



भारतीय वनस्पति सर्वेक्षण
BOTANICAL SURVEY OF INDIA

ANNUAL RESEARCH PROGRAMME 2016-2017

भारतीय वनस्पति सर्वेक्षण
BOTANICAL SURVEY OF INDIA

पर्यावरण, वन एवम् जलवायु परिवर्तन मंत्रालय
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE
भारत सरकार/GOVERNMENT OF INDIA

Annual Research Programme 2016-2017
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ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

Sr. No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
1.	Grass Flora of Arunachal Pradesh	Dr. Manish Kandwal, Scientist C	2012 – 2017	Q1. Identification of previous collections. Q2. One field tour to Anjaw or Upper Siang District Q3. Identification of previous collection. Q4. One Herbarium tour to CAL and ASSAM and identification. Finalisation and submission of manuscript Total 01 Field tour and 01 HCT
2.	Flora of Pakhui Wildlife Sanctuary, East Kameng district (862 sq. km)	Dr. P. Satyanarayan, Scientist D Sri B. B. T. Tham, Botanist	2012 – 2017	Finalisation and submission of manuscript.
3.	Taxonomic Study of family Polypodiaceae (ca. 100 sp.) of North East India	Dr. V. K. Rawat, Scientist C	2012 – 2016 (Extnd. upto 2017)	Q1. Inventorisation and documentation of earlier collections. Q2. One field tour to West Kameng and Upper Siang District of Arunachal Pradesh. Identification of collections. Q3. Inventorisation and documentation of earlier collections. Q4. Finalisation and submission of manuscript. Total 01 Field tour
4.	Flora of Lohit district and Flora of Kamlang Wildlife Sanctuary, Arunachal Pradesh	Mr. Souravjyoti Borah, Botanist	2013 – 2017	Q1. One field tour to Lohit district. Q2. Processing and Mounting of the samples collected. Q3. One Herbarium consultation tour to ASSAM & CAL. Q4. Finalisation and submission of manuscript. Total 01 Field tour and 01 HCT
5.	Flora of East Kameng, Arunachal Pradesh	Dr. U. K. Tiwari, Scientist B	2015 – 2019	Q1. One Field tour to Khenewa, Pakke Kessang, Pipu and Richukrong block. Q2. One Field tour to High altitudes of Sawa and Lada blocks Q3. One Herbarium consultation tour for identification of unidentified specimens collected from field ASSAM and SHRC, Sikkim. Q4. Preparation of description for identified specimens. Total 02 Field tours and 01 HCT
6.	Red listing of orchids of Arunachal Pradesh as per IUCN criteria (this project will be a part of already existing project; "Red listing of orchids of Eastern Himalaya as per IUCN criteria" being executed by Dr. Dinesh Agarwala, Sci. C, SHRC, Gangtok)	Dr. Krishna Chowlu, Scientist B	2015 – 2019	Q1. One Field tour for 20 days to Anjaw, Lohit & Namsai District. Q2. One Field tour to Tawang & West Kameng District for 15 days. Taxon Data sheets to be completed. Q3. One Field tour to Kurung kumey District for 10 days. Q4. To undergo short term training on GIS mapping at NRSA Hyderabad/IIRS Dehra Dun. Taxon data sheets to be filled up for the report. Total 03 Field tours
7.	Introduction, conservation of Germ-plasm of Musa, Bamboos & Zingibers and documentation of phenology of garden plants	Sri B. B. T. Tham, Botanist	On going	Germplasm to be collected in regular tours and introduced at APRC, Itanagar or at Barapani, Shillong. Documentation of phenology of flowering and fruiting.

Nature of Tour	Q1	Q2	Q3	Q4	Total
Field Tours	3	4	1	0	8
Herbarium Consultation Tours	0	0	2	1	3
Tour for Training Programme	0	0	0	1	1

EASTERN REGIONAL CENTRE, SHILLONG

Sr No.	Name of the Project	Name of Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017	
8.	Flora of Yangoupokpi Lokchao Wildlife Sanctuary, Chandel District, Manipur (184.80 sq. km)	Dr. A. A. Mao, Scientist F and Shri L. R. Meitei, Bot. Asstt.	2014 – 2017	Q1. Identification of specimens and documentation of species collected earlier Q2. One field tour to the Laishenching Forest Areas and Monjang Forest Areas of the Wildlife Sanctuary. Identification of specimens and documentation of species collected. Q3. One Herbarium Consultation tour to CAL Q4. Finalisation and submission of manuscript Total 01 Field tour and 01 HCT	
9.	Flora of Amchang Wildlife Sanctuary, Kamrup, Assam (78.64 sq. km)	Dr. A. A. Mao, Scientist F	2014 – 2017	Identification of specimens and documentation of species collected earlier. Finalisation and submission of manuscript.	
10.	Taxonomic Revision of genus <i>Riccia</i> (Marchantiophyta) in India	Dr. S.K. Singh, Scientist D	2014 – 2019	Q1 Survey of Literature to be continued. Identification of the specimens of family Ricciaceae from previous collection Q2 Study of literature will be continued and nomenclature of 2 species will be checked thoroughly. Identification, camera-lucida illustrations, description, micro-photography, SEM studies of 3 sp. to be completed. One local field tour to Guwahati for collection of fresh plant Q3 Study of literature will be continued. Nomenclature of 2 spp. to be checked thoroughly. Identification, camera-lucida illustrations, description, micro-photography, SEM studies of 2 species to be completed. 1 local field tour to Pynursla Meghalaya for collection of fresh plant. Q4 Study of literature will be continued. Nomenclature of 2 species to be checked thoroughly. Identification, camera-lucida illustrations, description, micro-photography, SEM studies of 3 species to be completed.	In addition to this, the executing scientist is also to submit the final manuscript of Bryoflora (Hepaticae & Anthocerotae) of Mizoram by March 2017.
11.	Flora of Eastern Nagaland (<i>Mon, Tuensang, Kiphire & Longleng</i>) (8335 sq. km)	Dr. N. Odyuo, Scientist D; Dr. Ranjit Daimary, Bot. Asstt.	2014 – 2019	Q1 One field tour during April-May, 2016 to Mon district. Identification and documentation of specimens collected. Q2 One field tour during July-August, 2016 to Tuensang district. Identification and documentation of specimens collected. Q3 One field tour to Kiphire and Longleng district. Identification and documentation of specimens collected. Q4 Identification and documentation of specimens collected during Q1, Q2 and Q3. Total 03 Field tours	
12.	Micro-propagation, Phytochemical Screening of Medicinal Plants and Molecular Characterization of Selected Species Complexes of NE India	Dr. Deepu Vijayan, Scientist B	2014 – 2017	Q1 Maintenance of cultures and establishment of new cultures. Hardening and maintenance of plants in green house/garden. Q2 Development of chemical fingerprints of medicinal plants Q3 DNA fingerprinting of selected plants using RAPD, ISSR and ITS markers Q4 Data interpretation and statistical analysis. Final report preparation	
13.	Taxonomy, phylogeny & ex-situ conservation of micro-fungal diversity from NE India with special emphasis on fungi associated with EET plants of Meghalaya	Dr. Ashish Venkatesh Prabhugaonkar, Scientist B	2015 – 2018	Q1 Study of fungi associated with <i>Calamus khasianus</i> Becc. Preparation of detailed descriptions and photo-plates Q2 Study of fungi associated with <i>Wallichia nana</i> Griff., <i>Calamus latifolius</i> Roxb. Preparation of descriptions and photo-plates Q3 Study of fungi associated with <i>Citrus latipes</i> (Swingle) Yu. Tanka. Preparation of detailed descriptions photoplates Q4 Study of fungi associated with <i>Calamus meghalayensis</i> A.J. Hend., <i>Pinanga griffithii</i> Becc. Preparation of detailed descriptions and photo-plates	

Sr No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
14.	Micropropagation of RET plants of North East India	Dr. A. A. Mao, Scientist F & Ms. L. Ibemhal Chanu, Bot. Asstt.	2012 – 2017	Q1 Standardisation of the protocols for <i>Cymbidium tigrinum</i> , <i>Rhododendron coxianum</i> , and <i>Armadorum senapatianum</i> . Development of culture protocols for <i>Ilex khasiana</i> and <i>Paphiopedilum hirsutissimum</i> . Q2 Finalisation of culture protocols for <i>Cymbidium tigrinum</i> , <i>Rhododendron coxianum</i> , and <i>Armadorum senapatianum</i> . Q3 Continue development of culture protocols for <i>Ilex khasiana</i> and <i>Paphiopedilum hirsutissimum</i> .
15.	Flora of Nagaland (Vol. 1 & 2) New Project	Dr. A.A. Mao, Scientist F, Dr. N. Odyuo, Scientist D and Sri D.K. Roy, Botanical Assistant	2016 – 2021	Q1 Study of relevant literature in the Library of BSI, ERC, Shillong. Study of Herbarium specimens housed in ASSAM. One Field Tour in May, 2016 to Phek district (20 Day) Q2 Identification & documentation of specimens collected Q3 One field Tour in the Month of October, 2016 to Wokha district. Identification & documentation of collected specimens Q4 One field Tour in the Month of March, 2017 to Peren district. Identification & documentation of collected specimens Total 03 Field tours
16.	Flora of west & south-west khasi hills district with special reference to the sacred groves New Project	Dr. Chaya Deori, Sci. D and Shri S. R. Talukdar, Bot. Assistant	2016 – 2019	Study of relevant literature earlier published and available herbarium specimens in ASSAM. Two Field tour to the study area in Q1 and Q3. Identification of specimens and documentation of species collected from the tours Total 02 Field tours
17.	Ex situ conservation of endemic, threatened and economically important plants of the region in experimental gardens of ERC and documentation of phenological data	Dr. M. Murugesan, Scientist B and Sri L. R. Meitei, Botanical Assistant	Ongoing	Q1 Supervision and general maintenance of works carried out in the Experimental Botanic Garden. Recording of phenological data of plant species growing in the Garden Q2 One field tour to Tawi Wildlife Sanctuary, Aizawl for collection of live plants of RET and economically important species Q3 Supervision and general maintenance of works carried out in the Experimental Garden. Recording of phenological data of plant species growing in the Garden. Q4 Supervision and general maintenance of works carried out in the Experimental Garden. Recording of phenological data of plant species growing in the Garden. Total 01 ex-situ conservation tour

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	3	2	3	1	9
Herbarium Consultation Tour	0	0	1	0	1
Ex-Situ conservation tour	0	1	0	0	1

PLANT CHEMISTRY

Sr No	Name of the Project	Name of Executing Scientists	Tenure	Proposed Quantifiable deliverables (targets) for 2016 – 2017
18.	Chemical composition & nutritive value of Wild Edible Plants of NE Region	Dr. Tapan Seal, Scientist B	2008 – 2018	Nutritive values, mineral estimation and antioxidant profile (Total phenolic content, DPPH radical scavenging activities, ABTS assay, flavonoid content, flavonol content and reducing power) of 20 plant species to be carried out. Quantitative estimation of Aesculin, Catechin, Rutin, Quercetin, Coumarin, Kaempferol, Luteolin, Naringin, Naringenin, Apigenin, Myricetin, Gallic acid, Protocatechuic acid, Gentisic acid, Vanilic acid, Chlorogenic acid, Ellagic acid, Ferulic acid, salicylic acid, Caffeic acid, Syringic acid, p-Coumaric acid and Sinapic acid content in 10 wild edible plants to be carried out using HPLC. Water soluble vitamin like B1, B2, B3, B5, B6 and B12 of 10 plants to be carried out by HPLC. One field tour to be undertaken in Q3 to North East India.

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	0	0	1	0	1

SIKKIM HIMALAYAN REGIONAL CENTRE. GANGTOK

Sr No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
19.	Redlisting of Orchids of Eastern Himalaya (<i>Entire Sikkim, Darjeeling district of West Bengal and Arunachal Pradesh excl. Changlang and Tirap</i>) as per IUCN criteria	Dr. D. K. Agrawala, Scientist C	2013 – 2018	Q1. Compilation of data collected during previous year. 500 herbarium specimens will be studied in respect of their identity, geo-coordinates will be assigned and data to be entered in spread sheet. Q2. 500 herbarium specimens will be studied in respect of their identity, geo-coordinates will be assigned and data to be entered in spread sheet. Q3. Data sheets of 100 species to be prepared. Q4. Data sheets of 100 species to be prepared. Training on GIS mapping at NRSA Hyderabad or IIRS D'dun
20.	Flora of Sikkim: Family Onagraceae	Dr. David Lalsama Biate, Scientist 'B' and Dr. D.K. Agrawala, Scientist C	October 2015- March 2017	Q1 Study of specimens at BSHC and compilation of information collected so far. Q2 One herbarium consultation tour to CNH for study of Onagraceae specimens collected from Sikkim; two local field tours for study of fresh specimens. Q3 Compilation of information and writing of manuscript. Q4 Finalization and submission of manuscript.
21.	Flora of Sacred Groves of East Sikkim	Dr. Sankar Rao Mudadla, Sci. B	2016 – 2017	08 intensive floristic surveys in the two out of five sacred groves of E. Sikkim to be conducted in all the seasons during the period. Submission of detailed floristic account.

** Dr. Sankar Rao Mudadla, Scientist B will also update the BSHC herbarium and is responsible for its digitisation in 2016 – 17

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Local Field Tour for project 21.	1	2	3	2	8
Herb. Consult. tour for project 20	0	1	0	0	1

BOTANIC GARDEN OF INDIAN REPUBLIC, NOIDA

Sr No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017		
22.	Seed storage behavior of seeds of various plant species growing in BGIR and their <i>ex-situ</i> conservation	Dr. K.S. Dogra, Scientist C	Ongoing	Seeds from 25 plant species growing in the garden to be collected and following parameters to be studied: <ul style="list-style-type: none">● <i>Collection of seeds from garden;</i>● <i>Cleaning of seeds in the laboratory;</i>● <i>Germination of seeds;</i>● <i>Viability test of seeds;</i>● <i>Measurement of moisture content of seeds;</i>● <i>Drying of seeds;</i>● <i>Classification of seed types i.e. Orthodox, Recalcitrant, Intermediate;</i>		
23.	Development of Database of Seeds of indigenous trees of BGIR, NOIDA					
24.	Protocol Development for germination of selected tree species of BGIR, NOIDA					
25.	Collection of plants for introduction in BGIR	Dr. Sheokumar, Scientist E	Ongoing	Plant collection tour in Q3 to collect Wild Edible, Economic, Oil yielding, RET & Endemic plants from Punjab and Himachal Pradesh) and their introduction at BGIR for their <i>ex-situ</i> conservation <i>Total 01 Ex-situ conservation tour</i>		
26.	Development of database of introduced trees of BGIR, NOIDA	Dr. Sheokumar, Scientist E	Ongoing	Collection & incorporation of the data in the database on the tree species introduced in the garden.		
27.	Development of database of medicinal plants of BGIR	Dr. Sheokumar, Scientist E	Ongoing	Collection & incorporation of the data in the database on medicinal plants		
28.	Documentation of phenological data of flowering and fruiting of the species growing in BGIR	Dr. K.S. Dogra, Scientist C	Ongoing	Documentation of phenological data of species growing in the garden (<i>List of species to be intimated</i>)		
Nature of Tour		Q1	Q2	Q3	Q4	Annual
Ex situ conservation Tour		0	0	1	0	1

CENTRAL REGIONAL CENTRE, ALLAHABAD

Sr No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
29.	Floristic Diversity of Parvati Aranga Wildlife Sanctuary and adjacent Tikri forest area, Gonda, Uttar Pradesh (80 sq. km)	Sri V. K. Singh, Botanical Assistant (under guidance of Dr. S. K. Srivastava, Scientist D, NRC)	2014 – 2017	Q1. Identification and taxonomic description of 40 species. One field tour in 3 rd week of June, 2016. Q2. Identification and taxonomic description of 40 species. Q3. Identification and taxonomic description of 40 species. One herbarium consultation tour to NBRI Q4. Finalisation and submission of manuscript Total 01 Field tour & 01 Herbarium Consultation Tour
30.	Flora of Chhattisgarh (Dicot – 1750 sp.)	Dr. A. N. Shukla, Sci. B Sri A. P. Tiwari, Senior Preservation Assistant	2012 – 2017	Q1. One Herbarium consultation tour to SFRI, Jabalpur for Identification of unidentified specimens collected. Q2. to Q4. Finalisation and submission of manuscript. Total 01 Herb. Consultation Tour
31.	Flora of Chhattisgarh (Monocot – 570 sp.)	Dr. G. P. Sinha, Sci. E Dr. A. Garg, Scientist D Dr. N. K. Gautam, Sci. B Dr. A. Verma, Scientist B Dr. B. Joshi, Bot. Asstt. Sri R. Kar, Bot. Asstt. Sri V.K. Singh, Bot. Asstt. Dr. N. Srivastava, Bot. Asstt.	2016 – 2018	1. Dr. G. P. Sinha, Scientist E: Orchidaceae – 69 spp. 2. Dr. A. Garg, Scientist D: Poaceae – 120 species 3. Dr. N. K. Gautam, Scientist B – Flagellariaceae to Aponogetonaceae and Zannichelliaceae – 47 species 4. Dr. A. Verma, Scientist B: Potamogetonaceae, Eriocaulaceae and Cyperaceae – 122 species 5. Dr. B. Joshi, Botanical Asstt.: Dioscoraceae to Pontedariaceae and Commelinaceae – 57 species 6. Sri R. Kar, Bot. Asstt.: Poaceae – 55 species 7. Sri V. K. Singh, Bot. Asstt.: Hydrocharitaceae to Burmanniaceae and Xylariaceae – 52 species 8. Dr. N. Srivastava, Bot. Asstt.: Poaceae – 48 species
32.	Flora of Chandra Prabha Wildlife Sanctuary, Chandauli, Uttar Pradesh (78 sq. km.)	Dr. A. N. Shukla, Sci. B Dr. Nitisha Srivastava, Botanical Assistant	2015 – 2017	Q1. One field tour to the unexplored or under explored areas of the sanctuary. Identification and documentation of specimens collected. Q2. Inventorisation of specimens collected in previous tour Q3. Identification and documentation of the all the remaining specimens collected Q4. Finalisation and submission of manuscript Total 01 Field tour
33.	Lichens of Rajasthan, Kutch and Gujarat	Dr. G.P.Sinha, Scientist D Sri Rasanand Kar, Botanical Assistant	2012 – 2017	Q1 Identification of specimens collected earlier. Q2 Identification of specimens collected earlier. Q3 Survey and collection tour to Junagarh and Porebandar districts of Gujarat in first week of November 2016. Completion of inventorisation. Q4 Completion of identification of lichens collected in previous tour; finalization and submission of mss. Total 01 Field tour
34.	Floristic diversity of Kishanpur Wildlife Sanctuary, Lakhimpur Kheri, UP. (227 sq. km.) New Project	Dr. Neelam Gautam, Scientist B Sri Arjun Prasad Tiwari, Sr. Pres. Asstt. and Dr. B. Joshi, Botanical Asstt.	2016 – 2019	Q1. Study of relevant literature and previous collections. Q2. One Field tour in 2 nd week of August. Q3. Processing and identification of specimens collected during the previous field exploration tours. Q4. One Field tour for 10 days in 2 nd week of Feb., 2017 Total 02 Field tours
35.	Floristic diversity of 'Bhoj Ramsar Site' in Madhya Pradesh New Project	Dr. Arti Garg, Scientist D & Sri Rasanand Kar, Botanical Assistant	2016 – 2018	Q1. Literature Survey and mapping of the area. Q2. Field Tour to the Bhoj Ramsar Site in M.P. Identification of specimens collected. Q3. Herb. Con. Tour to Barkatullah University, Bhopal. Identification of specimens collected. Q4. Identification of specimens collected. Total 01 Field tour and 01 HCT

Nature of Tour	Q1	Q2	Q3	Q4	Total
Field Tour	2	2	1	1	6
Herbarium Consultation Tour	1	0	2	0	3

NORTHERN REGIONAL CENTRE, DEHRADUN

Sr. No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
36.	Floristic Diversity and Phytosociological study of Simbalbara National Park, Himachal Pradesh (Area c. 301.00 sq. km)	Dr. S. K. Srivastava, Scientist E Dr. M. R. Debta, Scientist B	2014 – 2017	Identification and documentation of identified species. One field tour in 3 rd Quarter. Finalisation and submission of manuscript. Total 01 Field Tour
37.	Flora of Sonanadi Wildlife Sanctuary, Uttarakhand (Area c. 300.00 sq. km)	Dr. R. Manikandan, Scientist D	2014 – 2017	Q1. Identification and description of identified species Q2. Description of identified species. Q3. Documentation of the species. Q4. Submission of final report.
38.	Flora of Nandhour Wild Life Sanctuary, Uttarakhand (Area c. 269.95 sq. km)	Dr. K. Ambrish, Scientist D Sri Arvind Kumar Sr. Pres. Asstt.	2014 – 2017	Q1. Identification & description of identified species Q2. Identification & description of identified species Q3. Documentation of the species. Q4. Submission of final report.
39.	Taxonomic revision of Tree ferns of India (<i>Cyathea</i> – 15 sp., <i>Cibotium</i> – 1 sp. and <i>Brainea</i> – 1 sp.)	Dr. B. S. Kholia, Scientist D	2014 – 2017	Q1. Collection of type material and study of previously procured specimens Q2. Documentation of studied species (c. 8) Q3. One Herbarium cum field tour to ARUN and ASSAM. Q4. Documentation of remaining species (c. 8) and Preparation of final report. Total 01 Field Tour and 01 Herbarium Consultation Tour
40.	Revision of genus <i>Adiantum</i> L. (Adiantaceae) in India and SEM studies of selected species (New project)	Dr. Brijesh Kumar, Botanical Asstt.	2016 – 2020	Q1. Compilation of synonymy for each species and study of literature. Q2. Procurement of protologue and type specimens Q3. Procurement and study of herbarium specimens on loan Q4. Detailed study of herbarium specimens procured from different herbaria. Preparation of line drawing and photoplates.
41.	Trees of Dehradun City and its Environs (New project)	Sri V. K. Madhukar, Botanical Asstt. Dr. S. K. Srivastava, Scientist E	2016 – 2019	Q1. Literature & herbarium consultation (BSD, DD) Q2. Collection, photography, herbarium consultation (BSD, DD) and Identification Q3. Collection, Photography and Identification (100 spp.) Q4. Study of Literature, nomenclature updation
42.	Hydrocharitaceae to Iridaceae; Hypoxidaceae to Liliaceae. c. 160 sp.	Dr. Durgesh Verma, Botanical Asstt. Dr. S.K. Srivastava, Scientist E	2015 – 2017	Documentation of 80 species in 2016– 17. Finalisation and submission of manuscript
	Cyperaceae [<i>Baeothryon</i> – <i>Diplacrum</i> c 108 sp.]	Dr. M. R. Debta, Scientist B Dr. S. K. Srivastava Scientist E	2015 – 2017	Documentation of 54 species in 2016– 17. Finalisation and submission of manuscript
	Smilacaceae to Juncaceae c. 65 sp.	Dr. K. Ambrish, Scientist D	2015 – 2017	Documentation of 32 species in 2016– 17. Finalisation and submission of manuscript
	Cyperaceae [<i>Eleocharis</i> – <i>Scleria</i> c 109 sp.]	Sri Sachin Sharma, Botanical Asstt. Dr. S.K. Srivastava Scientist E	2015 – 2017	Documentation of 55 species in 2016– 17. Finalisation and submission of manuscript
	Amaryllidaceae, Lemnaceae – Eriocaulaceae (c. 64 sp.)	Dr. R. Manikandan, Scientist D	2015 – 2017	Documentation of 32 species in 2016– 17. One herbarium consultation tour in 1 st quarter to Kumaun University Herbarium, Nainital and RRIHF, Ranikhet (RKT). Finalisation and submission of manuscript. Total 01 Herbarium Consultation Tour

Sr. No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
43.	Assessment and status Report on Threatened Plants of Western Himalaya <i>(New project)</i>	Dr. P.K. Pusalkar, Scientist D Dr. S.K. Srivastava Scientist E	2016 – 2017	Q1. Literature herbarium study including data compilation and one field tour to some part of western Himalaya. Q2. Literature herbarium study including data compilation and one field tour to some part of western Himalaya. Q3. One Herbarium Consultation tour to LWG [NBRI, Lucknow] and Literature herbarium study including data compilation. Q4. Preparation, formatting and submission of assessment and status report. Total 02 Field tours and 01 Herbarium Consultation Tour
44.	Flora of Sechu Tuan Nala Wildlife Sanctuary, Chamba District, Himachal Pradesh <i>(New project)</i>	Dr. Puneet Kumar, Scientist B	2016 – 2020	Q1. Listing of species from published literature as well as from herbarium. Q2. One Field tour to the area. Q3. One Herbarium Consultation tour to PUN & PAN. Q4. Identification and writing description of identified species Total 01 Field tour and 01 Herbarium Consultation Tour
45.	Micropropagation of critically endangered <i>Incarvillea emodi</i> (Bignoniaceae) and <i>Catamixis baccharoides</i> (Asteraceae) <i>(New project)</i>	Dr. G. S. Panwar, Scientist B	2016 – 2018	Q1. Collection of seeds/explants from the wild population. <i>In vitro</i> germination of the seeds of <i>Incarvillea emodi</i> and <i>Catamixis baccharoides</i> . Q2. Screening of plant growth regulators to induce the direct organogenesis in <i>C. baccharoides</i> . Q3. Callus induction in young meristematic tissues of <i>Incarvillea emodi</i> and <i>Catamixis baccharoides</i> . Subculturing and maintenance of stock cultures. Q4. To observe the relative efficiency of plant growth regulators, organogenesis and callus induction of targeted species
46.	Ex-situ Conservation of Endemic, Threatened and Economic Plant Species in the experimental gardens of NRC and documentation of phenological data on flowering and fruiting every month	Dr. B. S. Kholia, Scientist D Dr. R. Manikandan, Scientist D Sri V. K. Madhukar, Botanical Asstt. Sri Purushottam Kumar Deroliya Botanical Asstt.	Ongoing	Q1. One tour to Garhwal Himalaya for collection of <i>Semecarpus anacardium</i> , <i>Helictres isora</i> , <i>Abrus pulchellus</i> , <i>Bischofia javanica</i> , <i>Eria pubescens</i> , <i>Flingeria fugax</i> , <i>Firmi anapallens</i> , <i>Hedychium thyrsoforme</i> , <i>Phoenix acaulis</i> . Q2. One tour to Siwalik, Tarai regions for collection of <i>Microlepis marginata</i> , <i>Microlepis spelunce</i> , <i>Osmunda japonica</i> , <i>Thelyperis paulestris</i> . Q3. Recording of phonological data Q4. Recording of phonological data Total 02 Ex-situ conservation tours

Nature of Tour	Q1	Q2	Q3	Q4	Total
Field Tour	1	2	2	0	5
Herbarium Consultation Tour	1	0	3	0	4
Ex-situ conservation tour	1	1	0	0	2

PUBLICATION SECTION, BSI – HQRS.

Sr. No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
47.	Interpretations of Roxburgh Icons in respect to current nomenclature: Family Leguminosae	Dr. Debasmita Dutta Pramanik, Scientist B & Dr. S.S. Dash, Scientist D	2015 – 2018	Listing of taxa of the family leguminosae from authentic and current literature. Listing of taxa from Roxburgh Icons. Study of herbarium specimens deposited in CAL and BSIS. Interpretation of 50 species.

ARID ZONE REGIONAL CENTRE, JODHPUR

Sr No	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017		
48.	Flora of Shoolpaneshwar Wildlife Sanctuary, Narmada, Gujarat (c. 607.7 sq. km)	Dr. S. L. Meena, Scientist D and Dr. Harikrishna Peddi, Botanical Assistant	2012 – 2017	Q1. One Herbarium consultation tour to Pune (BSI), MS Vadodara (BARO) and Sardar Patel Univ. Herb., Anand. Q2. Identification, inventorisation and documentation of specimens collected in previous tour. One Field Tour to the unexplored area of the sanctuary. Q3. Identification, inventorisation and documentation of specimen collected in previous tours Q4. Identification, inventorisation & documentation of specimen collected in previous tours. Finalisation & submission of mss. Total 01 Field Tour and 01 Herbarium Consultation Tour		
49.	Flora of Navsari district, Gujarat (c. 2211 sq. km)	Dr. R. Kumar, Scientist C, Sri V. Maina, Scientist D	2015 – 2020	Q1. Identification, inventorisation and documentation of specimens collected in previous tours. Q2. One Field Tour to the unexplored area of the district. Identification, inventorisation and documentation of specimens collected in tour. Identification, inventorisation & documentation of specimens collected in previous tours. Q3. Identification, inventorisation and documentation of specimens collected in previous tours. Q4. One Field Tour to the unexplored area of the district. Identification, inventorisation and documentation of specimens collected in tour. Identification, inventorisation & documentation of specimens collected in previous tours. Total 02 Field tours		
50.	Flora of Sariksa Tiger Reserve, Alwar, Rajasthan (c. 866 sq. km)	Sri M.K.Singhadiya, Botanist and Sri Ravi Prasad, Botanical Asstt.	2015 – 2019	Q1. Identification, inventorisation & documentation of specimens collected in previous tours. Q2. One Field Tour to the unexplored area of the district. Identification, inventorisation & documentation of specimens collected in tour. Q3. & Q4. Identification, inventorisation and documentation of specimens collected in previous tours. Total 01 Field tour		
51.	Flora of Todgarh-Raoli Wildlife Sanctuary, Rajasthan (c. 495 sq. km)	Dr. C. S. Purohit, Scientist B	2015 – 2020	Q1. Literature consultation and accumulation of information; Herbarium study at JNV Univ., Jodhpur & CAZRI, Jodhpur Q2. One long duration field tour to the Sanctuary. Q3. & Q4. Processing & identification of herbarium specimens collected in previous tour. Inventorisation & documentation of specimens collected in previous tours. Total 01 Field tour		
52.	Ex-situ conservation of RET and economically important species of the Arid region in the Experimental Garden of AZRC and documentation of phenological data on flowering & fruiting.	Sri Vinod Maina, Scientist D, Dr. R. Kumar, Scientist C, Dr. C. S. Purohit, Scientist B, Sri M. K. Singhadi, Botanist, Dr. H. K. Peddi, Botanical Asstt. Sri Ravi Prasad, Botanical Asstt.	Ongoing	Plant saplings of RET and economically important species will be collected during various tours for <i>Ex-situ</i> conservation in the Experimental Garden of AZRC and documentation of phenological data on flowering & fruiting of plant species introduced in Desert Botanical Garden .		
Nature of Tour		Q1	Q2	Q3	Q4	Annual
Field Tour		0	4	0	1	5
Herbarium Consultation Tour		1	0	0	0	1

In addition to above, Dr. C. S. Purohit, Sri M. K. Singhadiya & Sri Ramesh Kumar will continue the process of augmentation & digitization of BSJO

WESTERN REGIONAL CENTRE, PUNE

Sr No	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
53.	Ferns of Karnataka	Dr. A. Benniamin, Scientist D	2014 – 2018	<p>Q1. Processing and Identification of plant specimens collected during earlier field tours.</p> <p>Q2. Survey of literature and correspondence to forest department for necessary permission for field survey.</p> <p>Q3. One field tour to unexplored areas of Karnataka. Around 100 sq.km area to be covered.</p> <p>Q4. One field tour to unexplored areas of Karnataka. Around 150 sq.km area to be covered.</p> <p>Total 02 field tours</p>
54.	Flora of Biligiriranga swamy Temple Wildlife Sanctuary, Karnataka (ca. 539 sq. km)	Dr. (Ms.) J. Jayanthi, Scientist D	2013 – 2017	<p>Q1. One HCT tour to recognized herbaria in Karnataka. Processing & Identification of specimens collected.</p> <p>Q2. One HCT tour to recognized herbaria. Processing & Identification of specimens collected.</p> <p>Q3. One field tour to be conducted. Processing & Identification of specimens collected.</p> <p>Q4. One field tour to be conducted. Description of 50 species to be completed. Finalisation and submission of mss.</p> <p>Total 02 field tours and 02 Herb. Consultation Tours</p>
55.	An assessment of Orchid diversity of Central Western Ghats: Goa & Karnataka	Dr. Jeewan Singh Jalal, Scientist C	2015-2017	<p>Q1. One field tour to be undertaken to explore epiphytic orchids in different protected areas and adjoining forests of Goa in the month of June (peak flowering month of orchids). Data such as GPS location, habitat, host species, threats and population (by counting the mature individuals) to be recorded. Standard methodology will be adopted to count mature individuals.</p> <p>Q2. One field tour to be undertaken to the diverse habitats in Goa to explore the terrestrial orchids in the month of August to September. As rainy season is the ideal for most of the terrestrial orchids. Data such as GPS location, habitat, threats and population (by counting mature individuals) to be recorded.</p> <p>Q3. One herbarium tour to be undertaken to critical study of the herbarium specimens to recognized herbaria. Assigning of geo-coordinates of studies herbarium specimens. Data to be entered in the excel sheet.</p> <p>Q4. Identification of collected specimens, processing for mounting, level writing, field data analysis. Preparation of photo plates, preparation of distribution maps with the help of ArcGIS software. Finalisation and submission of mss.</p> <p>Total 02 field tours and 01 Herb. Consultation Tour.</p>
56.	Floristic survey of Someshwara Wildlife Sanctuary, Karnataka 88.40 sq. km.	Dr. C.R. Jadhav, Botanist	2015 – 2017	<p>Q1. One field exploration tour to be undertaken to Someshwara WLS after obtaining permission from PCCF, Karnataka and about 40 sq. km area to be covered. Processing, study & identification of collected sample specimens.</p> <p>Q2. One field exploration tour in July to be undertaken to cover about 30 sq. km area. Processing, Study & identification of the collected sample specimens. Writing of description of about 30 species to be carried out.</p> <p>Q3. One herbarium consultation tour to IISc, Bangalore for identification will be undertaken in November. Processing, study & identification of the collected sample specimens. Writing of description of about 30 species to be carried out.</p> <p>Q4. One field exploration tour in January will be undertaken to cover about 40 sq. km area. Processing, study & identification of collected sample specimens. Writing of description of about 30 species to be carried out. Finalisation and submission of mss.</p> <p>Total 03 field tours & 01 Herb. Consultation Tour</p>

Sr No	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
57.	Taxonomic studies of Microfungi of Sanjay Gandhi National Park, Maharashtra along with its 10 % peripheral area (New project)	Dr. Rashmi Dubey Scientist D	2016 – 2020	Q1. Collection of literature from different sources. Seeking permissions from State Forest Departments to undertake the work in national park. Q2. One field tour to be undertaken to collect the phyllospheric micro fungi proliferating in post monsoon season. Identification of host substrates. Processing of samples (preparation of temporary slides, isolation of fungal species on different suitable media collected from different substrates). Identification and microscopic photography. Q3. Isolation, identification and characterisation of fungal species collected from different phyllospheric substrates in previous tour. Herb. Consultation tour to any nationalised fungal herbarium. Q4. One field tour to be undertaken to collect phyllospheric microfungi proliferating in post winter season. Isolation, identification and characterisation of phyllospheric micro fungi. SEM studies of important fungal species. Total 02 field tours & 01 Herb. Consultation Tour
58.	Floristic Diversity of Wan Wildlife Sanctuary (211 sq. km.) (New project)	Dr. Priyanka Ingle, Scientist B	2016 – 2020	Q1. Survey of literature and herbarium specimens Q2. One field tour during July-August 2016. Around 50 sq. km. area will be covered. Study, identification and writing descriptions for the 30 collected specimens Q3. One field tour during September-November 2016. Around 50 sq. km. area will be covered. Study, identification and writing descriptions for the 30 collected specimens Q4. Study, identification and writing descriptions for the collected specimens. Descriptions of c. 60 species will be completed Total 02 field tours
59.	Biodiversity assessment of microalgae from thermal springs of Maharashtra (New project)	Dr. S. Bhakta, Botanical Assistant	2016 – 2019	Q1. Collection of literatures Q2. Review of literatures and lab set up for algal work Q3. Field tours to thermal springs for sample collection Q4. Microscopy and diagnosis of algal samples Total 01 field tour
60.	Flora of Pushpagiri Wildlife Sanctuary (102.92 km ² .) (New project)	Sameer. C. Patil, Bot. Asstt. (under guidance of Dr. P. Lakshmi Narasimhan, Scientist E)	2016 – 2020	Q1. Review of literature, preparation of reference cards. Q2. Field tour to be conducted in the month of August. Critical study of the herbarium specimens housed in BSI along with identification of the collected specimens. Q3. Field tour to be conducted in the month of December. Critical study of the herbarium specimens housed in BSI along with identification of the collected specimens. Q4. Field tour to be conducted in the month of March. Critical study of the herbarium specimens housed in BSI along with identification of the collected specimens. Total 03 field tours
61.	Pteridophytic flora of "Pushpagiri Wildlife Sanctuary, Karnataka with 10% periphery (New project)	D. Jesubalan Botanical Assistant (under the guidance of Dr. A. Benniamin, Scientist D)	2016 – 2020	Q1 Survey of literature and Herbarium specimens in BSI herbarium Q2 Survey of literature and correspondence to forest department for necessary permission for field survey. Q3 One field tour to Pushpagiri Wildlife Sanctuary. Around 50 sq.km area will be covered. Q4 One Literature and Herbarium consultation tour will be conducted to MG College, Udupi & Dharwad, Univ., Karnataka. Total 01 field tour & 1 Herb. Consultation Tour

Nature of Tour	Q1	Q2	Q3	Q4	Total
Field Tour	2	5	6	5	18
Herbarium Tour	1	1	3	1	6

DECCAN REGIONAL CENTRE, HYDERABAD

Sr No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
62.	Flora of Seshachalam Biosphere Reserve, Andhra Pradesh (c. 4755.99 sq. km)	Dr. P. V. Prasanna Scientist F and Sri Nagaraju Siddabathula, Bot. Asst.	2012 – 2017	Q1. One Herbarium consultation tour to Yogi Vemana University, Kadapa, Andhra Pradesh in June 2016. Identification and documentation of specimens unidentified so far. Q2. One Herbarium consultation tour to MH, Coimbatore for 15 working days in August 2016. Identification and documentation of specimens unidentified so far. Q3. Completion of Identification & documentation of all specimens collected in previous tours. Q4. Preparation and submission of report Total 02 Herbarium consultation tour
63.	Flora of Nagarjunasagar Srisailem Wildlife Sanctuary (Tiger Reserve), Andhra Pr. with population status of endemic threatened taxa and GIS mapping of plant species (c. 3568 sq. km)	Dr. L. Rasingam, Scientist- C and Sri Nagaraju Siddabathula, Bot. Asst.	2012 – 2017	Q1. Identification and documentation of specimens unidentified so far. Q2. One field tour during August 2016 to NSTR for plant survey and collection & Identification and documentation of specimens collected in previous tours. Q3. One Herbarium consultation tour to CNH in November 2016 for Identification and documentation of unidentified specimens Q4. Preparation and submission of report Total 01 field tour and 01 Herbarium Con. Tour
64.	Sacred Groves of Andhra Pradesh – Conservation Assessment <i>Formerly</i> Flora of 650 Sacred Groves of Andhra Pradesh	Dr. M. Ahmedullah, Scientist –E and Dr. J. Swamy, Botanical Assistant	2012 – 2017	Q1. One field tour to prioritised sacred groves of Kurnool district during April 2016 Q2. One field tour to prioritised sacred groves of Ananthapur district during June 2016 Q3. One field tour to prioritised sacred groves of Kadapa dist. during October 2016 Q4. One field tour to prioritised sacred groves of Nellore district during January 2017. Finalisation and submission of manuscript. Total 04 field tours
65.	Inventory of Macrolichen diversity of Odisha State	Dr. Swarnalatha Ginnaram, Botanical Assistant	2015 – 2018	Q1. One field tour to Odisha state during May/June 2016. Drying, mounting & preparation of herbarium pockets, field data incorporation. Study and initiation of identification of collected specimens. Q2. One Field tour to Odisha during August 2016. Drying, mounting and preparation of herbarium pockets, field data incorporation. One herbarium consultation tour to NBRI, Lucknow during September 2016. Q3. One field tour to Odisha during November 2016. Drying, mounting and preparation of herbarium pockets, field data incorporation. Study and initiation of identification process of collected specimens Q4. Continuation of study, identification collected specimens. Photographic documentation of identified species. Documentation of data accumulated so far. Total 03 field tours and 01 Herbarium Con. Tour

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	2	3	2	1	8
Herbarium Consultation Tour	1	2	1	0	4

SOUTHERN REGIONAL CENTRE, COIMBATORE

Sr No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
66.	Seaweed flora of Karnataka Coast with ecological aspects.	Dr. M. Palanisamy, Scientist D Mr. S. K. Yadav, Bot. Asstt.	2014 – 2017	2 plant exploration tours to Karnataka coastal region. Q2 – 1 st week of July, 2016; Q3 – 1 st week of Nov., 2016 1 Herbarium consultation tours to Q1 – CMFRI Cochin & CSMCRI, Ramnathpuram, T.N. Finalisation & submission of manuscript as per the Flora format.
67.	Pollen and Seed morphology of Genus <i>Andrographis</i> Wall. ex Nees using SEM	Dr. Gnanasekaran G., Bot. Assistant	2012 – 2017	3 species pollen morphology and 4 species seed morphology are to be studied. Finalisation & submission of manuscript.
68.	Seed morphology of <i>Ficus</i> L. using SEM	Dr. J. V. Sudhakar, Botanical Assistant	2012 – 2017	15 species will be studied with SEM. Finalisation & submission of manuscript.
69.	Study of Caryopsis in <i>Eragrostis</i> <i>Sporobolus</i> and <i>Tripogon</i> genera of Poaceae using SEM	Dr. K. A. A. Kabeer, Scientist D	2012 – 2017	Tentative Target: (15 species) <i>Tripogon</i> : 15 species.
70.	Study of Pollenia of South Indian Orchids using SEM	Dr. G. V. S. Murthy, Scientist G	2012 – 2017	To study pollenia of 25 species
71.	Floristic studies in Kodaikanal Wildlife Sanctuary, Tamil Nadu, India Area: 5,468 sq. km	Dr. K. A. A. Kabeer, Scientist D Mr. A. Ravi Kiran, Bot. Asst.	2015 – 2020	Q1. Processing and identification specimens collected earlier. One field tour to the unexplored areas of WLS. Collection and processing of specimens Q2. Identification, documentation and inventorisation of the collected specimens. One herbarium consultation tour to Rapinat Herbarium and NRSC Q3. One field tour to the unexplored areas of WLS. Collection and processing of specimens Q4. Identification, documentation and inventorisation of the collected specimens Total 02 field tours and 01 Herbarium consultation tour
72.	Cyperaceae of Tamil Nadu	Dr. G. V. S. Murthy, Scientist G, Dr. C. Murugan, Scientist D Dr. J. V. Sudhakar Botanical Asstt. Sri S. Armugam, Botanical Asstt.	2015 – 2020	Q1. One field tour to Tirunelveli district and adjoining areas. Collection and processing of specimens Q2. Identification, documentation and inventorisation of the collected specimens. One field tour to Madurai and Theni districts. Collection and processing of specimens Q3. One field tour to Nilgiris district. Collection and processing of specimens Q4. One field tour to Salem and Namakkal districts. Identification, documentation and inventorisation of the collected specimens Total 04 field tours
73.	<i>Ex situ</i> conservation of Endemic, Endangered and Threatened plants of the region and documentation of phenology of species in garden.	Dr. S. Kaliamoorthy, Scientist D Dr. M.Y. Kamble, Scientist D Dr. Sundaramoorthy, Scientist B Dr. T. Saravannan, Bot. Asst. Shri. B.S. Elango, Bot. Asstt.	Ongoing	Collection, introduction and multiplication of Orchids from south India (Dr. S. Kaliamoorthy & Dr. T. Saravannan) Q2 & Q 3: <i>Ex-situ</i> conservation tour to Silent Valley National Park for live plant collection. Collection, introduction and multiplication of Carallumas from south India (Dr. Sundaramoorthy & Shri. B.S. Elango) Q1: <i>Ex-situ</i> conservation tour to Chitheri and Yelagiri hills in Tamil Nadu for live plant collection Q2: : <i>Ex-situ</i> conservation tour to Ananthapur district in Andhra Pradesh for live plant collection Collection, introduction and multiplication of 10 endemic trees species from Mukurthi and Silent valley National Parks. (Dr. M.Y. Kamble & Dr. T. Saravannan) Q1 & Q 3: <i>Ex-situ</i> conservation tour to Silent Valley National Park for live plant collection. Total 06 ex-situ conservation tours

Sr No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017	
74.	Flora of Kanniyakumari Wildlife Sanctuary, Tamil Nadu (402.39 sq.km.) (New Project)	Dr. J. H. Franklin Benjamin Scientist B & Shri. Rakesh G Vadhyar, Bot. Asstt.	2016 – 2021	Q1. Study of relevant literature and herbarium specimens collected earlier for the area Q2. One field tour to the area. Collection and processing of specimens Q3. Identification, documentation and inventorisation of the collected specimens Q4. One field tour to the area. Collection and processing of specimens Total 02 field tours	
75.	Floristic Assessment of Meghamalai Wild Life Sanctuary, Tamil Nadu. (269 sq.km.) (New Project)	Dr. C. Murugan Scientist D and Shri S. Arumugam Botanical Asst.	2016 - 2020	Q1. Study of relevant literature published & examination of specimens collected earlier from the area and identification of gap areas for survey. One field tour to study area. Q2. Identification of specimens collected from the area. One field tour to unexplored areas. Q3. Identification of specimens collected from the area. One field tour to unexplored areas. Q4. Identification of specimens collected earlier from the area. Total 03 field tours	
76.	Study of Nutlets of tribe Cyperae and Fimbristyledeae from south India using SEM (c. 160 species) (New Project)	Dr. G.V.S. Murthy, Scientist G, Dr. G. Gnana-sekaran and Dr. J.V. Sudhakar, Bot. Assts Mr. K. Yarrayya and Ms. M. Anantha lakshmi, Sr. Pres. Assts.	2016 - 2019	50 species to be studied	
77.	A taxonomic revision of the genera <i>Diotacanthus</i> , <i>Haplanthodes</i> , <i>Gymnostachyum</i> and <i>Phlogacanthus</i> (Andrographinae: Acanthaceae) in India including pollen and seed morphology using SEM. (New Project)	Dr. G. Gnana-sekaran, Bot. Asstt. & Dr. G.V.S. Murthy, Scientist G	2016 – 2019	Q1. Collection of Literature; Procuring herbarium specimens from different herbaria; Indexing of herbarium specimens; Seeking permission from Forest Departments; Study of herbarium specimens Q2. Same as Q1 Q3. Field tour in Karnataka Coorg and Bababudan hills) and Consultation at JCB, & FRLHT. Study of 5 species pollen and seed morphology Q4. Field tour in Tamil Nadu (Tirunelveli, Kanniyakumari) and Kerala (Kollam and Thiruvananthapuram) and Consultation at RHT. Study of 5 species pollen and seed morphology Total 02 field tours	
78.	Flora of Kerala (New Project)	Bromiliaceae to Burmaniaeae (excluding Dioscoreaceae & Amaryllidiaceae) 15 gen. & 26 taxa	Dr. M.Y. Kamble, Sci D & Dr. T. Saravannan Bot. Asst.	2016 – 2017	Study of specimens and completion of manuscript.
		Commelinaceae (8 genera & 55 taxa)	Mr. R.K.Singh, Botanist & Mr. S. Pradeesh, Bot.Asst	2016 – 2017	Study of specimens and completion of manuscript.
		Lemnaceae to Potamogetonaceae (10 genera & 17 taxa)	Dr. J.V.Sudhakar, Bot. Asst. & Ms. Anantha lakshmi, Sr. Pres. Asst	2016 – 2017	Study of specimens and completion of manuscript.

Nature of Tour	Q1	Q2	Q3	Q4	Total
Field Tour	3	4	5	3	15
Herbarium Consultation Tour	1	1	0	0	2
Ex-situ conservation Tour	2	2	2	0	6

ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR

Sr. No.	Name of the Project	Name of Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
79.	Collection and introduction of seeds and seedlings of 20 trees species, zingibers & rattans in the Dhannikari Exp. Garden-cum-Arboretum raise nursery and work on seed germination studies	Dr. Lal Ji Singh, Scientist D	2014 – 2017	Q1. Maintenance of earlier collections, raise nursery and seed germination. Q2. Maintenance of earlier collections, raise nursery and seed germination. One Herbarium consultation tour to CNH. Q3. Maintenance of earlier collections, raise nursery and seed germination. One tour to North Andaman for collection of seeds and seedlings of tree species, zingibers. Q4. Maintenance of earlier collections, raise nursery and seed germination. Finalization and submission of manuscript Total 01 Field Tour and 01 Herbarium Consultation Tour
80.	Recording of Phenology of tree species of the Dhannikhari Experimental Garden-cum-Arboretum	Dr. Lal Ji Singh, Scientist D	Ongoing	Recording of Phenology of tree species of the Dhannikhari Experimental Garden-cum-Arboretum
81.	Lichens of Nicobar Islands	Dr. T.A.M. Jagadeesh Ram, Scientist D	2014 – 2017	Q1. Morphological, anatomical and chemical characterization and identification of 300 specimens of earlier collections. Q2. Morphological, anatomical and chemical characterization and identification of 300 specimens of earlier collections. Q3. Morphological, anatomical and chemical characterization and identification of 223 specimens of earlier collections. Q4. One Herbarium consultation tour to Agharkar Research Institute, Pune. Finalization and submission of manuscript. Total 01 Herbarium Consultation Tour
82.	<i>Ex-situ</i> conservation of RET species of A & N Isls. at Dhanikhari Exp. Garden cum Arboretum and Identification of unidentified angiosperm specimens in ANRC Herbarium	Dr. Sanjay Mishra, Scientist B	2015 – Ongoing	Q1. <i>Ex-situ</i> conservation of RET species of Andaman & Nicobar Islands at Dhanikhari Exp. Garden cum Arboretum. Identification of unidentified angiosperm specimens in the PBL. Q2. <i>Ex-situ</i> conservation of RET species of Andaman & Nicobar Islands at Dhanikhari Exp. Garden cum Arboretum. Identification of unidentified angiosperm specimens. Q3. <i>Ex-situ</i> conservation of RET species of Andaman & Nicobar Islands at Dhanikhari Exp. Garden cum Arboretum. Identification of unidentified angiosperm specimens. Q4. One field tour to be undertaken to Little Andaman. <i>Ex-situ</i> conservation of RET species of Andaman & Nicobar Islands at Dhanikhari Exp. Garden cum Arboretum. Identification of unidentified angiosperm specimens. Total 01 Field Tour
83.	Flora of Kyd, Pitman & James Islands, South Andaman	Dr. S. Mishra, Scientist 'B', Mr. C.P. Vivek, Botanical Assistant, Mr. Gautam Anuj Ekka, Sr. Pres. Asstt.	2015 – 2018	Q1. Literature Survey and Consultation of Herbarium. Q2. One field tour to be conducted to the underexplored areas. Identification and documentation of collected specimens. Q3. One field tour to be conducted to the underexplored areas. Identification and documentation of collected specimens. Q4. Identification and documentation of collected specimens. Total 02 Field Tours

Nature of Tour	Q1	Q2	Q3	Q4	Total
Field Tour	0	1	2	1	4
Herbarium Consultation Tour	0	1	0	1	2

AJC BOSE INDIAN BOTANIC GARDEN, HOWRAH

Sr No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
84.	Collection, Introduction & Ex-situ Conservation of Rare and Endemic Orchids of NE India	Dr. Md. U. Sharief, Scientist E Dr. Basant Kr. Singh Sr. Pres. Asstt.	2014 – 2017	Two ex-situ conservation Tours in Q2 and Q4 to Nokrek Biosphere Reserve, Meghalaya & Sikkim Gangtok to collect about 15 spp. of RET Orchids. Total 02 ex-situ conservation Tours
85.	Dicot Herbaceous Flora and weeds of AJC Bose Indian Botanic Garden	Dr. B. K. Singh, Sr. Pres. Asstt.	2014 – 2016 (Extnd. upto 2017)	Finalisation of manuscript of Pictorial Guide of herbaceous plant (Dicot) of AJCBIBG
86.	GIS phyto-mapping & digitization of shrubs and trees in AJC Bose Indian Botanic Garden	Dr. A. Pramanik, Sci.E Dr. C.M. Sabapathy, Botanist Dr. B. K. Singh Sr. Pres. Asstt.	2014 – 2017 (Extnd. upto 2017)	To prepare a data base access to different living palms of AJCBIBG including their phenology and economic uses.
87.	Collection & Introduction of Indigenous Palms of India	Dr. S. S. Hameed, Scientist D	2012 – 2016 (Extnd. upto 2017)	Two ex-situ conservation tours in Q2 and Q4 to North East India and to South India respectively to collect some left out palms. Total 02 ex-situ conservation Tours
88.	Collection, introduction and multiplication of 20 endemic, threatened, medicinal, ornamental and economically important plants	Dr. A. Pramanik, Sci.E Dr. S. S. Hameed, Scientist D Dr. B. K. Singh, Sr. Pres. Asstt.	2012 – 2017	Two ex-situ conservation Tour in Q1 and Q3 to Eastern Ghats. Total 02 ex-situ conservation Tours
89.	Development of Division No. 25 of AJC Bose IBG.	Dr. A. Pramanik, Scientist E Dr. S.P. Panda, Sci. B	2012 – 2017	One tour to North Bengal in Q3 for collection of important plants of garden history. Total 01 ex-situ conservation Tour
90.	Enrichment of medicinal plant section (Charak Udyan) of AJC Bose Indian Botanic Garden through survey and introduction of med. plants.	Dr. S. P. Panda, Scientist B	2015 – 2018	Two ex-situ conservation Tours in Q2 and Q4 to Eastern Ghats to collect 20 medicinal plants from each tour. Total 02 Ex-situ conservation Tours

Nature of Tour	Q1	Q2	Q3	Q4	Annual
ex-situ Conservation Tour	1	3	2	3	9

PHARMACOGNOSY

Sr No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
91.	Pharmacognostic studies on Indian Cycads	Dr. A. B. D. Selvam, Scientist D	2016 – 2021	Q1 Detailed literature survey on ornamental/medicinal Cycads that are included in the Indian Negative list of Exports to find out the lacunae in the existing literature. One field tour to collect fresh plant materials (leaves and male cone) from wild/cultivated sources from different parts of India and confirmation of identity of the collected plant specimens by consulting floras (District, State or Nat. flora) & BSI herbaria Q2 To collect fresh plant materials (leaves and male cone) from the Cycads conserved in AJC Bose IBG campus Q3 Carrying out a detailed pharmacognostic study of three cycad species using the collected specimens (leaves & male cones) and to prepare a comprehensive and comparative data. Q4 Continuation of carrying out a detailed pharmacognostic study of the earlier three cycad species using the collected specimens (leaves & male cones) and to prepare a comprehensive and comparative data.

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	1	0	0	0	1

CENTRAL NATIONAL HERBARIUM, HOWRAH

Sr. No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
92.	Flora of Bihar, Volume – II Rosaceae – Convolvulaceae 51 families (c. 773 species)	Dr. Vinay Ranjan, Scientist D Dr. R. Gogoi, Scientist D Dr. A. Bhattacharjee Scientist B Dr. K.A. Bharti Scientist B Sri Prabal Baske, Botanist Sri P. P. Ghoshal, Botanist Sri Anand Kumar, Bot. Asstt. (Hq.) Sri Anant Kr., Bot. Asstt. (Hq.) Sri Gopal Krishna, Bot. Asstt.	2014 – 2017	Sri. Shyam Biswa, Botanical Assistant – <i>Vahliaceae, Crassulaceae, Droseraceae, Haloragidaceae, Callitrichaceae, Rhizophoraceae Combretaceae</i> (c. 33 sp.) Sri. Vijay Mastakar, Botanical Assistant – <i>Myrtaceae, Lecythidaceae, Melastomataceae</i> (c. 39 sp.) Sri. Prabal Baske, Botanist <i>Lythraceae, Punicaceae, Onagraceae, Trapaceae, Turneraceae, Passifloraceae</i> (c. 34 sp.) Sri. Gopal Krishna, Botanical Assistant – <i>Cucurbitaceae</i> (c. 35sp.) Sri Anand Kumar, Botanical Assistant – <i>Caricaceae, Begoniaceae, Cactaceae, Alzoaceae, Molluginaceae</i> (c. 32 sp.) Dr. Avishek Bhattacharjee, Scientist 'B' <i>Apiaceae, Araliaceae, Alangiaceae</i> (c. 35 sp.) Dr. Vinay Ranjan, Scientist 'D' <i>Rubiaceae</i> (c. 87 sp.) Dr. Kumar Avinash Bharti, Scientist 'B', Sri. P.P. Ghoshal, Botanist, Sri Anant Kumar, Bot. Asstt. & Sri S. Sachan, Botanical Assistant <i>Asteraceae</i> (c. 152 sp.) Dr. Rajiv Gogoi, Scientist 'D' <i>Stylidiaceae, Campanulaceae, Lobeliaceae, Sphenocleaceae, Vacciniaceae, Sapotaceae Plumbaginaceae, Primulaceae, Myrsinaceae, Theophrastaceae, (c. 37 sp.)</i>
93.	Flora of Jharkhand, Vol. – II Rosaceae – Convolvulaceae 51 families (c. 773 species)	Sri Shyam Biswa, Bot. Asstt. Sri S. Sachan, Bot. Asstt. Sri V.K. Mastakar, Bot. Asstt.		
94.	Flora of Bihar Vol. III (Cuscutaceae – Ceratophyllaceae) (33 families & c. 674 sp.)	Dr. V. Sampath Kumar, Scientist D		Dr. V. Sampath Kumar, Scientist D <i>Lamiaceae</i> (c. 75 sp.) Dr. K. Karthigeyan, Scientist C <i>Acanthaceae</i> (c. 94 sp.) Dr. (Ms.) Pushpa Kumari, Scientist C <i>Bignoniaceae</i> (c. 29 sp.) Dr. O.N. Maurya, Scientist B <i>Cuscutaceae, Scrophulariaceae, Orobanchaceae, Lentibulariaceae, Gesneriaceae, Pedaliaceae</i> (c. 98 sp.) Dr. S. Bandyopadhyay, Scientist B <i>Solanaceae</i> (c. 39 sp.) Dr. (Mrs.) Mahua Pal, Botanical Assistant, <i>Verbenaceae</i> (c. 45 sp.)
95.	Flora of Jharkhand Vol. III (Cuscutaceae – Ceratophyllaceae) (33 families & c. 674 sp.)	Dr. K. Karthigeyan, Scientist C Dr. (Ms.) Pushpa Kumari, Scientist C Dr. O.N. Maurya, Scientist B Dr. S. Bandyopadhyay, Scientist B Dr. Mahua Pal, Bot. Asstt.	2015 – 2018	01 Herbarium Consultation tour to Bhagalpur University by Dr. V. S. Kumar in Q4. 01 Herb. Consultation tour to Bhagalpur and Ranchi Universities by Dr. O.N. Maurya in Q3
96.	Revision of the genus <i>Fimbristylis</i> of family Cyperaceae under Flora of India. (c. 120 sp. and 12 infraspecific taxa)	Dr. V. P. Prasad, Scientist D	2013 – 2016 (Extnd. upto 2017)	01 Herbarium Consultation tour to PBL, Port Blair in Q3 to check the identity and to collect the label data of all available specimens of <i>Fimbristylis</i> and other genera of Cyperaceae. Finalisation and submission of manuscript.
97.	<i>Ex situ</i> Conservation of Bamboos of India	Dr. Pushpa Kumari, Scientist C	2012– 2017	10 species to be brought during the field tours for plantation in the garden.

Sr. No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
98.	Study of <i>Impatiens</i> L. (Balsaminaceae) of Arunachal Pradesh	Dr. Rajib Gogoi, Scientist D	2013-2016 (Extn. upto 2017)	One. Herbarium Consultation tour to SHRC, Gangtok in Q4. Completion of identification of all the specimens and finalization and submission of manuscript.
99.	Survey and Assessment of growing stalk of economic bamboos of West Bengal for study of demand supply gaps, trends of use, population status and GIS mapping	Dr. Pushpakumari, Scientist C <i>In collaboration with West Bengal State Council of Science & Technology</i>	2014 – 2017	Tours will be conducted in collaboration with West Bengal State Council of Science & Technology and as per instructions of Director, BSI.
100.	Taxonomic Revision of Bambusoideae (Poaceae) in India	Dr. Pushpa Kumari, Scientist C	2014 – 2017	Description and illustration of rest of the species to be completed during the third year. Field collection tour to be taken as per the information of occurrence of flowering of the species in a particular area and samples of the species not yet collected from field to be attempted. Finalisation and submission of manuscript.
101.	Flora of Betla National Park, Latehar, Jharkhand	Sri Parth Pratim Ghoshal, Botanist	2015 – 2019	Q1 Identification and documentation of the previously collected specimens. One field tour of 15 days to the area Q2 Identification of the collected specimens Q3 One field tour of 15 days to the area Q4 Identification of the collected specimens Total 02 Field Tours
102.	Angiospermic flora of Neora valley national park, Darjeeling district, West Bengal	Dr. Vinay Ranjan, Scientist-'D' Sri Anant Kumar, Botanical Assistant Sri Gopal Krishna, Botanical Assistant	2016 – 2021	Q1. Study of relevant literature published earlier on this area and specimens housed in CAL Q2. One field tour of 15 days. Identification of the collected specimens Q3. One field tour of 15 days. Identification of the collected specimens Q4. One field tour of 15 days. Identification of the collected specimens Total 03 Field Tours
103.	Assessment of floristic diversity in Baraila lake Salim Ali Jubba Sahni Bird Sanctuary, Vaishali district, Bihar (New Project)	Dr. Kumar Avinash Bharati, Scientist B	2016 – 2018	Q1. Study of relevant literature published earlier on this area and specimens housed in CAL Q2. One field tour of 07 days and identification of the collected specimens Q3. One field tour of 07 days and identification of the collected specimens Q4. One field tour of 07 days and identification of the collected specimens Total 03 Field Tours

Nature of Tour	Q1	Q2	Q3	Q4	Total
Field Tour	1	2	3	2	8
Herbarium Consultation Tour	0	0	1	2	3

In addition to the above during 2016 – 17:

1. Drs. V. S. Kumar, Sci. D and Dr. Subir Bandyopadhyay, Sci. B will assist the Flora of India Cell to update, edit and finalise mss. of families viz., Melastomataceae (incl. Memecylaceae), Lythraceae, Aplingiaceae, Sonneratiaceae, Crypteroniaceae, Punicaceae, Trapaceae, Turneraceae, Passifloraceae, Caricaceae, Cucurbitaceae, Begoniaceae, Datisceae (incl. Tetramelaceae) under Flora of India, Vol. X
2. Dr. Kumar Avinash Bharati, Scientist- 'B', Sri P.P. Ghoshal, Botanist & Sri Anand Kumar, Bot. Asstt. will complete the Scanning and data basing of authentic specimens of species of Angiosperms occurring in India and available at CAL
3. Dr. Kumar Avinash Bharati, Scientist- 'B', Dr. S. Bandyopadhyay, Scientist B, Sri P.P. Ghoshal, Botanist and Sri Anand Kumar, Bot. Asstt. will continue the listing of Type specimens at Central National Herbarium (CAL).

CENTRAL BOTANICAL LABORATORY, HOWRAH

Sr. No	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 17		
104.	Ethnobotanical Study of Odisha, Phase – II Nayagarh Malkangiri Naupada Boudh Bargarh Balangir Nabrangpur Dhenkanal Koraput Deogarh Jajapur Ganjam	1. Dr. Harish Singh, Scientist 'D' 2. Smt. Sujana, K.A. Scientist 'C' 3. Sri A.C. Halder, Botanist, Hqrs., 4. Sri P. K. Baske, Botanist, CNH, 5. Sri Saravanan, Bot. Asstt., 6. Smt. Monika Mishra, Bot. Asstt., 7. Dr. Dhole Pankaj Arvind, Bot. Asstt.	2012 – 2017 For the tenure 2015 – 17: Nayagarh (Area: 3,890.00 sq.km, Tribal population: 50,836), Malkangiri (Area: 5,791.00 sq.km, tribal population: 354,614), Naupada (Area: 3408 Sq. km., tribal population: 1,84,221) Boudh (Area: 3,098.00 sq.km, tribal population: 55,364)	Q1. Literature survey, completion of identification, inventorisation, and documentation of specimens collected earlier. One Field Tour to Malkangiri district. Tour Party: Dr. Sujana, K.A. Scientist C, Dr. Dhole Pankaj Arvind, Bot. Asstt., Ms. M. Mishra, Bot. Asstt. Q2. Completion of identification, inventorisation, and documentation of specimens collected earlier. One Field tour to Naupada Dist. Tour party: Dr. Harish Singh, Scientist D, Sri R. Saravanan, Bot. Asstt. & Dr. Dhole Pankaj Arvind, Bot. Asstt. Q3. Completion of identification, inventorisation, and documentation of specimens collected earlier. One Field Tour to Baudh. Tour party: Sri A.C. Halder, Botanist, Hqrs., Sri. P. K. Baske, Botanist, CNH & Ms. M. Mishra, Bot. Asst Q4. Completion of identification, inventorisation, and documentation of specimens collected earlier. One Field tour to Nayagarh Dist. Tour Party: Sri P. K. Baske, Botanist, CNH; Sri A.C. Halder, Botanist, HQ, Dr. Dhole Pankaj, Bot. Asstt. Total 4 Ethnobotanical Field Tours		
105.	Cytological investigation of some selected angiosperms of IBG, Howrah	Smt. Monika Mishra, Botanical Assistant	2015 – 2018	Field observations for the study of vegetative and reproductive behavior of selected plants. Collection of plant material and study of chromosomal count (meiotic/ mitotic) of 10 selected species		
106.	Survey and documentation of economical and ethnobotanical uses of endemic trees of India (New Project)	Smt. Sujana, K.A. Scientist 'C' Sri R. Saravanan, Bot. Asstt.	2016 – 2019	Q1. Review of literature on endemic trees of India, forest types, biodiversity hotspots and distribution, along with economic and ethnobotanical uses from tribal populated regions etc. Q2. Continuing secondary data collection, Herbarium consultation and preparation of questionnaire for conducting survey and collecting information. Q3. One field tour to Andaman and Nicobar Islands to survey and collection of economical and ethnobotanical uses of endemic trees along with herbarium specimens. Q4. Processing of herbarium specimens, identification, documentation and compilation of data collected. Total 1 Field Tour		
Nature of Tour		Q1	Q2	Q3	Q4	Total
Field Tour		1	1	2	1	5
Herbarium Tour		0	0	0	0	0

INDUSTRIAL SECTION, INDIAN MUSEUM, KOLKATA

Sr. No	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
107.	Collection of economic plant materials for enrichment and replacement of exhibits of the Botanical gallery	Dr. A.K. Sahoo, Scientist D	Ongoing	One tour to Koraput and Raygada of Southern Orissa in Q2 for collection of Plant material (Medicinal and Oil seeds etc.) for enrichment of Botanical Gallery. Total 01 Field Tour
108.	Collection of Oil Crops, Pulse & Medicinal Plant materials for enrichment of Botanical gallery	Mrs. G. Chaudhury, Botanist Mr. B. C.Dey, Sr. Pres. Asstt. Mr. S. K.Sharma, Sr. Pres. Asstt.	2016 – 2017	One tour in Q3 to Berhampur (West Bengal) and surrounding areas for collection of pulses and Oil seeds. Total 01 Field Tour
109.	Listing and Identification of Monocot Herbarium Specimens at BSIS	Dr. Manas Bhaumik, Scientist D Mr. D. L. Shirodkar, Botanist Ms. K. Pagag, Bot. Asstt.	2013 – 2016 (Extended upto 2017)	c.1500 specimens of monocot to be documented.
110.	Interpretation of family Zingiberaceae in Icones Roxburghianae	Dr. Manas Bhaumik, Scientist D	2016 – 2017	There are approx. 42 entries of families which will be interpreted.
	Interpretation of family Moraceae & Myrtaceae in Icones Roxburghianae	Ms. K. Pagag, Bot. Asstt. Dr. A.K. Sahoo, Scientist D	2015 – 2017	There are approx. 89 entries of families which will be interpreted.
	Interpretation of family Convolvulaceae and Cucurbitaceae in Icones Roxburghianae	Dr. B.K. Sinha, Scientist F Ms. S. Datta, Sr. Pres. Asstt.	2015 – 2017	There are approx. 71 entries of families which will be interpreted.
111.	Listing & Identification of 8000 Dicot Herb.Specimens at BSIS (New Project)	Mrs. G. Chaudhury, Botanist Mr. B. C. Dey, Sr. Pres. Asstt. Mr.S. K. Sharma, Sr. Pres. Asstt.	2016 – 2019	c.3000 specimens of diocot to be documented in 2016 – 17
112.	Nomenclature update of 9171 digitized herbarium specimens at BSIS (New Project)	Dr. Manas Bhaumik, Scientist D Dr. A. K. Sahoo, Scientist D Mrs. G. Chaudhury, Botanist Ms. K. Pagag, Bot. Asstt. Ms. S. Datta, Sr. Pres. Asstt. Mr. B. C. Dey, Sr. Pres. Asstt. Mr. S. K.Sharma, Sr. Pres. Asstt.	2016 – 2018	To update 4500 digitised herbarium specimens with valid botanical names, synonyms and basionyms in 2016 –17.

Nature of Tour	Q1	Q2	Q3	Q4	Total
Field Tour	0	1	1	0	2

CRYPTOGAMY

Sr No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
113.	Studies on wild mushrooms of east and south Sikkim (except Agaricaceae, Suillaceae Hygrophoraceae, Boletaceae, Cantharellaceae)	Dr. Kanad Das, Scientist D	2014 – 2019	Processing, SEM Studies at CNH, identification and documentation of collected wild mushrooms. One tour in Q2 to Rabong-la, Maenum WLS and adjoining areas of South Sikkim and Fambonglo WLS and Kyangnosla Alpine Sanctuary. Total 01 Field tour
114.	Algal Flora of Jharkhand	Dr. R. K. Gupta, Scientist D	2012 – 2017	Q1. Processing, identification and documentation of the samples collected earlier. Q2. Field tour to Betla National park, Palamu and Garhwa. Q3. Herbarium consultation tour to ARI, Pune for Diatom study. Q4. Finalisation and submission of manuscript. Total 01 Field tour and 01 Herbarium Consultation Tour
115.	Studies on the macrofungi of AJC Bose Indian Botanic Garden, Howrah	Mr. A. Parihar, Bot. Asstt., Dr. K. Das, Sci. D & Sri M. Hembrom, Botanist	Sept. 2015- 2017	About 40-50 species from AJCBIBG to be collected and identified

Sr No.	Name of the Project	Name of the Executing Scientists	Tenure	Quantifiable deliverables (targets) for 2016 – 2017
116.	Revision of family <i>Metzgeriaceae</i> in India (c. 26 sp.) and data-basing liverworts and hornworts specimens in CAL	Dr. D. Singh, Scientist C	2015 – 2018	<p>Q1. Identification of the specimens of family Metzgeriaceae deposited in the CAL herbarium, specimens collected from Larsemann Hills, East Antarctica and data-basing of liverworts and hornworts specimens of CAL.</p> <p>Q2. Identification, camera lucida illustrations, description, micro-photography, SEM study of 7 species to be completed and also to identify, illustrate the specimens collected from L. Hills, East Antarctica. Databasing of liverworts and hornworts of CAL.</p> <p>Q3. Continuation of identification camera lucida illustrations, microphotography, SEM study of 6 species to be completed and data-basing liverworts & hornworts specimens of CAL. One HCT to Lucknow University (LWU) and NBRI (LWG)</p> <p>Q4. Continuation of identification camera lucida illustrations, microphotography, SEM study of 5 species to be completed and data-basing liverworts and hornworts specimens of CAL. One field tour to different areas of Jampui Hills of Tripura & Kohima of Nagaland covering area c. 500 sq km.</p> <p>Total 01 Field tour and 01 Herbarium Consultation Tour</p>
117.	Wood-rotting fungi of Rajmahal hills Jharkhand	Sri Manoj Emanuel Hembrom, Botanist CNH	2013 – 2017	<p>Q1. Processing, identification and documentation of samples.</p> <p>Q2. One field tours to Rajmahal hills to survey the gap areas of Sahibganj, Godda, Pakur and Dumka districts.</p> <p>Q3. One Herbarium consultation tour to CALI, University of Calicut and KFRI, Kerala for further study of collected specimens.</p> <p>Q4. Finalisation and submission of manuscript</p> <p>Total 01 Field tour and 01 Herbarium Consultation Tour</p>
118.	Liverworts and Hornworts Flora of Darjeeling District, West Bengal (New Project)	Dr. (Ms.) Monalisa Dey, Scientist B	2016 – 2021	<p>Q1. Consultation of literature. Study of specimens available in CAL and preparing a checklist of reported species. Type specimens to be procured from other herbaria</p> <p>Q2. One field tour to study area</p> <p>Q3. Processing of the collected materials for study.</p> <p>Q4. One field tour to study area. Identification of collected specimens</p> <p>Total 02 Field tours</p>

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	0	4	0	2	6
Herbarium Consultation tour	0	0	3	0	3

SUMMARY OF TOURS

RC/Unit	Field Tour				Herbarium Consultation Tour				Ex-situ Conservation Tour				TOTAL
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
APRC	3	4	1	0	0	0	2	2	0	0	0	0	12
ERC	3	2	3	1	0	0	1	0	0	1	0	0	11
SHRC	1	2	3	2	0	1	0	0	0	0	0	0	9
CRC	2	2	1	1	1	0	2	0	0	0	0	0	9
BGIR	0	0	0	0	0	0	0	0	0	0	1	0	1
NRC	1	2	2	0	1	0	3	0	1	1	0	0	11
AZRC	0	4	0	1	1	0	0	0	0	0	0	0	6
WRC	2	5	6	5	1	1	3	1	0	0	0	0	24
DRC	2	3	2	1	1	2	1	0	0	0	0	0	12
SRC	3	4	5	3	1	1	0	0	2	2	2	0	23
ANRC	0	1	2	1	0	1	0	1	0	0	0	0	6
AJCBIBG	0	0	0	0	0	0	0	0	1	3	2	3	9
CNH	1	2	3	2	0	0	1	2	0	0	0	0	11
CBL	1	1	2	1	0	0	0	0	0	0	0	0	5
ISIM	0	1	1	0	0	0	0	0	0	0	0	0	2
PHARM	1	0	0	0	0	0	0	0	0	0	0	0	1
CRYPTO	0	4	0	2	0	0	3	0	0	0	0	0	9
PL CHEM	0	0	1	0	0	0	0	0	0	0	0	0	1
TOTAL	20	37	32	20	6	6	16	6	4	7	5	3	162
	109				34				19				