

Department of Science & Technology
Monthly Report
March, 2019

1. Important policy decisions taken and major achievements during the month:

- I.** Memorandum of Understanding (MoU) has been signed between Survey of India, Department of Science & Technology, Government of India and Settlement Commissioner and Director of Land Records (M.S.) Government of Maharashtra on 3rd March, 2019 for large Scale Mapping of around 40,000 village Gaothan (Abadi) areas in the State of Maharashtra.

A network of CORS base stations forming a closed network will be established across the State of Maharashtra for this purpose.

- II.** Memorandum of Understanding (MoU) has been signed between Survey of India, Department of Science Technology, Government of India and Department of Revenue & Disaster Management, Government of Haryana on 8th March 2019 for Large Scale Mapping using UAV (Unmanned Aerial Vehicles)/ Drones for Revenue, Urban and Rural area including Ground control Network and preparation of geo-referenced cadastral revenue Maps for State of Haryana. The project covers entire State of Haryana, **approx 44212 sq. km.**

Accurate Change detection, using high resolution imagery will help in identification of true urban growth development process. The unplanned settlements and areas where housing is not in compliance with current planning and building regulations will be identified to help enforcement and effective action before the construction attains huge proportions.

- III.** Memorandum of Understanding (MoU) has been signed between Survey of India, Department of Science Technology, Ministry of Science Technology and Indian Railways, Ministry of Railways on 27th March 2019 for SoI Maps related Web GIS Services & Application for Indian Railways.

This Memorandum of Understanding (MOU) is between Survey of India (SoI) and Indian Railways (IR), Ministry of Railways (MoR) with the purpose to effectively use Web GIS Services to meet survey map requirements and survey related Geospatial

data application requirements of IR. Provisions of the various technology based solutions have been included in this document for the benefit of IR to enable them to provide improved transport services in the country.

To collaborate for sharing survey maps through Web GIS Services from Survey of India, geospatial assets creation for IR, to integrate Web Map Service with various applications of IR, joint design and development of new Web GIS Applications for governance with SoI Web Map Service. Implementation of pilots wherever required and subsequently escalating the scope for full fledged diversified applications/services will be appropriately taken on mutual consent.

IV. India-EU (European Union) Science and Technology Cooperation: India hosted 12th India-EU Joint Steering Committee Meeting on 1st March 2019 under the co-chairmanship of Secretary, Department of Science and Technology and DG Research and Innovation of European Commission. Both sides took stock of the progress made such as implementation of seven India-EU water projects worth co-investment of 30 million euro, mobility of Indian Young Scientists for working with European Research Council grantees researchers and recent launch of India-EU Vaccine Program. Both sides agreed to collaborate in different thematic areas such as smart grids; cyber physical system; ICT; bio-economy; health research including brain research; polar science. Further, to promote networking of innovators and entrepreneurs, both sides considered creation of India-EU Joint Innovation Centre.

The India-EU Agreement for Scientific and Technological Cooperation originally signed in 2001 and renewed two times, in 2007 & 2015 is valid till May 2020. Given the fact that the various activities of scientific research and technological cooperation are based on the agreement and cooperation is going very well in various fields, both sides agreed to further renew the agreement and its renewal may be included as a deliverable in the next India-EU Summit.

V. India –EU Water Project: Government funding for implementation of three India EU Water Projects namely PAVITR led by Aligarh Muslim University, PANIWATER led by CSIR-NEERI and LOTUS led by IIT Bombay was released. The focus of these projects is design, development and deployment of water and wastewater treatment technology and real time water quality monitoring suited to Indian conditions.

- VI. BRICS Science Technology and Innovation Cooperation:** 18 BRICS Collaborative Projects in areas of Material Science including nanotechnology, Biotechnology and Biomedicine, Water Resources and Pollution Treatment, New and Renewable Energy, ICT and High Performance Computing, Prevention and monitoring of natural disasters were funded for its implementation.
- VII. Participation in the Inter-Ministerial Meeting on the G20 issues:** DST participated in the Inter-Ministerial Meetings chaired by Additional Secretary (IER), Dept of Economic Affairs, to discuss India's position/priorities on various agenda items in the G20 Japanese Presidency during 2019 and to deliberate on the future interventions/positions and concerns, if any for the forthcoming G20 Working Groups and Task Force Meetings.
- VIII.** Ministry of Electronics and Information Technology (MEITY) and Department of Science and Technology (DST) have been included in the G20 Digital Economy Task Force (DETF). In its first meeting DETF included discussions on data, digital infrastructure, Human centric AI, Society 5.0 and Security for digital society. DST shared it has recently launched mission on "Interdisciplinary Cyber Physical Systems (ICPS)" to foster and promote R&D in this area. On the Theme paper floated by Japan on Society 5.0, DST informed that during the deliberations on Society 5.0 on various S&T platforms, India emphasizes more on 'inclusivity'. It was decided that a Study on Society 5.0 be undertaken jointly by NITI Aayog, DST and MEITY.
- IX. Extension of MoU on funding of Ramanujan Prize by DST:** The "ICTP Ramanujan Prize" of equivalent of USD 15000/-, named after the illustrious mathematician from India, was funded under the MoU with International Centre for Theoretical Physics (ICTP) and International Mathematical Union (IMU) for a period of five years, from the year 2014 to 2018, for the outstanding work of the mathematicians, undertaken in challenging circumstances in developing countries. The past five awards have been given to mathematicians from Argentina, Brazil, China and India for their outstanding contributions in different fields of mathematics. The awardees including the two from India have tremendously progressed in their careers.

The prize is now well known and valued throughout the world, particularly in the developing countries, as reflected from the number of nominations from countries in different continents. Recognition of the work of the developing countries mathematicians through the Ramanujan Prize will further encourage the

mathematicians and improve the level of Mathematics in the developing countries. It has therefore been decided to extend the MoU for funding of the Ramanujan Prize by DST for a further period of five years from 2019 onwards.

- X. 32nd Governing Body meeting of the Indo-French Centre for Promotion of Advanced Research (IFCPAR):** Prof. Ashutosh Sharma, Secretary, DST led an Indian delegation to Paris, France for Co-chairing the 32nd Governing Body meeting of the Indo-French Centre for Promotion of Advanced Research (IFCPAR) during March 7 – 8, 2019. The Governing Body of the IFCPAR was Co-chaired by Secretary DST with Ms. Laurence Auer, French Ministry of Foreign Affairs. Both Co-chairs felt that the bi-national Indo-French Center for Advanced Research has been a unique model of cooperation over last 3 decades and needs to be strengthened to meet the contemporary aspirations of our S&T cooperation. The GB discussed the evolving role of IFCPAR in changing context of the Indo-French STI Ecosystem and further expansion of programmatic activities of IFCPAR focused on innovation; networked centres and academia-industry connect projects which can address economic and societal challenges of the two countries. The GB reviewed programmatic activities of the CEFIPRA and approved new activities to be taken up during next one year. During this visit, Secretary invited French researchers to participate in VAJRA, exchange of doctoral students in collaborative projects and agreed to host CNRS day in India to mark its 80th anniversary.

A brainstorming meeting with French scientists and some of the funding agencies like CNRS, INRA, ANR was also held on 7th March 2019 to discuss expansion of Indo-French S&T Cooperation and explore to launch joint programme connecting DST's national initiatives on Cyber Physical System and a mega programme of Inria France on Artificial Intelligence (AI). Creation of an Innovation Fund to support industrial R&D projects jointly submitted by academia-industry in a 2+2 model was also discussed during the meeting.

- XI. 9th India-Israel Joint Committee on Science and Technology:** Prof. Ashutosh Sharma, Secretary, DST led an Indian delegation to Israel during March 4-6, 2019 for attending the 9th India-Israel Joint Committee on Science and Technology on March 5th, 2019 and 3rd Governing Board meeting of India-Israel Industrial R&D and Technological Innovation Fund on 6th March 2019.

The 9th meeting of the India-Israel Joint Committee on Science and Technology was Co-chaired by Secretary DST with .ProfAlexander Bligh of Ministry,Chief Scientist,Science and Technology, Israel. The Committee reviewed and appreciated the India-Israel Scientific Cooperation in the areas of Big Data Analytics in Health Care and Security Cyber Space. It was decided that that 3-4 excellent projects will be financed for additional year. The Committee also discussed the 'Women in STEM' workshop, which is scheduled to be held in India in 2019 and felt that such a workshop should aim on policies for women empowerment in science and technology, especially in areas under-represented by women researchers such as mathematics, engineering, artificial intelligence etc. It was also decided to launch the next call for proposals in May 2019.

The 3rd Meeting of the Governing Board (GB) of India-Israel Industrial R&D and Technological Innovation Fund was organised at Tel Aviv on 6th March 2019 and was co-Chaired by Prof. Ashutosh Sharma and Dr. Amiram Appelbaum, Chairman of the Board- Israel Innovation Authority, Govt. of Israel. The GB agreed and approved various activities to be done under the Fund, which includes approval of three joint proposals for funding support under the 2nd Call for Proposal in the areas of health, energy and ICT.

XII. DST World Bank joins hands for strengthening of Africa Center of Excellences

(ACEs): Department of Science and Technology (DST) and World Bank had kick off meeting of their collaboration to strengthen India Africa Science and Technology Initiative to boost capacity building through knowledge transfer for number of students enrolled in African Centre of Excellence (ACEs) masters and PhD programmes on March 11, 2019 at India International Centre, Delhi. Representatives from twelve African Centres of Excellence from African countries (Nigeria, Kenya, Uganda, Rwanda, Ghana, Ethiopia, Tanzania, Burkina Faso and Senegal) have participated and discuss with consortia of nine Indian institutions on the detailed modalities of this collaboration.

Indian Institute of Technology (IIT), Roorkee is the lead Indian institutions with other 6 IITs and 2 DST aided institutions (JNCASR and ARCI), focusing partnership on four themes i) Information and Communication Technology ii) Material Science and Renewable Energy iii) Water, infrastructure and environment management and iv) Railways.

- XIII. India-Portugal Joint Science & Technology (S&T) Memorandum of Understanding (MoU):** In pursuance to Science & Technology agreement between India and Portugal, a 4 Million Euro Joint Science & Technology (S&T) Memorandum of Understanding (MoU) was concluded with the Foundation for Science and Technology (FCT) of the Portuguese Republic on March 1, 2019 to strengthen and develop the scientific and technological cooperation in the fields of Scientific Research & Development based on equality and mutual benefit of both the countries.
- XIV. India-South Africa Bilateral Workshop:** An India-South Africa Bilateral workshop on ‘Renewable Energy’ was organized at IIT Delhi, New Delhi during March 22-23, 2019 under the ‘India South Africa’ programme of Cooperation in S&T. About 15 experts from various part of India and 7 experts from South Africa participated in this workshop. This workshop provided platform for future Indo-South Africa collaborative research projects in the field of Renewable Energy.
- XV. Announcement of DST-DAAD (Germany) S&T Joint Proposals:** Under DST-DAAD (Germany) joint S&T call in all areas of STEM, including earth sciences, biological and medical sciences, total 32 joint projects have been recommended for support towards personal exchanges visits of faculty and students from both countries. Results have also been uploaded onto DST website.
- XVI. NDR project activities launched:** On the recommendations of the NSDI Technical Committee on “National Data Registry (NDR), it has been decided to set up the NDR at a total cost of Rs. 7.25 Crore over a duration of 9 months with the participation of SoI (Department of Science and Technology), GSI (Ministry of Mines), FSI (Ministry of Environment and Forest), MoSPI, NBSS&LUP (Ministry of Agriculture) and KSCST, Bengaluru (Govt. Of Karnataka). Work order has been placed with the identified Total Solution Provider (TSP) following the acceptance of the technical bid.
- XVII. Geospatial Cloud activities initiated:** It has been decided to set up a Proof of Concept (PoC) Geo-spatial Cloud based Data Centre for NSDI and SoI at Hyderabad at a total cost of Rs. 14.39 Crore over a duration of 7 months. The Data Centre will be used for hosting geospatial data services of State SDIs and ensuring data life cycle management of high resolution topographic maps of urban areas acquired by SoI under the National Urban Information System (NUIS) Programme.
- XVIII.** Department of Science and Technology participated in the Hydrogen Valley Workshop at Antwerp, Belgium bring together around 70 government officials and private

stakeholders involved in nascent “Hydrogen Valleys” projects from Mission Innovation Hydrogen Challenge member countries to discuss lessons learnt, and critical success factors for accelerating and expanding hydrogen projects globally.

- XIX.** A Water Innovation Centre “DST-PAU Centre for Water Technology Research in Agriculture” has been established at Punjab Agricultural University, Ludhiana for refinement of the existing and development of new technologies for optimal and economic utilization of on-farm and regional water resources. Identification and prioritization of the water balance components which will be managed for rational use of surface and ground waters.”
- XX.** A DST supported Water Innovation Centre: Water Innovation Centre: Technology, Research & Education (WICTRE) has been inaugurated at IIT Bombay on 26th March 2019.
- XXI.** DST-NWO Second Joint Advisory Committee meeting was held through Digital Video Conference (DVC) between the Indian and Dutch side to evaluate the short listed three full proposals under the DST-NWO Urban Water Systems Call on 15th March 2019.
- XXII.** Technical Review Meeting on IC3 (CCUS) under MI programme was organised in ICGEB, New Delhi on 5th-6th March 2019. 19 Projects were recommended for DST support.
- XXIII.** Organized a 2 day Mid- Term Review Meeting for the evaluation of progress of the Phase-I WMT projects at CSIR-AMPRI, Bhopal during 5th – 6th March, 2019.
- XXIV.** The third meeting (Sensitization Workshop) under the banner of DST’s Swachhata action plan 2018-19 with the thrust area of "Urban/Rural Municipal Solid Waste" was organized at CIPET, Chennai on 28th Feb., and 1st March, 2019.
- XXV.** The forth meeting (Sensitization Workshop) under the banner of DST’s Swachhata action plan 2018-19 with the thrust area of "Agricultural waste/stubble management (waste to wealth), alternative to burning" was organized at VNIT, Nagpur on 11-12th March, 2019.
- XXVI.** In accordance with the Hon’ble Prime Minister’s vision to have a national science channel, initiative has been supported at Vigyan Prasar as a unique effort to disseminate Science, Technology & Innovation related knowledge to a wide audience, starting from school children to mature professionals by producing video contents and programmes to large masses through media services through

- (i) India Science Channel on Internet (<https://www.indiascience.in>), and
(ii) Science Channel on Doordarshan. Project has been sanctioned on 19-03-2019 at Rs. 80.42 crore for 2 years with release of 1st instalment of Rs. 9.096 crore.

XXVII. NCSTC was invited to a Meeting with National Council of Science Museums (NCSM), Ministry of Culture for strengthening Mobile Science Exhibition (MSE) Programme of NCSM on 12th March, 2019. MSE themes for 8 scientific subjects to prepare the exhibits in their buses were discussed in details with NCSM team, NCSTC contributed to validation of the suitable content and assured the support required in training of science communicators for organising the MSE programme of NCSM.

XXVIII. New Projects supported (Theme wise):

- Science Motivation/ Awareness/ exhibition/fair - 24 Nos
- S&T Communication Training - 03Nos
- Mission Eco Next - 02 Nos

XXIX. In North-Eastern region, a sensitization workshop on Women Scientist Program was conducted on 4-5 March, 2019 at Dimapur, Nagaland. Around 100 women have attended this workshop and they have not only been sensitized about various programmes under KIRAN but also on subject specific areas which are relevant to NE region.

XXX. Department of Science and Technology celebrated International Women's Day by organising 'Women Conclave' on 8th March, 2019 at Jawaharlal Nehru University, New Delhi. The main theme for this year's Women's Conclave was "Balance for better". It was concluded that collective action and shared responsibility are the keys for driving a gender-balanced world.

XXXI. Representative from National Good Laboratory Practice Compliance Monitoring Authority (NGCMA), India attended the 33rd Meeting of OECD Working Group on GLP during March 5-7, 2019 at OECD Headquarters, Paris (France). A number of technical draft documents/guidelines were finalized and Schedule of future activities was drawn during the meeting. It was decided in the meeting that the On-site evaluation of Indian GLP Programme is scheduled in 2020 by an OECD evaluation team comprising of representatives from GLP Compliance Monitoring Authorities of Germany and Japan.

XXXII. The design and development of in-kind items for Facility for Antiproton and Ion Research (FAIR) and Thirty Meter Telescope projects is in full swing. Vigyan Samagam,

a multi-venue mega science exhibition planned to be organized at Mumbai, Bengaluru, Kolkata and New Delhi. First event will kick start from Mumbai on 8th May, 2019.

XXXIII. Annual Group Monitoring Workshop to evaluate 30 projects funded under SYST was held at Indian National Science Academy (INSA), New Delhi during 15-16 March 2019.

XXXIV. A National Consultative Brainstorming Workshop involving different stakeholders to generate a list of S&T intensive thrust areas, interventions and challenges that need to be addressed/tackled for the benefit of elderly and Divyangjan for announcement of opportunities under Technology Interventions for Disabled and Elderly (TIDE) Programme was held on 26 March 2019 at India International Centre (IIC), New Delhi.

XXXV. INSPIRE Internship: One meeting of the Expert Committee for considering the INSPIRE Internship Proposals under the INSPIRE Program was organized. In this meeting, Committee considered 32 INSPIRE Internship proposals for organizing the INSPIRE Internship camps from all across the country. Out of 32 proposals, only 3 proposals covering 500 INSPIRE interns were recommended for support.

XXXVI. INSPIRE Fellowship: Thirty one INSPIRE Fellow's fellowship was released for pursuing their doctoral degree program. Eight INSPIRE Fellows have participated in HOPE Meeting at Japan.

XXXVII. INSPIRE Faculty Fellowship: Forty Seven INSPIRE Faculty Fellow's 1st year fellowship with research grant was released for pursuing their Post-doctoral program.

XXXVIII. Scholarship For Higher Education (SHE): 55 visitor's queries were responded.

XXXIX. Followings new projects under the HICAB Programme were supported during the month for duration of three years;

- 1) **Impact of climate change on high altitude Himalayan honey bee Apes laboriosa Smith and its acclimatization in changing environment"** to be implemented at Department of Zoology, Rajiv Gandhi University, Rono Hills, Doimukh, Arunachal Pradesh under the HICAB state Network Programme
- 2) **Multi-Scale Vulnerability Assessment to Climate Variability for Adaptation Planning"** to be implemented at Department of Chemistry, Manipur University, Canchipur, Manipur under the HICAB state Network Programme.
- 3) **Glacio-hydrometeorology and paleo-history of Brahma Group of Glaciers, Chenab basin, Jammu and Kashmir"** to be implemented at Central University of Jammu, Rahya Suchani, Distt. Samba under the HICAB state Network Programme
- 4) **Effect of Climate Changes on Working Capacity and Livelihood Sustainability for Agricultural Worker of Arunachal Pradesh"** to be

implemented at NERIST, Nirjuli (Itanagar)- 791109, Arunachal Pradesh under the HICAB state Network Programme

- 5) **Assessment of climate change and its relationship with incidence of Dengue and related vector borne diseases in non- endemic state of Himachal Pradesh.”** to be implemented at College of Horticulture and Forestry, Neri, Hamirpur, Distt. Hamirpur, Himachal Pradesh
- 6) **Climate Resilience, Vulnerability and Adaptability Assessment of Livestock by Evaluating Important Production Traits, Physiological Stress Markers and Disease Predispositions in Different Agro-climatic Zones of Himachal Pradesh”** to be implemented at Department of Veterinary Microbiology, DGCN College of Veterinary and Animal Sciences, CSK Himachal Pradesh Agricultural University, Palampur under the HICAB state Network Programme
- 7) **Understanding the biodiversity of Odonata (Class Insecta) of Kashmir Himalayan Region with reference to Climate Change”** to be implemented at Mantaqi Centre for Science & Society (MCSS) Islamic University of Science & Technology (IUST), Awantipora, Kashmir-192122, J&K under the HICAB state Network Programme
- 8) **Identification of climate resilient food crops, traditional rice varieties of Manipur and their production enhancement through scientific manipulation having least impact to climate change”** to be implemented at College of Agriculture, Central Agricultural University, Iroishemba, Imphal – 795004, under the HICAB state Network Programme
- 9) **Development of climate resilient biofortified crops of Himachal Pradesh using genomics assisted breeding”** to be implemented at Department of Agricultural Biotechnology, CSK HP Krishi Vishvavidyalaya, Palampur under the HICAB state Network Programme
- 10) **Impacts of climate change on bio resources and livelihoods of local people of Arunachal Pradesh”** to be implemented Department of Forestry North Eastern Regional Institute of Science and Technology (Deemed to be University) Nirjuli, Arunachal Pradesh under the HICAB state Network Programme
- 11) **Response of selected natural resources in changing climate scenarios and its impact on socio-economy of Arunachal Himalaya: An Indigenous and Technological approach”** to be implemented at State Remote Sensing Application Centre, Department of Science and Technology, Govt. of Arunachal Pradesh Itanagar- 791111, under the HICAB state Network Programme
- 12) **Sustaining the impact of Climate Change on Lentic Wetlands of Arunachal Himalayan Region”** to be implemented at Department of Botany Rajiv Gandhi University Rono Hills, Doimukh, Arunachal Pradesh under the HICAB state Network Programme
- 13) **Impact Assessment of Climate Change on Agriculture in Kashmir Himalaya”** to be implemented at Division of Environmental Sciences and Centre for Climate Change and Mountain Agriculture, Faculty of Horticulture, Sher-e Kashmir University of Agricultural Sciences and Technology of Kashmir, Shalimar campus -190025, under the HICAB state Network Programme

- 14) **Assessment of climate change impact on soils and various water basins of Meghalaya using existing and newer techniques.”** to be implemented at National Institute of Technology, Meghalaya, Bijn Complex; Shillong-793003
- 15) **Mapping of geographical distribution and identification of new invasive spp. of insects-pest and diseases, simulated futuristic crop water foot prints scenarios for Major Crops, in Himachal Pradesh.”** to be implemented at Centre for Geo-Informatics Research and Training, CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur, Himachal Pradesh under the HICAB state Network Programme
- 16) **Climate Change assessment in selected areas of Meghalaya using meteorological measurements and its impact on water resources”** to be implemented at Department of Physics, North-Eastern Hill University, Mawkynroh-Umshing, Mawlai, Shillong, Meghalaya under the HICAB state Network Programme
- 17) **Modeling the impact of aerosols/gases on regional climate and weather extremes over Sub Himalayan North East Region”** to be implemented at Centre for Atmospheric Studies, Department of Physics Dibrugarh University, Dibrugarh, Assam under the HICAB state Network Programme
- 18) **Adaptive Water Balance Schematization at Sub-basin Scale for Dynamic Climatic Variations in Manipur IHR region”** to be implemented at Department of Civil Engineering, National Institute of Technology Manipur, Langol, Imphal-795 004 under the HICAB state Network Programme.

XL. Followings new projects under the *Himalayan Cryosphere* Programme were supported during the month for duration of three years:

- 1) **Study of Glacio-hydrological Processes at Naradu Glacier, Western Himalaya”** to be implemented at Sharda University, Knowledge Park-3, Greater Noida, Uttar Pradesh under NMSHE network programme on **Climate Change and Himalayan Cryosphere**
- 2) **An assessment of socio-economic impacts due to meltwater variability in Himalayan states”** to be implemented at The Energy and Resources Institute, India Habitat Centre Complex, Lodhi Road, New Delhi-110003 under NMSHE network programme on **Climate Change and Himalayan Cryosphere**
- 3) **The state and fate of the glaciers in Upper Alaknanda Basin (UAB), Central Himalaya, India”** to be implemented at HNB Garhwal University, Srinagar Garhwal -246714, Uttarakhand under the **Himalayan Cryosphere**.
- 4) **Himalayan Snow and Glacier Studies using Microwave Remote Sensing- A special emphasis on mass of seasonal snow and Eastern Himalaya”** to be implemented at Indian Institute of Technology Bombay under NMSHE network programme on **Climate Change and Himalayan Cryosphere**
- 5) **Assessment of Variability in Glacier melt and Snow melt Runoff under Projected Climatic Scenarios for Data Scarce Himalayan River Basins”** to be implemented at North Eastern Regional Institute of Science and Technology (NERIST) Nirjuli, Itanagar, Arunachal Pradesh under NMSHE network programme on **Climate Change and Himalayan Cryosphere**

- 6) **Retrieval of ice velocity using Interferometry techniques to understand the ice dynamics and glacier stored water of Karakoram glaciers”** to be implemented at CIIRC-Jyothy Institute of Technology Tataguni, off Kanakapura road, Bangalore- 560082, under the NMSHE Network Programme on Climate Change and Himalayan Cryosphere.

XLI. State Climate Change Centre’s are established in the followings States for duration of five years during the month.

- 1) **Establishment of Bihar State Knowledge Management Centre on Climate Change (SKMCC)”** to be implemented by Director (Ecology & Environment), Department of Environment, Forest & Climate Change, Govt. of Bihar under the National Mission of Strategic Knowledge of Climate Change
- 2) **Establishing Gujarat State Climate Change Center”** to be implemented by GEER Foundation, Gandhinagar, Indroda Nature Park, P.O. Sector-7, Gandhinagar, Gujarat under the National Mission of Strategic Knowledge of Climate Change
- 3) **Assam climate change society- it’s establishment/strengthening and maintenance”** to be implemented by Environment & forest department, Govt. of Assam under the under the National Mission of Strategic Knowledge of Climate Change.

D. New project supported to Strengthen the Existing DST Centre of Excellence in Climate Change: Divecha Centre for Climate Change” at Divecha Centre for Climate Change, **Indian Institute of Science, Bangalore -560012** under the National Mission for Strategic Knowledge on Climate Change (NMSKCC).

E. New project supported under Capacity Building Programme: Climate Adaptive Planning for Resilience and Sustainable Development in Multi-hazard Environment (CAP-RES)” under NMSKCC to National Institute of Disaster Management, New Delhi.

XLII. Meetings/ workshop held during the month:

National Workshop on Climate Change Vulnerability Assessment For The States And Union Territories Using A Common Framework was organized on 14th & 15th March 2019 at Indian Habitat Centre which was attended by more the 80 participants from Across the Indain Himalayan Region and the non Himalayan State as well as UT’s.