
4. Support to community on processing, value addition & marketing of medicinal plants
5. Conservation and Resource augmentation of Rare, Endangered and Threatened (RET) medicinal plants species in high demand, especially in high altitude areas.

6. Training, awareness and capacity building of stake holders.
7. Survey, inventorisation and quantification of medicinal plants.
8. Promotional activities viz. home herbal gardens.

Names of some of the concerned **species in Sikkim** (as per CAMP workshop organized by Non-Timber Forest Produce, Forest Environment and Wildlife Management Department Government of Sikkim in collaboration with FRLHT, Bengaluru) are as follows:

**Endangered:**

1. *Panax sokpaiyensis*
2. *Allium wallichii* Kunth
3. *Fraxinus floribunda*
4. *Saussurea obvallata*
5. *Swertia chirayita*
- 6.

**Vulnerable:**

1. *Aconitum ferox*
2. *Bergenia purpurascens*
3. *Dioscorea deltoidea*
4. *Ephedra gerardiana*
5. *Flickingeria fugax*
6. *Fritillaria cirrhosa*
7. *Gymnadenia orchidis*
8. *Hippophae salicifolia*
9. *Hodgsonia heteroclita*
10. *Jurinea macrocephala*
11. *Litsea citrata* Blume
12. *Malaxis acuminata*
13. *Malaxis muscifera*
14. *Nardostachys jatamansi*
15. *Neopicrorhiza scrophulariiflora*
16. *Ophiocordyceps sinensis*
17. *Panax bipinnatifidus*
18. *Paris polyphylla*
19. *Platanthera edgeworthii*
20. *Podophyllum hexandrum*
21. *Polygonatum cirrhifolium*
22. *Polygonatum verticillatum*
23. *Rhododendron anthopogon*
24. *Saussurea gossypiphora*
25. *Valeriana jatamansi*
26. *Zanthoxylum acanthopodium*

The Sikkim Himalaya represents extremely unique eco-system rich in medicinal plant wealth associated with Ayurveda, Folk, Homeopathy, Siddha, Amchi (Tibetan) and Unani system of medicines. It is reported to have more than 1681 species of various medicinal and aromatic plants which have strong traditional system of medicines in Sikkim. As such the medicinal plants have traditionally occupied as important position in the socio-cultural, spiritual and medicinal area of the people in the State.

### **Non Timber Forest Produce (NTFP) / State Medicinal Plant Board (SMPB):**

All such schemes / projects are implemented by the NTFP Circle of the Department in areas under jurisdiction of the State Forest Department.

#### **1. Work carried out under the following Schemes/Projects during 2016-17**

<b>Sl, No</b>	<b>Schemes</b>	<b>Physical Achievement</b>	<b>Financial Achievement</b>
1	In-situ conservation of rich medicinal plants resource areas in the natural habitat and Establishment of Medicinal Conservation Area of High Altitude medicinal plants species	800 Ha	Rs. 19.04 lakhs
2	Conservation, Development and Sustainable Management of selected Rare, Endangered & Threatened (RET) species of Medicinal Plants through Ex-situ Conservation in Forest areas	Rs. 300 Ha	Rs.259.43 lakhs
3	Resource augmentation of selected species of medicinal Plants (Tree, shrubs and herbs) in Alpine and Sub-Alpine Forest, North District, Sikkim	125 Ha	Rs. 106.89 lakhs
4	Financial assistance to Joint Forest Management committee (JFMC) for value addition, warehousing and marketing	14 Units	Rs. 106.76 lakhs

<b>Sl.No</b>	<b>Particulars</b>	<b>Details</b>
1	Name of Circle/Division/Directorate/Other	Non-Timber Forest Produce (NTFP)
2	Function and Objectives	Implementation of Central Sector Scheme funded by National Medicinal Plants Board. The objectives are to promote and conserve important medicinal plants and biodiversity in their natural habitat through natural regeneration.
3	Plan and Non-Plan allocations	Central Sector Scheme
4	Work implemented at (location)	In-situ conservation of rich medicinal plants resource areas in the natural habitat and establishment of Medicinal Conservation Plants Area of High Altitude medicinal plants species” Project No. CONS/SK-01/2013.  North: In-situ -350 Ha MPCA at Lasher Valley, Lachen RF 50 Ha MPCA at Chotang, Lachen RF  East : In-situ -100 Ha MPCA at Nakchok Tamzey RF  South: In-situ-250 Ha MPCA at Mamring RF  West: In situ -50 Ha MPCA at Sipsu RF
5.	Activities Undertaken	Floristic survey, preparation of final report of CAMP workshop by FRLHT, Bengaluru, Training and Capacity building of JFMCs & Field staffs, awareness campaign in districts, Monitoring
6.	Physical Achievement	Establishment of Medicinal Plants Conservation Area.
a)	With Particular reference to functions of the Department	-
b)	With Particular reference to the Plan schemes in Financial and Physical terms	Physical - 800 Ha Financial- Rs. 19.04 lakhs
7.	Mention Other Achievement, Innovations, Reforms etc of significant natures	Organized ‘Conservation Assessment & Management Prioritization; Workshop (Camp Workshop) in order to assess the threat status of important medicinal plants found in Sikkim Himalayas.
8.	Tangible Outputs	Establishment of 800 Ha. Medicinal Plants Conservation Area in all the four Districts of Sikkim.
9.	Intangible outputs	Protection and Conservation of high valued important medicinal plants.
12	Write -	Activities conducted are, floristic survey of medicinal plants by experts , Training and Capacity building of JFMCs & Field staffs, awareness campaign in districts, Monitoring

Sl.No	Particulars	Details
1	Name of Circle/Division/Directorate/Other	Non-Timber Forest Produce (NTFP)
2	Function and Objectives	Implementation of Central Sector Scheme funded by National Medicinal Plants Board. The objectives are to promote and conserve important medicinal plants and biodiversity in their natural habitat through natural regeneration.
3	Plan and Non-Plan allocations	Central Sector Scheme
4	Work implemented at (location)	Conservation, Development and Sustainable Management of selected Rare, Endangered & Threatened (RET) species of Medicinal Plants (Trees, shrubs and herbs) in different altitudinal zones of Forest areas Project No: CONS/SK-01/2014 <b>North:</b> Katow/Lachung RF Talam/Lachen RF <b>East :</b> Nakchok, Tamzey, RF Tamzey RF <b>South:</b> Suminkhor RF Turung Khas R.F Choktey R.F Mamring R.F Kabrey R.F Jholungay R.F. Boteytar RF. Kalsing RF Tinkitam RF <b>West:</b> Sipsu Zoom RF Darwa Maneyping RF
	Activities Undertaken	1. Plantation of Perennial Herbs and Shrubs having medicinal values in Alpine Forest. 2. Mixed Plantation of trees having medicinal values in Sub-Alpine Forest.
6.	Physical Achievement	North : 110 Ha East: 100Ha South 45 Ha West: 45 Ha
a)	With Particular reference to functions of the Department	NIL
b)	With Particular reference to the Plan schemes in Financial and Physical terms	Physical: Rs. 300 Ha Financial : Rs. 259.43 lakhs
7.	Mention Other Achievement, Innovations, Reforms etc of significant natures	Regeneration through Ex-situ Conservation of Rare, Endangered and Threatened spp. Of herbs, shrubs and trees having high medicinal and aromatic value.
8.	Tangible Outputs	In regeneration and Conservation stage.
9.	Intangible outputs	Conservation of bio-diversity.
10.	Policy/Notification/Publication( if any)	--
12	Write up-	Conservation and promotion of highly valued medicinal and aromatic potential through artificial regeneration.

Sl.No	Particulars	Details
1	Name of Circle/Division/Directorate/Other	Non-Timber Forest Produce (NTFP)
2	Function and Objectives	Implementation of Central Sector Scheme funded by National Medicinal Plants Board. The objectives are to promote and conserve important medicinal plants and biodiversity in their natural habitat through natural regeneration.
3	Plan and Non-Plan allocations	Central Sector Scheme
4	Work implemented at (location)	Resource augmentation of selected species of medicinal Plants (Tree, shrubs and herbs) in Alpine and Sub-Alpine Forest, North District, Sikkim  North: Yangru-Pang Thangu RF, Thumbuk Thangu RF Thangu-Book Thangu RF
5.	Activities Undertaken	1. Plantation of Perennial Herbs and Shrubs having medicinal values in Alpine Forest. 2. Mixed Plantation of trees having medicinal values in Sub-Alpine Forest.
6.	Physical Achievement	North : 125 Ha
a)	With Particular reference to functions of the Department	-
b)	With Particular reference to the Plan schemes in Financial and Physical terms	Physical: 125 Ha Financial : Rs. 106.89 lakhs
7.	Mention Other Achievement, Innovations, Reforms etc of significant natures	Regeneration through Ex-situ Conservation of Rare, Endangered and Threatened spp. Of herbs, shrubs and trees having high medicinal and aromatic value.
8.	Tangible Outputs	In regeneration and Conservation stage.
9.	Intangible outputs	Conservation of bio-diversity.
10.	Policy/Notification/Publication( if any)	--
12	Write up-	Conservation and promotion of highly valued medicinal and aromatic potential through artificial regeneration.

Sl.No	Particulars	Details
1	Name of Circle/Division/Directorate/Other	Non-Timber Forest Produce (NTFP)
2	Function and Objectives	Implementation of Central Sector Scheme funded by National Medicinal Plants Board. The objectives are to promote and conserve important medicinal plants and biodiversity in their natural habitat through natural regeneration.
3	Plan and Non-Plan allocations	Central Sector Scheme
4	Work implemented at (location)	Financial assistance to Joint Forest Management committee (JFMC) for value addition, warehousing and marketing. North: Lachen School, Lachen, Dzumsa, Bop, Tomchi, Zeguphek, Thang, Naga, Mangshila, Ringim, Lingchom-Tingda, Labi Bakcha, Men-Rongong Romthang, Tanek, Namshing East: 7 <sup>th</sup> Mile G.N. Road, Kyongnosla, Changu, Yakla, Kupuk, Gnathang South: Nil West: Nil
5.	Activities Undertaken	Construction of Drying sheds and Processing and grading units (sheds)
6.	Physical Achievement	i. Construction of Drying sheds: 12 nos. ( HA) Processing/grading units (sheds): 2 nos.
a)	With Particular reference to functions of the Department	-
b)	With Particular reference to the Plan schemes in Financial and Physical terms	Physical: 14(Fourteen) Units Financial : Rs. 106.76
7.	Mention Other Achievement, Innovations, Reforms etc of significant natures	
8.	Tangible Outputs	To promote medicinal plants production and marketing in National and International markets
9.	Intangible outputs	Sustainable conservation to ensure self sufficiency to regulate supply in perpetuity.
10.	Policy/Notification/Publication( if any)	--
12	Write up -	Encourage JFMCs for more production, income generation and solve unemployment.

**\*HA- High Altitude**



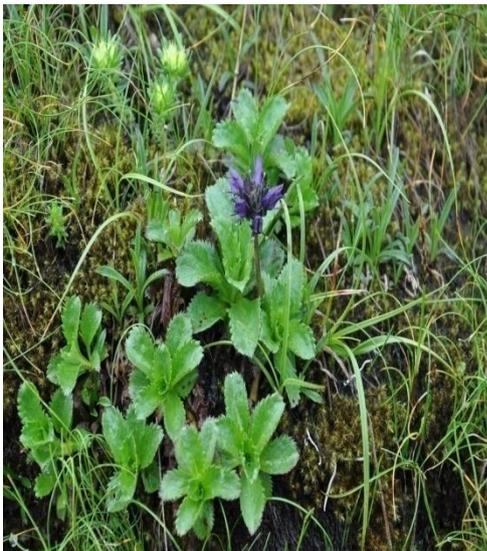
*Kutki*



*Aconitum ferox*



*Nardostachyas*



*Picrorhiza Kurooa*



*Seabuckthorn*

# **SCHEMES / PROJECTS:**

## Chapter - 27

### I. Centrally Sponsored Schemes:

#### **1. Promotion and development of Ecotourism in Fambonglho Wildlife Sanctuary, Golitar. Pangthang, East Sikkim (NEC 100%) Approved Cost: Rs.394.63 lakhs**

The Fambonglho Wildlife Sanctuary established during 1984 and the main entry point is at Golitar. It is easily accessible by road, as it falls on the Pangthang - Dikchu/Samdong route. Total area of the Sanctuary is 51.76 sqkm with an altitudinal variation of 1500 to 2750 mts. The major significance of Fambonglho Wildlife Sanctuary is that, apart from being a habitat for number of schedule I animals, the sanctuary is also the drinking water source for the numerous villages and small towns surroundings the Sanctuary. This is the nearest protected area with the largest tract of green cover in front of the state Capital, Gangtok. With an aim to generate incentives to local communities for nature conservation through alternative income source and livelihoods and to generate employment to local communities to manage ecotourism with an emphasis on economically disadvantaged people, the assets in the form of structures within the Golitar complex such as Eco Huts-4Nos, Cafeteria-1No, Domitory-1No, Camping ground and Nature Interpretation Centre Kitchen, Dining. Approach & footpaths inter-connecting different structures and welcome gate, etc. have been constructed. Water supply, landscaping and trekking trail works towards Tin jurey have also been completed in the complex. The work as per the DPR have been completed and for making these properties created at Golaitar, Fambonglho Wildlife Sanctuary functional and productive on a sustainable ecotourism practice, the

proposal for a open tender have been processed for approval of the Government.



Interpretation centre.



Eco Huts.



Trail & veiw point.



## 2. Establishment of Sidkeong Tulku Bird Park, Rabdentse, West Sikkim (ACA/SPA)

Approved Cost: Rs.603.02 lakhs (SPA 507.71 lakhs & State Share Rs.95.31lakhs)

The Bird Park at Rabdentse, West Sikkim is named after Sidkeong Tulku the 10th Chogyal of Sikkim and founding father of modern forestry in the state, whose significant reign was the cornerstone for conservation ideas of Sikkim Forestry. The famous Monastery called Pemayangtse is situated about 2 kms north of the Bird Park and an archaeological ruins of the ancient second capital of Sikkim is located adjacent to the Park.



Walkthrough aviary

Project components of the Park are entrance plaza with compound wall, gate & security room, nature peripheral & service road trails, visitors pathways, resting shed, cafeteria with attached toilets, nocturnal house, information centre, bird clinic, research centre & staff quarter, walkthrough aviary, water tanks, drinking water taps in different points. Keep numbers of birds spices in near-natural ambience and can simulate a natural environments with of birds spices in near-natural ambience and can simulate a natural environments with vegetation sufficiently inside the enclosure.



Pheasants in its enclosure

Walkthrough aviary is a large enclosure of arch shape of length 450m and height 10 mtr from the hill side and from the centre of the arch it is 38 mtr which is very necessary to The birds inside the enclosure have been housed with an attached shelter and also the enclosures are constructed in such way that the bird can have sufficient freedom and fly freely.



Enrichment for Pheasant

In view of the Tourist flow towards Pelling, Dentam and Yuksam the location of the Sidkeong Tulku Bird Park have a good potential to attract the tourist for a while. Therefore, the ticketing to the visitors for entering into the Bird Park and operating /running of Cafeteria inside the Park is hereby proposed to put an open tender for lease out the property. However, the maintenance of the Bird Park particularly the zoological portion of the aviary shall remain under the control and supervision of Wildlife Division West.

Development of Eco-Tourism and Allied Activities at Chauridara, Green Village in South Sikkim (NEC grant @ 90:10%)Approved cost:Rs.363.41 Lakh (NEC:Rs.327.07 lakhs and State Share : Rs.36.34 lakhs)

Sl. No	Activity wise	UC upto 31 <sup>st</sup> June, 2017	
		Target	Achievement
1.	Construction of Traditional Huts	3 Nos.	60% of Work completed
2.	Construction of Resting Sheds/Gazebos	1 No.	60% of Work completed
3	Construction of Entry gate	1 No.	60% of Work completed
4	Trekking trail	4 km	Work completed

Fund utilized till date: Rs.259.86 lakhs (NEC: Rs.223.52 lakhs and State Rs.36.34 lakhs) overall 70% of works has been completed.

### 3. Eco-development of Riverside Recreation and Picnic Spot at Kitchu Dumra Lower Kamrang, Namchi, South Sikkim.

The Hon'ble Chief Minister had conceptualized for establishment of **Eco-development of Riverside Recreation and Picnic spot at Kitchu Dumra Lower Kamrang** during his visit to Kamrang, Namchi. On the spot HCM had directed to the Forests and Tourism authorities to prepare DPR for development of State Level Picnic Spot along with allied works.

Detail Project Report (DPR) of **Rs.780.80 lakhs** was prepared and approval of the Government was accorded on 01/XII/2012. Out of total approved project cost of Rs.780.80 lakhs, Phase-I (2011-12) & Phase II (2013-14) of the project works amounting to Rs.350.00 crores has been completed.

#### **Project components completed till date are as under:**

- a. Reception Block,
- b. Boundary wall,
- c. Development and site leveling,
- d. Utility Block,
- e. Swimming pool (1 with 405 sqm)
- f. 405 sqm deck with shower,
- g. Infinity pool with public convenience,
- h. External water supply with reservoir tank.
- i. Ground Circular walkways
- j. Tree walkways/viewing deck.

The assets so established at Kitchu Dumra would enhance the Quality of Life and facilities to the locals with encouragement of outdoor activities (at a time of indoor life with internet and movies), social bonding and Healthy Food Habits and being with Nature. It can be a place for nature interpretation with fun and food. With mostly tourist spots in Sikkim being at higher altitude, this location can provide alternative activities to the tourists at lower elevation visiting South and West Sikkim with sub tropical climatic conditions.

Therefore, the proposal of making the **Eco-development of Riverside Recreation and Picnic spot at Kitchu Dumra Lower Kamrang** functional through marketing by way of open tender to lease out for issuing of entry ticket to the visitors to enter into the complex and operating of two swimming pools inside the Picnic spot, the proposal has been under process for approval of the Government.



Reception Block



Swimming Pool



Raised viewing Deck

#### 4. Works carried out under Integrated Forest Management Scheme during 2016-17.

Sl.No.	Work component.	Target		Achievement	
		Physical	Financial	Physical	Financial
1	Fire line maintenance.	349.2 km	13.97	349.2km	12.09
2	Engagement of fire watchers	80 nos	19.2	80 nos	16.32
3	Control burning	349 km	10.47	349 km	9.24
4	Fire camps	19 nos	9.5	19 nos	8.50
5	Water storage tank	4 nos	16	4 nos	16.00
6	Publicity of electronic media.	20 nos	3	0	0.00
7	Awareness camp.	40 nos	4	0	0.00
8	Publicity in print media.	75 nos	3.75	0	0.00
9	Fire mapping / monitoring and evaluation	8 nos	2	0	0.00
10	Construction of Range office cum Qtr.	1 no	15	1 no	15.00
11	Up gradation of Range Office cum Qtr.	1 no	3	1 no	3.00
12	Up gradation of Block Office cum Qtr.	1 no	3	1 no	3.00
13	Up gradation of Forest Check Post.	1 no	3	1 no	3.00
14	Survey of khasmal & Goucharan lands.	50 km	10.25	50 km	10.2455
15	Checking of re-survey of RF boundary.	80 km	16.4	80 km	16.40
16	Implementation of working plan.	4 divisions	10	0	0.00
	Total (A)		142.54		112.79
	Contingency (5%)		7.1269		0.26
	Total (B)		149.66		113.05
	Flexi fund		16.63		5.22
	Grand Total (A+B)		166.29		118.27

## 5. SERICULTURE:

### **INTENSIVE BIVOLTINE SERICULTURE DEVELOPMENT PROJECT UNDER NERTPS implemented by Directorate of Sericulture Forest, Environment & Wildlife Management Department, Govt. of Sikkim during 2015-16 onwards.**

Directorate of Sericulture, Forest Environment & Wildlife management Department has been implementing a project called “**Intensive Bivoltine Sericulture Development Project (IBSDP)**” for a period of 3 years effecting from 2015 in South and West Sikkim. 1000 women beneficiaries who are interested in silkworm rearing and sericulture activities are involved in this project. They are given technical training in silkworm rearing and provided support. They have to produce silkworm cocoon for their livelihood as it is sold in the present market at the prize ranging from Rs. 200 to Rs. 500/- depending upon commercial and seed production. One farmer have to plant 2500 hundreds mulberry plants in 0.5 acres for rearing 125 disease free layings (dfles)/ Silkworm eggs of silkworm and producing cocoon worth average Rs. 30,000/- annually.

The tentative project areas of West and South adopted for IBSDP since 2015 onwards are as under;

Sl.No.	District:	No. of GPUs, Ward/Village:	Under GVKs:
1.	West:	Bayong, Tikpur, Siktam & Sombaray	Sombaria.
		Resi, Zoom,Peepalay, Suldung & Kamling	Chakung.
		Vok, Omchu, Sikhhip	Sikhhip
		Yangsum, Meyong, Megyong, Chingthang & Berfok	Hee Martam
		Malbasay, Tharpu, Budang, Nerdang	Soreng.
1.	South:	Namthang, Karek, Jholongay, Phongla, Bikmat,	Namthang.
		Pamphok, Rong Bul, Singtam.	Namchi.
		Polok, Borong, Jarong	Ravongla
		Poklok, Samsaybong, Chisopani, Nandugaon	Namchi
		Melli, Sumbuk	Sumhuk.
<b>Total:</b>	<b>2</b>	<b>Village= 38 Nos.</b>	<b>12 Nos.</b>

The details of the work carried out under the IBSDP during the financial year 2016-17 is as follows,  
Rs in Lakhs

#	Particulars	Head	Unit	Unit Cost	Target		Total achievement made upto June, 2017			Remarks
					Phy Target	Fin Target	Phy Achv	Fin Achv	Unspent balance	
<b>A</b>	<b>Organisation of Women Groups &amp; Sensitization</b>									
1	Social Mobilisation & Group formation including thrift fund through CBOs, Honorarium for Mahila Resham Karmis and Para Extension Worker.(Unit cost is worked out for a Cluster Level Association comprising 200 Women members for 3 years period)	R	No of Cluster Level Agencies	35,42,000	1	34.42	1	34.42	0.00	Completed
2	Support for organizing Women Sericulture Co-operative Society	R	LS			1.00		1.00	0.00	Completed
	<b>Sub-total</b>					<b>35.42</b>		<b>35.42</b>	<b>0.00</b>	
<b>B</b>	<b>General awareness, gender sensitization and activation</b>									
1	Women Education Programme at the group level	R	Nos	10,000	10	1.00	10	1.00	0.00	Completed
2	Organisation of Workshops @ one workshop/ 50 women	R	Nos	30,000	4	1.20	4	1.20	0.00	Completed
3	Organisation of Group discussions/ camps @ one camp / 100 women.(4 camps per year for 3 years)	R	Nos	5,000	24	1.20	24	1.20	0.00	Completed
4	Kits for Teaching Aids & Healthcare (1 kit per SHG of 20 Members)	R	Nos	25,000	10	2.50	10	2.50	0.00	Completed
	<b>Sub-total</b>					<b>5.90</b>		<b>5.90</b>	<b>0.00</b>	
<b>C</b>	<b>Capacity Building &amp; Skill Upgradation</b>									
1	Training for Extension Staff	R	LS			0.66		0.66	0.00	Completed
2	Orientation training for 50 Mahila Resham Karmis	R	Nos	10,000	10	1.00	10	1.00	0.00	Completed
3	Training for Women Sericulturists & Weavers	R	Nos	5,000	200	10.00	200	7.198	2.80	Under progress
4	Exposure Visit for progressive Sericulturists	R	Nos	5,000	20	1.00	20	1.00	0.00	Completed
	<b>Sub-total</b>					<b>12.66</b>		<b>9.86</b>	<b>2.80</b>	
<b>D</b>	<b>Support to Individual Sericulturists</b>									
1	Support for development of Kisan Nursery	R	Acres	1,20,000	4	4.32	4	4.32	0.00	Completed
2	Support for Mulberry Plantation Development	R	Acres	52,170	85	44.34	78.5	40.94	3.40	Under progress
3	Maintenance/ rejuvenation of existing Mulberry Plantation	R	Acres	40,610	75	23.92	75	23.92	0.00	Completed
4	Assistance towards fencing of Mulberry Gardens	R	Acres	10,000	160	14.40	100	9.00	5.40	Under progress
5	Support for construction of Vermicompost shed @ 5 units/ group of 20 Women 90:10	R	Nos.	20,000	50	9.00	50	8.74	0.26	Completed

6	Assistance for irrigation and other Water Conservation and usage techniques @ 1 unit for 4 Women Sericulturists 90:10	C	Acres	25,000	50	11.25	50	11.24	<b>0.01</b>	Completed
7	Supply of Rearing Appliances ( including improved mountages) / farm equipments to farmers ) 100%	C	Acres	50,000	100	50.00	100	50.00	<b>0.00</b>	Completed
8	Construction of Rearing House 80:20	C	Nos.	1,00,000	200	160.00	200	<b>145.92</b>	<b>14.08</b>	Under progress.
9	Construction of Mounting hall 80:20	C	Nos.	50,000	200	80.00	200	<b>74.28</b>	<b>5.72</b>	Under progress.
	Sub-total					<b>397.23</b>		<b>368.36</b>	<b>28.87</b>	
<b>E</b>	<b>Support for creating Linkages</b>									
1	Assistance for raising & maintenance of Chawkie gardens, construction of Chawkie Rearing Centre (CRC) with equipments and Incubation Centres	C	Nos.	13,00,000	2	26.00	2	8.62	<b>17.38</b>	Under progress
2	Door to Door Service Agents for Disinfection and inputs supply & Assistance for Sericulture Poly-Clinics ( One centre / 50 acres)	C	Nos.	3,00,000	2	6.00	0	0.00	<b>6.00</b>	Under progress
3	Improved Certified looms 90:10	C	Nos.	35,000	10	3.15		0.00	<b>3.15</b>	NA
	Sub-total					<b>35.15</b>		<b>8.62</b>	<b>26.53</b>	
<b>F</b>	<b>Manpower Support to RECs</b>									
1	Engaging Technical Consultants for the Cluster @ Rs.45,000/- pm for 2 Consultants for 3 years	R	Nos	5,40,000	2	7.20	1	7.20	<b>0.00</b>	Under progress
	Sub-total					<b>7.20</b>		<b>7.20</b>	<b>0.00</b>	
	Total					<b>493.56</b>		<b>435.36</b>	<b>58.20</b>	
<b>G</b>	<b>Project Implementation &amp; Monitoring</b>									
1	Project implementation, Publicity, Monitoring and Evaluation (2.5% of total project cost)	R				14.23		12.79	<b>1.44</b>	Under progress
2	Information, Education and Communication (5% of total project cost)	R				28.47		25.00	<b>3.47</b>	Under progress
3	Diagonistic study and preparation of Project Report (0.5% of total project cost)	R				13.74		0	<b>13.74</b>	NA
	Sub-total					<b>56.44</b>		<b>37.79</b>	<b>18.65</b>	
	Grand Total					<b>550.0</b>		<b>473.15</b>	<b>76.85</b>	

N.B: Utilization Certificate of Rs. 473.15 Lakhs (86.03%) out of 550.00 Lakhs (1<sup>ST</sup> year of IBSDP) has already been submitted to Central Silk Board, Ministry of Textiles, Govt. of India on 16-06-2017. The department is working efficiently on utilizing the remaining balance i.e. 76.85 Lakhs in order to send its UC before the end of the current financial 2016-17.

Likewise, Ministry of Textiles, Govt. of India had recently released 2<sup>nd</sup> instalment amounting to Rs.950.00 Lakhs in the month of Aug. 2017 for the state of Sikkim for implementing 2<sup>nd</sup> year project works of IBSDP whose works are under progress and its UC will also be submitted before the end of financial year 2017-18.

Following are the total Assistance provided to the project sericulture beneficiaries from the IBSD Project during the year 2016-17:

1. **Mulberry Plantation**;- The project beneficiary was provided 0.50 Acre of mulberry plantation also by supplying 2500 saplings from the kissan nursery . The plantation was created in the cultivable land.
2. **Maintenance of Existing mulberry plantation**;- The mulberry plantation raised by the farmers during the CDP program was rejuvenated and maintained in this program. 150 farmers who have raised but who do not have rearing houses have done it. 75 Acres of areas covered.
3. **Vermicompost**;- 1 unit of Vermicompost was provided for producing sufficient vermicompost and putting for mulberry plants to ensure better growth of silkworm food plant.
4. **Fencing**;- In order to Protect the mulberry garden from the biotic interference, 0.5 Acres of fencing at the cost of Rs. 4500/- has been provided to each beneficiaries especially to fence at the vulnerable points.
5. **Silkworm Rearing house**;- Silkworm rearing house with dimension 16 ft x 15 ft cc flooring , ekra wall and GI Roofing was provided at the cost of 80,000/- for rearing of silkworm by the beneficiaries.
6. **Mounting Hall**;- Mounting Hall especially for the Spinning by matured silkworm for cocoon was provided to beneficiary at the cost of 40,000/-. The dimension is 9 ft x 15 ft.
7. **Silkworm Rearing Tools and Appliances**; - For rearing of silkworm by the farmers, the required tools ( 45Nos. Rearing Tray, 45 Nos Collapsible montage, 45 Nos bet cleaning net, 1 for 4 flaming gun were supplied to each farmers through SIMFED.
8. **Training**;- All the selected project beneficiaries were imparted the following training.
  - A. Mulberry plantation technique and maintenance.
  - B. Silkworm rearing techniques.
9. **Exposure Visit**;- The selected farmers were taken on exposure trip to sericulturally advance and developed States like Assam and Bodoland to make them known about the sericulture practices.

**Mahila Resham Karmi**;- 10 Numbers of Mahila Resham Karmi from each SHG have been selected to coordinate the beneficiary group of 20 persons and the Sericulture Directorate for all project activities. They are paid Rs 5000/- per month for three years as honorarium.

**NGO Amar Jyoti Sewa Sammittee**;- The Selection of sericulture interested women beneficiaries, forming of Self help Group, Raising of legal awareness on women rights, mother and child health, gender sensitisation was done by NGO Amar Jyoti Sewa Sammittee of Tashiding, West Sikkim.

**6. State Level Nodal Agency (SLNA):**

Prime Minister Krishi Sinchayee Yojna (Watershed Development Component)(WDC-PMKSY) is a modified programme of erstwhile Drought Prone Areas Programme(DPAP), Desert Development Programme (DDP) and Integrated Wastelands Development Programme (IWMP) of the Department of Land Resources. This consolidation is for optimum use of resources, sustainable outcomes and integrated planning. The scheme was launched during 2009-10. The programme is being implemented as per Common Guidelines for Watershed Development Projects 2008. The main objectives of the WDC-PMKSY are to restore the ecological balance by harnessing, conserving and developing degraded natural resources such as soil, vegetative cover and water. The outcomes are prevention of soil erosion, regeneration of natural vegetation, rain water harvesting and recharging of the ground water table. This enables multi-cropping and the introduction of diverse agro-based activities, which help to provide sustainable livelihoods to the people residing in the watershed area.

Consolidated Physical & Financial Target and Achievement of PMKSY-WDC erstwhile IWMP for the F.Y. 2016-17.						
Sl.No.	Name of Activity	Unit	Target		Achievement	
			Phy	Fin	Phy	Fin
I	Soil & Moisture Conservation(SMC)					
a	ANR	Ha.	1138.6	97.92	1138.6	97.24
b	Pasture Development	Ha.	361	29.42	361	28.6
II	Vegetative & Engineering Structure		277	15.8	278	15.79
a	Brushwood checks/Drainage Line treatment	Rtm	738.44	22.15	738.44	22.13
III	Water Harvesting Structure					
a	Construction of water Harvesting Tank	No	210	122.16	174	37.05
IV	Horticulture Development	Ha.	50	3.5	30	2.68

## 7. National Mission for Green India (GIM):

### Background

The National Mission for a Green India recognizes that the climate change phenomena will seriously affect and alter the distribution, type and quality of natural resources of the country and associated livelihoods of the people. The Mission aims at addressing climate change by:

- Enhancing carbon sinks in sustainably managed forest and other ecosystem.
- Enhancing the resilience and ability of vulnerable species /ecosystems to adapt to the changing climate; and
- Enhancing adaptation of the forest dependent local communities in the face of climate variability.

### Mission Objective

The national objectives of the mission are three-fold:

- Double the area to be taken up for afforestation / ecorestoration in the next 10 years.
- Increase the GHG removals by forest (carbon sequestration).
- Enhance the resilience of the forest /ecosystem being treated under the Mission –Enhance infiltration, groundwater recharge, stream and spring flow, biodiversity value, provisioning of services (fuel wood, fodder, timber, NTFPs.etc.) To help local communities adapt to climate variability.

### Criteria for intervention

The mission envisages addressing the issue of climate change as main one of the problematic issues bothering every one. Thus the criteria for the selection of project areas under the mission will be based on

- the vulnerability to climate change projections on the forest, natural resources and life and livelihood of the people,
- potential of the areas for enhancing carbon sinks,
- enhancing the ecosystem services provided by the forest,
- recharging natural springs of hilly areas,
- enhance the forest services and
- long term sustainable use of resources.

It is proposed to implement the 25 L-2 landscape Perspective Plans at a total cost of Rs. 157.00 crore (revised from Rs 13566.24 lakhs in 2018 ) over a period of ten years from 2015-16 to 2024-2025 during which 15460 ha of degraded forests and 1596 ha of non-forest land, a total of 16956 ha will be treated and reforested/afforested. It will generate tangible benefits through livelihood interventions worth Rs. 19.77 Crore along with the intangible benefits of emission reduction, carbon sequestration, reduced soil erosion, increased water table, reduced migration and increased bio diversity. It will also have better climatic resilience of the people by better adaptation and mitigation capabilities. Accordingly, a budget of Rs. 2.99 crores was released as first installment for undertaking various activities as follows:

SI No	Activity	Amount
1	JFMC outreach activities	Rs. 0.20 lakhs
2	Micro-planning activities	Rs. 0.25 lakhs
3	Landscape survey with GIS	Rs. 42 lakhs
4	Entry Point activities	Rs 2 lakh per JFMC
5	State GIM Cell & support at Landscape	Rs 11 lakhs
6	Workshop at State level	Rs. 4 lakhs

In the approved proposal, six (6) watershed based landscape out of a total of nine (9) were selected for implementation of Green India Mission (GIM) for the period 2015-2025. They are:

1. Teesta LB/RB
2. Dik chu
3. Rani khola
4. Rangyong chu
5. Kalej khola
6. Ramam khola

Accordingly, Working Plan Circle has prepared the Perspective Plan for Green India Mission (GIM). To prepare this Perspective Plan, Baseline survey was conducted with following objectives:

- a. To understand socio economic status of communities.
- b. Understanding the drivers of degradation and measures to make positive changes.
- c. Understanding livelihood issues.
- d. Existing infrastructure and resource base in the villages.
- e. Cropping pattern and current productivity level.
- f. Existing knowledge and practices of community.
- g. Seasonality of engagements for people.

The GIS lab of Working Circle has also prepared several maps like Land Use Land Cover (LULC) maps, Forest Maps, Maps of concerned GPUs, JFMCs and EDCs, etc.

## II. Externally Aided Project (EAP):

### **Sikkim State Biodiversity Conservation and Forest Management Project (SBFP):**

Sikkim state, located between Bhutan and Nepal, is in the Eastern Himalayan region, that is a natural hot spot of biodiversity; and the number of species of flora per unit area in this region is extremely high. Despite the fact that this area constitutes only 0.2% of the entire geographic region of India, it is the habitat for nearly one-fourth of all plant species found in the country. Sikkim state lies at the foot of the eastern Himalayas and it is topographically isolated and land locked. The environment is difficult for industries to develop and much of population in the rural region continues to live in poverty. As a result, focus has been placed on developing ecotourism that utilizes the state's abundant natural environment and unique culture for serving as a summer vacation destination to escape the heat of the plains. However, the rapid growth in tourists visiting the state in recent years has markedly brought the negative impact on the natural environment.

Thus, providing a means to improve the livelihoods of local residents that comprise the poverty group and to promote the development of a sustainable socio-economy, in harmony with the natural environment, have become urgent issues.

#### **2. Objective and Summary**

The purpose of the project in Sikkim state is to conserve biodiversity, strengthen forestry management skills, and improve the income of local residents, by implementing activities such as baseline surveys, establishment of new protected areas, procurement of needed equipment's, promotion of ecotourism, and livelihoods improvement, thereby contributing to balanced socio-economic development and environmental conservation in the region. Reducing the effects of greenhouse gas effects through afforestation activities is also anticipated.

While adopting the Joint Forest Management approach with the active participation of local communities and the State Forest Department, activities to conserve invaluable biodiversity that inhabit this region are also planned in the project. The loan will be applied to biodiversity conservation activities such as baseline surveys, strengthening of the management capacity of protected areas, and promotion of ecotourism. It will also be applied to activities such as regional development and livelihoods improvement, organization and strengthening of basic activities by the State Forest Department, and consulting services.

This project will work in collaboration with the Technical Cooperation Project, "Project for Capacity Building of State Forest

Trainings Institutions and State Forest Service Colleges" started in March 2009, aimed at strengthening the skills of field forestry officers in Sikkim state. In addition, it will assist in formulating the state's ecotourism policy in cooperation with external experts.

#### **3. Executing Agency**

Department of Forest, Environment and Wildlife Management, Government of Sikkim  
Address: Forest Secretariat, Deorali, Gangtok - 737102, Sikkim, India  
Tel: +91-3592-281261, Fax: +91-3592-281778

#### 4. Planned Implementation Schedule

- (i) Scheduled project completion: March 2020 (the project will be completed with the end of biodiversity conservation and forestry management activities)
- (ii) Consulting services (supervision of works, etc.), tentative period for sending out letters of invitation: July 2010
- (iii) First tender announcement of procurement package based on competitive bidding for this project works: There is no international competitive bidding for the procurement packages of construction in this project, but procurements required for the project implementation will be conducted in order.

<b>Name of Circle</b>	Wildlife Circles – (all forest division)
<b>Division</b>	Territorial Circles – (all forest division)
<b>Directorate</b>	KNP
<b>Other</b>	Working Plan

#### Function and Objective

- Preparatory work
- Forest and Biodiversity Conservation
- Ecotourism
- Joint Forest Management
- Organizational strengthening

#### Objective

- To strengthen biodiversity conservation activities and forest management capacity including organizational strengthening of the forest department, and
- To improve livelihood for the local people by promoting sustainable biodiversity conservation

#### Plan and non plan allocation in Cr Rs.

C1: Preparatory Works	0.03
C2: Biodiversity Conservation	13.74
C3: Ecotourism	12.30
C4: Joint Forest Management	6.87
C5: Organizational Strengthening	5.82
Price escalation (for construction works, labour, purchase of equipment etc.)	1.21
Physical Contingency	6.50
Consulting Services	1.71
Taxes and Duties	1.90
General Administration	0.49
<b>Total Annual Planned allocation 15-16</b>	<b>50.53</b>

#### Work implemented at (Location)

Project being implemented in 4 Districts (East, West, North, South) and 9 divisions. The list is given below:

1. East (T)
2. East (WL)
3. West (T)
4. West (WL)

5. South (T)
6. South (WL)
7. North (T)
8. North (WL)
9. KNP

**The Main Activities undertaken under JICA assisted Sikkim Biodiversity Conservation and Forest Management Project (SBFP) during the financial year 2016-17**

**C1 Preparatory Work**

1. Preparation of 7<sup>th</sup> Annual Plan of Operation (APO) and printing of APO for fiscal year 2016-2017

**C2 Forest and Biodiversity Conservation**

1. Upgradation and procurement of Software for GIS lab.
2. “Environmental Initiatives of State Government” – prepared and book released by Hon’ble Chief Minister on 15<sup>th</sup> August 2016.
3. RBS works, survey conducted in Kyongnosla Alpine Sanctuary.  
Rapid Biodiversity Survey conducted at Kyongnosla Alpine Sanctuary, East Sikkim by the Survey Team, SBFP



**Survey team laying plots and recording data**



**Survey team in the habitat of *Sassureaobvallata* (left) and *Aconitum* species (right)**



**Survey team measuring girth of a tree (Left) & taking photograph of Pica (right)**

4. Study of a Musk Deer as a Flagship species in Panch Pokhari, Khangchendzonga National Park, and North Sikkim was undertaken.
5. Study of flagship species i.e. Red Panda started in collaboration with WWF.
6. Training of ACF, RO & BO on Remote Sensing at NRSC Hyderabad was conducted.
7. Training on field survey techniques for the Red Panda studies at Okhrey, West Sikkim conducted by WWF.
8. Khangchendzonga National Park was nominated as a UNESCO World Heritage Site.
9. Construction of Lhatey Lhakhang at Dzungri, Khangchendzonga National Park.
10. Beautification at Entrance Gate of Himalayan Zoological Park.
11. Progress and Construction of Administration Building and Rescue Centre at Himalayan Zoological Park, Bulbuley, East Sikkim.
12. E-Tender for the Construction of proposed Butterfly Park at Rangrang was conducted.
13. Wildlife Population estimation in Sikkim started.

### **C3 Ecotourism**

1. Organized 2<sup>nd</sup> follow up ecotourism festival at Nampong, Lingdok, East Sikkim from 12<sup>th</sup> to 13<sup>th</sup> March, 2016.
2. Organized Sikkim Organic Ecotourism Workshop at Budang, East Pendam on 18<sup>th</sup> March, 2016.
3. Organized 3 days Basic Interpretative Guide Training at Budang, East Pendam from 18<sup>th</sup> to 20<sup>th</sup> April, 2016.



4. Organized follow up training at Budang, East Pendam from 2<sup>nd</sup> and 3<sup>rd</sup> May, 2016.
5. Organized Coordination meeting with the Tourism & Civil Aviation Department along with the key stakeholders to discuss on Ecotourism and other related matters on 10<sup>th</sup> of May, 2016.
6. Two weeks Basis Rafting training for the stake holders from Kitam (organized by Teesta Rangit River Rafters Welfare Association) at Melli



7. Organized one day sanitation and awareness workshop on ecotourism for the taxi driver of Gangtok at M.G. Marg on 30<sup>th</sup> of August, 2016.
8. Organized Trekking Guide Training at Budang, East Pendam on 6<sup>th</sup> of September, 2016
9. Study for Solid Waste Management in ecotourism area to be conducted by IIT Guwahati has been approved.
10. Participated in TTF (Travel & Tour Fair) at Mumbai from 15 to 17<sup>th</sup> September, 2016.



11. Tesenthang to Dichenphu (Neytham) West Sikkim has been approved and work order given to the concerned division.
12. DPR for Melli Interpretation Centre has been vetted and technical sanction accorded.
13. DPR for Renovation and Upgradation of Melli FRHs has been vetted and technically sanctioned and work order given to the South (T) division.
14. Organized Interpretative Guide Training at Khechepali, West Sikkim from 24<sup>th</sup> to 25<sup>th</sup> October, 2016.
15. Organized trekking guide training (conducted by IHCAE Chemchey) at Dzongu, North Sikkim from 26<sup>th</sup> to 31<sup>st</sup> October, 2016
16. Kaluk-Resum Peak trekking trail at West Sikkim has been approved.
17. Participated in ITM (International Tourism Mart) at Imphal, Manipur from 23<sup>rd</sup> to 25<sup>th</sup> November, 2016.



18. Organized Kitam Ecotourism Festival at Kitam, South Sikkim from 9<sup>th</sup> to 11<sup>th</sup> December, 2016.
19. Participated in Maghe Sakranti Mela at Jorethang, South Sikkim from 14<sup>th</sup> to January, 2017.
20. Development of Singhik-Tosar Trekking Trail at North Sikkim has been approved and technically sanctioned.
21. Development of Trekking Trail from Yumthang to Singkim at North Sikkim has been approved and technically sanctioned.
22. Development of Lingee-Sokpay-Bhaleydunga MWS Trekking Trail at South Sikkim has been approved.
23. Organised Conclave on “Innovation & Progress Ecotourism in Sikkim” on 16<sup>th</sup>Feb, 2017.



24. Organised East Pendam Ecotourism Festival from 11<sup>th</sup> to 13<sup>th</sup> March, 2017



25. Participated in Aritar Dalapchand Lamphokhari Tourism Festival at East Sikkim from 3<sup>rd</sup> to 5<sup>th</sup> April, 2017.

#### **C4 Joint Forest Management**

1. Revised Manuals I & II of JFMC/EDC have been printed.
2. Micro planning in Batch IIISEVs completed.



3. EPA in Batch III SEVs completed in 42 JFMCs/EDCS.
4. Firefighting equipment procured & distributed to Batch I IIVs & Batch II SEVs; Procured for Batch III SEVs.
5. Creation of 12 ha of nursery completed.
6. Regular Maintenance of the 12 ha Nurseries ongoing.
7. Block grant to Batch III JFMC, EDC released.
8. Training on financial and administrative management complete.
9. Training of Community Organizers Conducted.
10. Skill development training on IGAs completed for Batch I & II villages for cardamom nursery raising & animal husbandry related Income Generating Activities.



11. Selection of 45 JFMCIEDC/ SEVs (IVth Batch) of villages based on the identification criteria were completed.
12. Registers for JFMC/EDC and SHG for keeping record (account, meeting loan etc) printed as per requirement.
13. Total 400 ha plantations completed.
14. Creation and maintenance plantation continued in JFMCs/EDCs. Continued support to 3 NGOs and 27 Community Organizers for community mobilization and the strengthening of JFMCs /EDCs.
15. Transparency Board for 42 JFMCs/EDCs for Batch III SEVs installed
16. Micro planning in IVth batch started.

## C5 Organizational Strengthening

1. 100% of the construction of Head Quarter Office completed



2. Procurement of 1 Bolero; 1 Wagon R, 1 Thar, and 1 no of Bolero Camper accomplished;
3. Equipments and Gadgets procured
4. Training of DFOs at Jungle and Lodges, Bangalore Karnataka, training of ACFs at Dehradun and 28 new appointed BOs trained.
5. Training of Local people and stake holders conducted
6. Governing Body Meeting and Annual Review meeting conducted
7. High Steering Power Committee Meeting Conducted
8. Printing of Proceedings of 8<sup>th</sup> Annual National Workshop

### **With particular reference to function of the Department:**

All the above activities are being implemented by Forest Environment and Wildlife Management Department (FEWMD).

### **With particular reference to the Plan Schemes in the financial and physical term:**

Financial Progress: **32.93%**

Physical Progress: 36%

#### **Tangible outputs:**

Plantation, infrastructure, GIS maps, microplans of JFMs/EDCs

#### **Intangible outputs:**

Improved environment, greenery, enhanced capacity of stakeholders, frontline staff and officers of Forest Department

