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# SIKKIM STATE COUNCIL OF SCIENCE & TECHNOLOGY

## ANNUAL REPORT 2011-12

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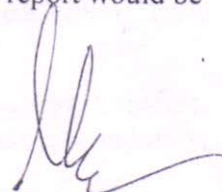
### Foreword by Member Secretary

It is my privilege to reflect the activities of the Sikkim State Council of Science & Technology in the form of annual report for the year 2011-12. Having joined as Secretary, Department of Science & Technology and Climate Change recently in April 2012, I must agree that the activities taken up by this Council is worth appreciating as it encompasses the areas and activities which are need based and require focused attention for sustainable development of the State.

The mandate of the Council presents vast areas and opportunities of interventions and investment that suits the local developmental needs without compromising the overall goal of sustainable development, research and development, poverty alleviation as mandated in the bylaws of the Council. Diverse issues of paramount importance are being addressed such as biodiversity and biotechnology, remote sensing technology, transfer of appropriate technology for the benefit of rural as well as urban population and communication and popularization of science. Thus, we must acknowledge the Council's role of serving as a bridge between Science & Technology in one hand and society and state on the other working hand in hand with line departments, NGOs, VOs, and individuals

Recent initiatives on issues of climate change with the goal of strengthening adaptive capacities of the target (rural) communities to reduce their vulnerability to climate change through sustainable Climate Change Adaptation (CCA) measures will strengthen our outreach with diversity of stakeholders which includes NGOs, farmers, line departments, research institutes, students and teachers. The Council is concurrently working with GIZ (German Development Cooperation) and Kfw (German Development Bank) for technical cooperation and financial cooperation respectively to realize the above goals of climate change adaptation measures. While taking up various project and programmes, we have tried to incorporate, wherever possible, time tested vast indigenous knowledge base, so that technologies are easily accepted, adapted and appreciated by the beneficiaries.

All activities of the Council are in harmony with the science & technology related policies of the state government as well as government of India concurrently ensuring that we stay within the mandate of the Council. Any comments and critiques on the work presented in this report would be gratefully received.



(P.T.Euthenpa) IAS  
MEMBER SECRETARY

**Member Secretary**  
State Council of Science & Technology for Sikkim  
Development Area, Gangtok  
East-Sikkim.

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Department of Science & Technology in the State has been created during 1996 mainly for Research and Development in various identified areas relevant to the state, generation of scientific awareness and also for transfer of appropriate technologies for economic upliftment of the weaker section of the society.

Further, Sikkim State Council of Science & Technology was also created keeping in view the importance of Science & Technology for overall development of the state and with a view to provide sufficient autonomy for implementation of various scientific programmes. The Council takes up various programmes funded by the State Government as well as projects funded by the Government of India agencies like the Department of Science & Technology, Ministry of Environment & Forests, Department of Bio-technology and Department of Space as well. The Sikkim State Council of Science & Technology is the functional arm of State Science & Technology Department for implementation of various scientific programmes in the State.

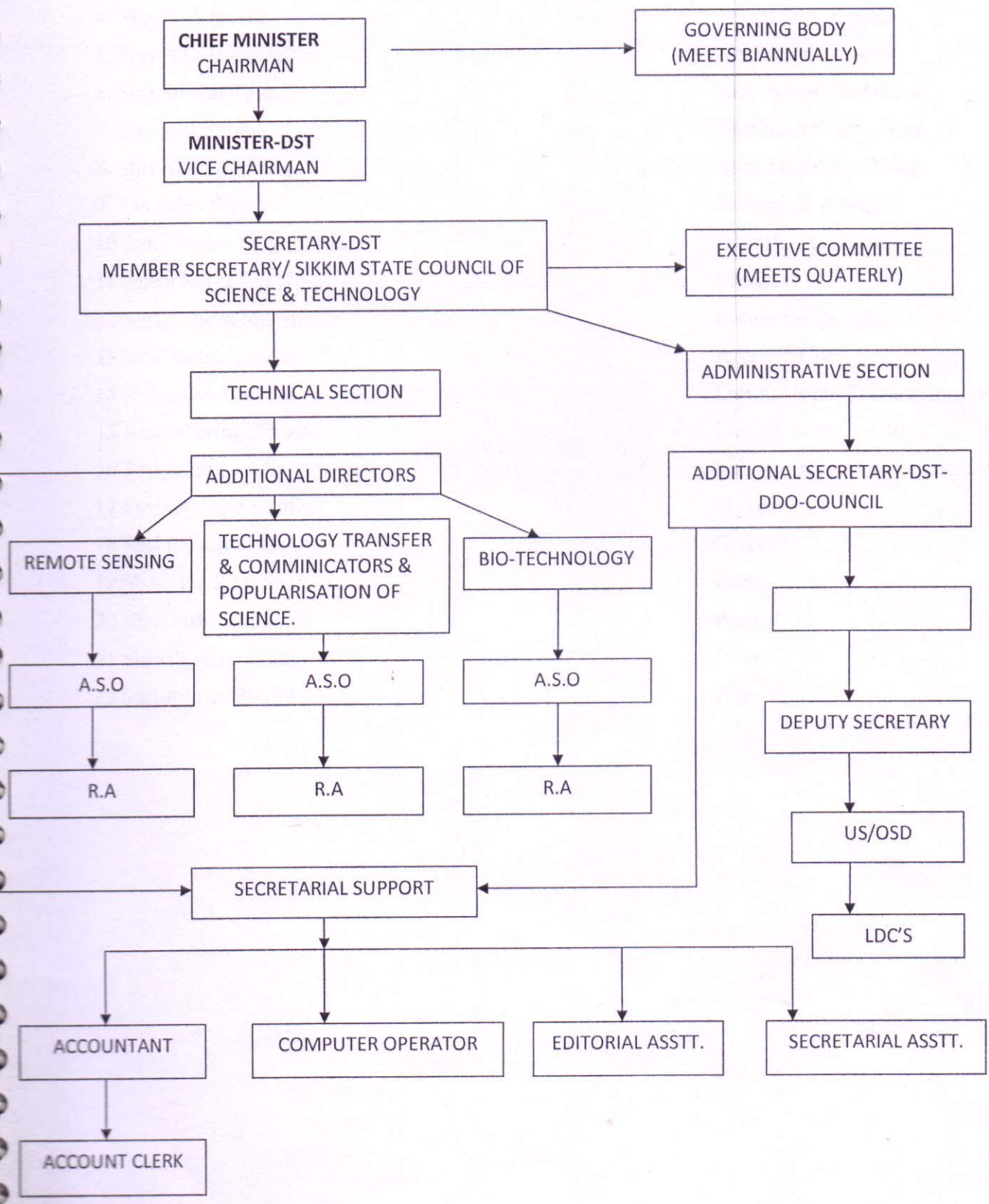
The Department of Science and Technology has taken up through the Sikkim State Council of Science & Technology various scientific programmes related to (i) Bio-Technology (Bioinformatics & Tissue Culture, Medicinal Plants, Scientific programme on Planting Stock Improvement; Establishment of Sikkim Biotechnology Research and Application Centre) (ii) Glaciers and Climate Studies (iii) Environmental Information System; (iv) Patent Information Centre; (v) Remote Sensing and GIS; and (vi) Technology Transfer and Scientific Awareness, Capacity Building and Skill Development programmes.

The broad objectives of the Sikkim State Council of Science & Technology are as under:

- To increase the Science & Technology infrastructure for meeting the challenging demands in basic research, technological development and scientific services.
- To identify the areas where Science & Technology intervention could significantly improve the existing socio-economic conditions.
- To identify areas of long term development of the State by ensuring application of science and technology developed so far.
- Pilot scale demonstration projects.
- Replication of success models and undertaking pilot scale demonstrations projects.
- Develop appropriate mechanisms for reducing the time lag between an invention and its commercialization.
- To supplement the efforts of the State Government in implementing various projects whenever and wherever called for.
- To popularize technologies and initiate scientific attitude and temperament amongst the people of the State through awareness and training programmes.
- To facilitate the scientists and the entrepreneurs in promoting technology transfers, establishing a strong relationship among the academics, research institutes and industry, guidance for developing entrepreneurship.

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**ORGANISATIONAL STRUCTURE OF THE SIKKIM STATE COUNCIL OF SCIENCE & TECHNOLOGY.**



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### CORE MANPOWER OF SSCS&T

1 Shri P.T. Euthenpa, IAS	Member Secretary
2. Dr. Pushpa Tamang	Director
3. Shri D.G. Shrestha	Additional Director
4. Shri D.T. Bhutia	Additional Director
5. Shri B.C. Basiatha	Additional Director
6. Shri Suman Thapa	Asst. Scientific Officer
7. Shri K.B.Subba	Asst Scientific Officer
8. Shri Narpati Sharma	Asst. Scientific Officer
9. Km Eden Bhutia	Secretarial Assistant
10 Smt. Sonam Ongmu Bhutia	Editorial Assistant
11 Neeta Maya Rai	Librarian
12 Shri Nabeen Sharma	Computer Operators
13 Shri Dadul Lepcha	Account Clerk
14 Km Dawa Gyalmu	Lab Assistant (Tissue Culture)
15 Km Tshering Bhutia	Lab Assistant (Tissue Culture)
16 Smt Saroj Lepcha	Lab Assistant (Tissue Culture)
17 Shri Gyampo Bhutia	Driver
18 Shri Bikash Pradhan	Driver
19 Shri Tika Ram Sharma	Peon
20 Shri Tashi Bhutia	Peon
21 Shri Tenzing Bhutia	Peon
22 Shri Karma Bhutia	Peon

MANPOWER IN PROJECTS:

1. Ladong Lepcha	Information Officer	DISC
2. Sambhawana Gurung	TA	DISC
3. Karun Chettri	DEO	DISC
4. S.N Bhutia	Computer Engineer	ENVIS
5. Anju Gurung	RA	ENVIS
6. Kalzang Eden Bhutia	DEO	ENVIS
7. Rajdeep Gurung		PIC
8. Tanzing Bhutia		DNA Club
9. Binita Shrestha		DNA Club
10. D.K. Sapkota	PA	Ethno Veternary
11. Laxuman Chettri		Ethno Vetnary
12. Sushan Pradhan	JRF	State Bio Tech Hub
13. Smrita Pradhan	JRF	State Bio Tech Hub
14. Pooja Lohar	JRF	State Bio Tech Hub
15. Sovit Khatri	JRF	State Bio Tech Hub
16. Navin K. Chamlagan		State Bio Tech Hub
17. Inchung Lepcha	Lab. Asst.	
18. Tika Pds Sharma	Lab Asst.	
19. Radha Krishna Sharma	Sr. RF	Climate Change
20. P. Pradhan	JRF	Climate Change
21. Deo Km Tamang	JRF	SIS-DP
22. Dili Ram Chettri	JRF	SIS-DP
23. Narbada Sharma	JRF	SIS-DP
24. Rinzing N. Lepcha	PA	Cane
25. Thupden Bhutia	PA	Cane

**SECRETARIAT OF DST & CLIMATE CHANGE DEPARTMENT GOVERNMENT OF SIKKIM**

1. Shri P.T. Ethenpa, IAS	Secretary
2. Ms Salara Rai	Additional Secretary
3. Shri N.P. Sharma	Accounts Officer
4. Km T. Donka	Deputy Director
5. Shri D.K. Pradhan	P,S to Secretary
6. Smt Sangita Bomjan	Officer on Special Duty
7. Smt Sarojini Subba	Office Superintendent
8. Km G. Cintury	Head Assistant
9. Shri R.K. Rai	Upper Division Clerk
10. Shri Rohit Chettri	Accountant
11. Shri M.K. Rai	Accountant
12. Smt S. Pradhan	Lower Division Clerk
13. Shri Benoy Pradhan	Research Assistant
14. Km Tshring Eden Bhutia	Laboratory Attendant
15. Nisha Guring	Stenographer
16. Shri R.B. Gurung	Driver
17. Shri Sarad Pradhan	Driver
18. Shri Sonam Bhutia	Driver
19. Shri Kewal Sharma	Driver
20. Shri Ongden Lepcha	Driver
21. Shri Hem Raj Chettri	Peon
22. Shri Suresh Rai	Peon
23. Smt Sancha Kumari Subba	Peon
24. Shri Raju Rai	Peon
25. Mrs Neeru Sunwar	Safai Karmachari

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**GOVERNING BODY OF THE SSCS&T**

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| 1. Hon'ble Chief Minister  | Chairman         |
| 2. Hon'ble Minister Science & Technology                               | Vice Chairman    |
| 3. Chief Secretary   | Member           |
| 4. Development Commissioner  | Member           |
| 5. Secretary Finance Department  | Member           |
| 6. Secretary Forest Department   | Member           |
| 7. Secretary Agriculture & Horticulture                                | Member           |
| 8. Secretary Animal & Hus. Department                                  | Member           |
| 9. Secretary Industries & Commerce Department                          | Member           |
| 10. Secretary Information Technology Department                        | Member           |
| 11. Secretary RMDD Department  | Member           |
| 12. Secretary HRDD (Education) Department                              | Member           |
| 13. Secretary Mines, Mineral & Geology Department                      | Member           |
| 14. Vice Chancellor , Sikkim Manipal University                        | Member           |
| 15. Secretary/ Representative of the Dept of Science & Technology,GOI  | Member           |
| 16. Secretary/ Representative of the Department of Bio-technology, GOI | Member           |
| 17. Secretary/ Representative of the Ministry of Env. & Forest. GOI    | Member           |
| 18. Secretary/ Representative of the Department of Space, GOI          | Member           |
| 19. Director General, Indian Council of Medical Research (ICMR)        | Member           |
| 20. Director, Central Institute of Medicinal& Aromatic Plants (CIMAP)  | Member           |
| 21. Scientist -in- charge, GB Pant Institute of Himalayan Env. & Dev.  | Member           |
| 22. Representative Planning Commission, New Delhi                      | Member           |
| 23. Secretary, Department of Science & Technology                      | Member Secretary |



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### Sikkim State Remote Sensing Applications Centre

The Sikkim State Remote Sensing Applications Centre (SRSAC) was established in the year 1997 under Sikkim State Council of Science and Technology in Department of Science and Technology and Climate Change.

Remote Sensing and its applications has certainly gained considerable importance for acquiring the information about the earth's surface and has been found to be great help in mapping of natural resources especially in the remote and inaccessible area of the state. The capacity of high resolution, synoptic perspective being an added advantage for monitoring of Snow, Glacier, Lakes and Vegetation change using the time series satellite imagery.

At present the Centre has Seven Workstation and two PC along with 5Kv UPS, the Centre has one photogrammetry LPS-11, two Arc Info-10 and one ERDAS-9 software. The Centre has also A0 size plotter and A0 Size Scanner.

The SRSAC has well trained manpower in the field of Remote Sensing and GIS, the staff of the Centre provided training to the student of Sikkim Government College, Harkamaya College in the field of RS (Remote Sensing) and GIS (Geographical Information System). There are various project funded by Central Government as well as State Government to the Centre, besides these SRSAC also provides the necessary data to the user department for various developmental activities of the state.

#### On Going Projects

##### I. Application of Remote Sensing and GIS in Sericulture Development in Sikkim:

(Funding agency: Central Silk Board, India, Coordinating agency: NESAC, Department of Space, Shillong, Meghalaya: Study area: South District, Sikkim)

The project covers application of Remote Sensing and GIS in sericulture development in south district of Sikkim. South district of Sikkim is the small district with only two subdivisions viz. Ravangla and Namchi with a geographical area of 750 Sq km. The district headquarter is Namchi. Potential areas for sericulture food plants:

The Directorate of Sericulture under the Forest, Environment and Wild life Management Department was consulted for taking up the project in the state. The suitable areas for the cultivation of Mulberry, Eri and Muga food plants in south district of Sikkim have been identified and the maps prepared on 1: 50,000 scale. The maps and area statistics are given below in the table.

