

**ANNUAL
RESEARCH
PROGRAMME
*2013 – 2014***



**भारतीय वनस्पति सर्वेक्षण
BOTANICAL SURVEY OF INDIA**

**पर्यावरण एवम् वन मंत्रालय/MINISTRY OF ENVIRONMENT & FORESTS
भारत सरकार/GOVERNMENT OF INDIA**

BSI: ANNUAL RESEARCH PROGRAMME 2013 – 14

During 2013 – 14, BSI proposes to undertake 99 field tours under 105 projects (including 29 new projects) for collection of plant specimens/materials for floristic, ethnobotanical and pharmacognostical studies on flowering and non-flowering plants covering three biodiversity hotspot, viz. the Himalaya (18 tours), the Indo-Burma (6 tours) and the Western Ghats-Sri Lanka (6 tours). This will cover following bio-geographical regions: Western Himalaya, Eastern Himalaya, North–East India, Arid – Semi Arid, Gangetic Plains, Deccan Peninsula, Western Ghats and the Coastal Region covering Kerala coast (for Sea weed Survey) and Andaman Islands. This will also cover 31 protected areas and 1 fragile ecosystem where 52 and 1 field tours will be conducted respectively. Floristic Survey of 11 sacred groves spreading over seven districts of Andhra Pradesh will be done and their flora will be documented. In addition, 20 field tours for the collections of live germplasm of threatened, endemic and economically important species for their *ex-situ* conservation will also to be undertaken in these areas. Apart from that 37 Herbarium Consultation Tours for identification of critical specimens will also be conducted in different Herbaria, both within and outside BSI.

Revisionary studies on Genus *Adiantum* (Leguminosae), Genus *Lepisorus* (Polypodiaceae), Genus *Fimbristylis* (Cyperaceae), Subtribe *Sporobolinae* (Poaceae) and Family Bignoniaceae under national flora and Family Gesneriaceae and Genus *Impatiens* (Balsaminaceae) under regional flora will be conducted. Simultaneously, state flora of Bihar, Jharkhand, Kerala, Sikkim and Uttarakhand will also be continued.

BSI will also continue the documentation of ethnobotanical information from Dang District of Gujarat and Koraput, Jajpur, Deogarh, Ganjam and Balasore districts of Odisha.

A new project on Habitat analysis and population status of *ca* 300 RET species of Orchidaceae in Eastern Himalaya will be initiated.

5000 herbarium specimens will be barcoded and digitized alongwith their label data.

Palynotaxonomic studies on family Lauraceae in India, and Pollen/Seed Morphology on species of *Andrographis* and *Ficus* will continue.

Among non-flowering plants, floristic studies on Pteridophytes, bryophytes, lichens, fungi (foliicolous as well as wood-rotting) and algae (periphytic as well as freshwater) will continue.

By the end of this period 24 projects will be completed.

In addition to the above, augmentation and maintenance of various herbaria, gardens and museum in BSI and advisory services and dissemination of information relating to plant diversity of the country will be continued.

ARUNACHAL PRADESH REGIONAL CENTRE, ITANAGAR

Sr No.	Name of the Project	Name of the Executing scientists	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
1.	Grass Flora of Arunachal Pradesh	Dr. Manish Kandwal, Scientist C	2012 – 2017	<p>Q1. Study and identification specimens collected earlier. One Field tour to Dibang Valley. Study and identification specimens.</p> <p>Q2. One Field tour to East Kameng. Study and identification specimens.</p> <p>Q3. One Field tour to Changlang Study and identification specimens.</p> <p>Q4. One Herbarium Consultation tour to CNH (CAL) for detailed study and identification of unidentified specimens.</p> <p>Total 03 Field tours and 01 Herbarium Consultation Tour</p>
2.	Flora of Pakhui Wildlife Sanctuary, East Kameng district (862 Sq.Km.)	<p>1. Dr. Pothu Satyanarayana, Scientist D (<i>Due to transfer of Dr. A. A. Mao</i>)</p> <p>2. Sri B. B. T. Tham, Botanist</p>	2012 – 2017	<p>Q1. One Herbarium Consultation tour to ERC, (ASSAM) during April 2013. Study and identification specimens collected earlier.</p> <p>Q2. One Field Tour to Pakke Tiger Reserve/ Pakhui Wildlife Sanctuary during July 2013. Study and identification specimens.</p> <p>Q3. Continuation of Study and identification specimens collected earlier.</p> <p>Q4. One Field Tour to Pakke Tiger Reserve/ Pakhui Wildlife Sanctuary during March 2014. Study and identification specimens.</p> <p>Total 02 field tours and 01 Herbarium Consultation Tour</p>
3.	Taxonomic Study of family Polypodiaceae (<i>ca 100 spp.</i>) of North East India	Dr. V. Kr. Rawat, Scientist C (<i>due to transfer of Dr. A. Benniamin</i>)	2012 – 2015	<p>Q1. Study and identification specimens collected earlier from the area.</p> <p>Q2. One Herbarium Consultation Tour to BSI – ERC, CNH and NBRI for detailed study and identification of unidentified specimens collected earlier from the area.</p> <p>Q3. One Field tour to Lower Dibang Valley</p> <p>Q4. Identification, inventorisation and documentation of specimens collected.</p> <p>Total 1 Herb. Consult. Tour & 1 Field Tour</p>
4.	Study of Impatiens L. (Balsaminaceae) of Arunachal Pradesh. (<i>ca 60 species</i>) (<i>New Project</i>)	Dr. R. Gogoi, Scientist C	2013 – 2016	<p>Q1. Literature scrutiny and listing of species deposited in ARUN and SFRI herbaria. One Field Tour to Lohit District</p> <p>Q2. One field tour to Siang district.</p> <p>Q3. Processing, mounting and identification of the specimens.</p> <p>Q4. Identification, inventorisation and documentation of specimens.</p> <p>Total 02 Field tours</p>
5.	Flora of East Siang District, Arunachal Pradesh (<i>ca. 4005 sq. km.</i>) (<i>New Project</i>)	Dr. Manas Bhaumik, Scientist C	2013 – 2017	<p>Q1. Study and identification specimens collected earlier from the area.</p> <p>Q2. One field tour to the unexplored areas of East Siang District, Arunachal Pradesh</p> <p>Q3. One Herbarium Consultation Tour to ASSAM & CAL for critical study of collected specimens</p> <p>Q4. Inventorisation and documentation of specimens.</p> <p>Total 01 Field Tour and 01 Herb. Con. tour</p>

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Sr No.	Name of the Project	Name of the Executing scientists	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
6.	Flora of Lohit district and Flora of Kamlang Wildlife Sanctuary, Arunachal Pradesh (11,402 Sq. km incl. 7,631 sq. km. forest cover) (New Project)	Dr. R. Gogoi, Scientist C and Mr. Souravjyoti Borah, Botanist	2013 – 2017	<p>Q1. Literature consultation and one Field tour in April-May, 2013.</p> <p>Q2. Processing, mounting and identification of the specimens.</p> <p>Q3. One Field tour in October – November, 2013. Study and identification specimens.</p> <p>Q4. One Herbarium Consultation Tour to BSI – ERC (ASSAM) for detailed study and identification of unidentified specimens collected earlier from the area.</p> <p>Total 02 Field tours and 01 Herbarium Consultation Tour proposed</p>
7.	Introduction, conservation of Germplasm of Musa, Bamboos & Zingibers	Sri B. B. T. Tham, Botanist	2012 – 2017	<p>Germplasm of Musa, Bamboos & Zingibers will be collected during the regular field tours for introduction and conservation. (List of species to be intimated)</p>

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	3	4	3	1	11
Herbarium Consultation Tour	1	1	1	2	05

List of projects completed in March 2013

1. Flora of Anjaw District, Arunachal Pradesh – Dr. Rajib Kr. Gogoi, Scientist C, APRC
2. Flora of West Siang District, Arunachal Pradesh – Dr. Manas Bhaumik, Scientist C, APRC

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EASTERN REGIONAL CENTRE, SHILLONG

Sr No.	Name of the Project	Name of the Executing scientists	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
8.	Bryoflora (Hepaticae & Anthocerotae) of Mizoram	Dr. S. K. Singh, Scientist C Sri H. A. Barbhuiya, Sr. Preservation Asstt.	2008 – 2014	Q1. Study of relevant literatures. Examination of specimens collected earlier. Q2. Completion of identification and documentation of specimens collected in previous tours Q3. One Herbarium Consultation Tour to CNH (CAL) for detailed study Q4. Finalization and submission of manuscript Total 01 Herb. Consultation Tour
9.	Checklist of flora of Meghalaya	1. Dr. A.A. Mao, Sci. E (<i>Due to transfer of Dr. B. K. Sinha</i>), 2. Sri B. K. Das, Botanist, 3. Sri D.Verma, Bot.Asstt. 4. Km. Nandita Sharma, Sr. Preservation Asstt.	2012 – 2014	Remaining 2000 species to be listed with nomenclature and distribution. Local field tours to different areas of Meghalaya to be undertaken, if required. Manuscript to be finalised and submitted.
10.	Flora of South Garo Hills Dist., Meghalaya (covering Siju Wildlife Sanctuary - 5.18 km ² , Baghmara Pitcher Plant Wildlife Sanctuary - 0.02 km ² , Balpakram National Park-220 km ²)	Sri Dilip Kumar Roy, Botanical Assistant	2012 – 2016	Q1. Completion of identification inventorisation and documentation of specimen collected in previous tour Q2. One field tour to the area. Identification, inventorisation and documentation of specimens collected Q3. One field tour to the area. Identification, inventorisation and documentation of specimens collected Q4. Inventorisation and documentation of specimens collected in previous tour Total 02 Field tours
11.	Flora of Murlen National Park, Mizoram (ca 100 km ²)	Dr. R. Kumar, Scientist B Sri Sachin Sharma, Botanical Assistant	2012 – 2015	Q1. One Field tour to the area. Identification, inventorisation and documentation of specimens collected. Q2. Continuation of identification, inventorisation and documentation of specimens collected. Q3. One field tour to the area. Identification, inventorisation and documentation of specimens collected. Q4. Completion of identification inventorisation & documentation of specimen collected in previous tour. Total 02 Field tours
12.	Flora of Ranga, Kakoi and Dullung Reserve Forests, Assam (ca 240 km ²)	Dr. N.Odyuo, Scientist C Sri Ranjit Daimari, Botanical Assistant	2012 – 2016 (<i>will be completed by 2014</i>)	Q1. One Herbarium Consultation tour to CAL for critical study of specimen collected in previous tours. Q2. Completion of identification, inventorisation and documentation of specimen collected in previous tours. Q3. One Herb. Consultation tour to ARUN for detailed study of collected specimens. Q4. Finalization and submission of manuscript Total 02 Herb. Consultation tours

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Sr No.	Name of the Project	Name of the Executing scientists	Tenure	Quantifiable deliverables (targets) for 2013 – 2014		
13.	Flora of Laokhowa Wildlife Sanctuary Nagaon, Assam (ca. 70.13 km ²) (<i>New Project</i>)	Dr.(Mrs.) Chaya Deori, Scientist C Sri S. R. Talukdar, Sr. Preservation Asstt.	2013 – 2016	<p>Q1. Study of relevant literature and study of herbarium specimens at ASSAM collected earlier from the area.</p> <p>Q2. One field tour to the area. Identification, inventorisation and documentation of specimens collected.</p> <p>Q3. Continuation of identification, inventorisation and documentation of specimens collected.</p> <p>Q4. One field tour to the area. Identification, inventorisation and documentation of specimens collected.</p> <p>Total 02 Field tours</p>		
14.	Micropropagation of RET plants of North East India	Dr. A. A. Mao, Scientist E (<i>Due to transfer of Dr. S. Kaliamoorthy</i>)	2012 – 2017	<i>In-vitro</i> propagation of <i>Ilex khasiana</i> , <i>Cymbidium eburneum</i> and <i>Cymbidium tigrinum</i> to be taken up in the year 2013 – 14.		
15.	Ex situ conservation of endemic, threatened and economically important plants of the region and recording of phenological data on flowering and fruiting of species growing in the garden	Sri N. N. Rabha, Botanist Sri L. R. Meitei, Botanical Assistant	Ongoing	<p>Q1. Recording of phenological data of species growing in Barapani garden</p> <p>Q2. One Field tour to Garo Hills for collection of RET plants under families Piperaceae Zingiberaceae, Musaceae, Orchidaceae and Bamboosoideae not growing in Garden so far. Recording of phenological data of species growing in Barapani garden</p> <p>Q3. One Field tour to Nogkhylllem Wildlife Sanctuary, East Khasi Hills, for collection of RET plants under families Musaceae, Zingiberaceae, Bamboosoideae, Piperaceae and Orchidaceae not growing in Garden so far. Recording of phenological data of species growing in Barapani garden</p> <p>Q4. Recording of phenological data of species growing in Barapani garden</p> <p>Total 2 Ex situ conservation tours</p>		
Nature of Tour		Q1	Q2	Q3	Q4	Annual
Field Tour		1	2	2	1	06
Herbarium Consultation Tour		1	0	2	0	03
<i>Ex situ</i> conservation Tour		0	1	1	0	02

List of projects completed in March 2013

1. Flora of Barnadi Wildlife Sanctuary, Assam – Dr. (Mrs.) Chhaya Deori, Scientist C, ERC

SIKKIM HIMALAYAN REGIONAL CENTRE, GANGTOK

Sr No.	Name of the Project	Name of the Executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
16.	Pteridophytic Flora of North Sikkim (Excluding Lachung Valley, Lachen Valley and Upper Zangu)	Dr. B.S. Kholia, Scientist C	2012 – 2014	<p>Q1. Identification and description of collected specimens. One Herbarium Consultation tour to (ASSAM) and BSI – APRC, Itanagar (ARUN) for identification and description of hitherto unidentified collected specimens.</p> <p>Q2. Five short trips/one day tours to nearby unexplored areas</p> <p>Q3. One Field tour to unexplored areas of North Sikkim.</p> <p>Q4. One Herbarium Consultation tours to NBRI, Lucknow (LWG) and Punjab University, Chandigarh (PAN) for identification and description of unidentified collected specimens. Finalization and submission of manuscript</p> <p>Total 02 Herbarium Consultation Tours and 01 Field tour</p>
17.	Flora of Sikkim (Crassulaceae, Droseraceae, Hamamelidaceae, Hippuridaceae, Myrtaceae, Punicaceae)	Dr. Mohan Gangopadhyay, Scientist C	2012 – 2016	<p>Q1. One Herbarium Consultation Tour to CNH (CAL) for studying specimens under families <i>Droseraceae</i>, <i>Hamamelidaceae</i>, <i>Hippuridaceae</i> and <i>Myrtaceae</i></p> <p>Q2. 13 species to be completed</p> <p>Q3. One Herbarium Consultation Tour to FRI, Dehradun (DD) for studying specimens under families <i>Droseraceae</i>, <i>Hamamelidaceae</i>, <i>Hippuridaceae</i>, <i>Myrtaceae</i> and <i>Punicaceae</i>.</p> <p>Q4. 12 species to be completed</p> <p>Total 02 Herb. Consultation Tours</p>
18.	Habitat analysis and population status of ca 300 RET species of Orchidaceae in Eastern Himalaya (Entire Sikkim, Darjeeling district of West Bengal and Arunachal Pradesh excl. Changlang and Tirap) (New Project)	Dr. D. K. Agrawala, Scientist C	2013 – 2018	<p>Q1. Literature consultation</p> <p>Q2. One long duration Field tour (30 days) to unexplored areas of South Sikkim</p> <p>Q3. One Herbarium Consultation tour to North Bengal University, Lloyd Botanical Garden and Darjeeling Govt. College for identification of collected specimens.</p> <p>Q4. One Herbarium Consultation tour to CNH (CAL) for detailed study</p> <p>Total 02 Herbarium Consultation Tours and 01 Field tour</p>
19.	Flora of Shingba Rhododendron Wildlife Sanctuary (ca. 43 sq. km.) (New Project)	Dr. Chandan Singh Purohit, Bot. Asstt.	2013 – 2014	<p>Q1. Literature consultation and accumulation of information. One Field tour to the sanctuary. Identification of specimens.</p> <p>Q2. One Field Tour to the unexplored areas of the Sanctuary. Identification of specimens</p> <p>Q3. Identification of specimens collected (contd.)</p> <p>Q4. One Field tour to the unexplored areas of the sanctuary. Identification, inventorisation and documentation of specimens collected. Finalisation & submission of manuscript.</p> <p>Total 03 Field tours</p>

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Sr No.	Name of the Project	Name of the Executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014		
20.	Ex situ conservation of RET plants in the office garden	1. Dr. Mohan Gangopadhyay, Scientist C 2. Dr. Chandan Singh Purohit, Bot. Asstt.	Ongoing	Recording of phenological data on flowering and fruiting of species growing in the garden (<i>List of species to be intimated</i>)		
Nature of Tour		Q1	Q2	Q3	Q4	Annual
Field Tour		1	2	1	1	05
Herbarium Consultation Tour		2	0	2	2	06

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CENTRAL REGIONAL CENTRE, ALLAHABAD

Sr No.	Name of the Project	Name of the executing scientists	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
21.	Flora of Chhattisgarh	1. Dr. A. A. Ansari, Scientist E 2. Sri R. K. Singh, Botanist 3. Sri Arjun Prasad Tiwari, Senior Preservation Assistant	2012 – 2017	Q1. Completion of identification inventorisation and documentation of specimens collected in previous tour Q2. One Pre-monsoon Field tour to Korea, Korba and Ambikapur districts of Chhattisgarh. Tentatively between 25.06.2013 and 10.07.2013. Identification of specimens collected. Q3. One Post-monsoon Field tour to Korea, Korba and Ambikapur districts of Chhattisgarh. Tentatively between 01.09.2013 and 30.09.2013. Identification of specimens collected. Q4. Identification and Inventorisation of specimens collected Total 02 Field tours
22.	Floral Diversity Of Upper Ganga Ramsar Site, Uttar Pradesh (ca 267 sq km)	1. Dr. (Mrs.) Arti Garg, Scientist C 2. Km. Bhavana Joshi, Botanical Assistant 3. Sri V. K. Singh, Botanical Assistant	2012 – 2016	Q1. Completion of identification, inventorisation & documentation of specimens collected in previous tour Q2. One Field tour to Upper Ganga region from 21.08.2013 to 31.8.2013. Identification of specimens collected. Q3. Identification and inventorisation of specimens collected Q4. One Field tour to Upper Ganga region from 04.02.2014 to 08.02.2014. Identification of specimens collected and description of about 100 spp. with nomenclatural updation. Total 02 Field tours
23.	Lichens of Rajasthan, Kutch and Gujarat	1. Dr. G.P. Sinha, Scientist D 2. Sri Rasanand Kar, Botanical Assistant	2012 – 2017	Q1. Identification inventorisation & documentation of specimens collected in previous tour Q2. Completion of identification inventorisation & documentation of specimens collected in previous tour Q3. One Field tour to Bhilwara, Kota, Bundi, Jhalwar, Baran, Banswara and Pali surroundings from October 1 st week to October 3 rd week, 2013 Q4. One Field tour to Jodhpur, Barmer, Jaisalmer, Bikaner, Nagaur, Sikar and Jhunjhunun surroundings from January 1 st week to January 3 rd week 2014. Identification of 100 specimens. Description of 20 species. Total 02 Field tours
24.	Ex situ conservation of EET plants in the office garden	Dr R.K. Singh, Botanist	Ongoing	Recording of phenological data of the species growing in the garden (<i>List of species to be intimated</i>)

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	0	2	2	2	06

BSI: ANNUAL RESEARCH PROGRAMME 2013 – 14**BOTANIC GARDEN OF INDIAN REPUBLIC, NOIDA**

Sr No.	Name of the Project	Name of the Executing scientists	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
25.	Collection of plants for introduction in BGIR	Dr. Sheokumar, Scientist D (<i>Due to transfer of Dr Ahmedullah</i>) Dr. Sandeep Chauhan, Scientist C Dr. Kuldip Singh Dogra, Scientist B	Ongoing	Four field tours for Plant collection in Q1, Q2, Q3 and Q4. (<i>List of species to be intimated</i>)
26.	Development of database of introduced trees of BGIR, NOIDA	Dr. Sheokumar, Scientist D (<i>Due to transfer of Dr Ahmedullah</i>)	Ongoing	Collection and incorporation of the data in the database on the tree species introduced in the garden.
27.	Development of database of medicinal plants	Dr. Sheokumar, Scientist D (<i>Due to transfer of Dr Ahmedullah</i>)	Ongoing	Collection and incorporation of the data in the database on medicinal plants
28.	Development of Database of Seeds of indigenous trees	Dr. Sandeep Chauhan, Scientist C	Ongoing	Collection and incorporation of the data on seeds in the database on indigenous trees introduced in the garden
29.	Protocol Development for germination of selected tree species	Dr. Sandeep Chauhan, Scientist C	2010 – 2017	Collection and incorporation of the data on seeds of indigenous trees/species introduced in the garden
30.	Recording of phenological data of species growing in garden	Dr Sandeep Chauhan, Scientist C Dr. Kuldip Singh Dogra, Scientist B	Ongoing	Recording 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
<i>Ex situ</i> conservation Tour	1	1	1	1	04

List of projects completed in March 2013

1. Ecological Survey of BGIR Woodlands – Dr. K. S. Dogra, Scientist B

NORTHERN REGIONAL CENTRE, DEHRADUN

Sr No.	Name of the Project	Name of the executing scientists	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
31.	Flora of Sultanpur National Park, Haryana (<i>Ca. 14.3 Sq. Km.</i>)	Dr. S. K. Srivastava, Scientist D Sri M. R. Debta, Botanical Assistant	2012 – 2014	<p>Q1. Processing of the specimens and identification; Preparation of taxonomic description.</p> <p>Q2. One field tour to the area w.e.f. 24.08.2013 to 02.09.2013 and <i>ca.</i> 1.5 sq. km. area to be covered. Identification of specimens and Preparation of taxonomic description.</p> <p>Q3. Identification of specimens. Preparation of taxonomic description to be continued.</p> <p>Q4. One field tour to the area from 09.01.2014 to 18.01.2014 and <i>ca.</i> 1.5 sq. km area to be covered. Identification of specimens. Preparation of taxonomic description and finalization of manuscript.</p> <p>Total 02 Field Tours</p>
32.	Flora of Uttarakhand, Vol. III (Caprifoliaceae to Cuscutaceae (<i>ca.</i> 930 spp.) (<i>ca.</i> 230 spp. to be completed this year)	Dr. P. K. Pusalkar, Scientist C	2011 – 2015	<p>Q1. Documentation of <i>ca.</i> 50 species. One field tour to Namik – Hiramani glacier valley, Pithoragarh from 20.06.2013 to 10.07.2013. Area to be covered: <i>ca.</i> 120 Sq. Km.</p> <p>Q2. Documentation of <i>ca.</i> 60 species.</p> <p>Q3. Documentation of <i>ca.</i> 60 species.</p> <p>Q4. Documentation of <i>ca.</i> 60 species.</p> <p>Total 01 Field Tour</p>
33.	Revisionary studies of genus <i>Adiantum</i> L. in India (<i>c.</i> 31 spp.)	Dr. H.C. Pande, Scientist D	2012 – 2015	<p>Q1. Identification and preparation of Micro photo plates.</p> <p>Q2. One herbarium consultation tour to Goa University, Goa; Calicut Univ., Kerala (CALI); Rapinat Herbarium, Tiruchirapalli (RHT); St. Xavier College, Pollayamkottai, Tamil Nadu (XCH), from 15th to 30th Sept., 2013</p> <p>Q3. One field tour to Arunachal Pradesh from 20.11.2013 to 10.12.2013 and <i>ca.</i> 165 sq. km. area to be covered. Preparation of distributional maps.</p> <p>Q4. Detailed Systematic Study.</p> <p>Total 01 Herbarium Consultation Tour and 01 Field Tour</p>
34.	Revisionary studies of the genus <i>Lepisorus</i> (Sm.) Ching in India. [<i>c.</i> 16 spp.] (New Project)	Sri Brajesh Kumar, Botanical Asstt. Dr. H. C. Pande Scientist D	2013 – 2016	<p>Q1. Study and procurement of literature. Procurement of specimens on loan from different herbaria.</p> <p>Q2. Study of herbarium collections from DD, BSD, WII. Study of specimens received on loan.</p> <p>Q3. One Herbarium Consultation Tour to Patiala (PUN) and Chandigarh (PAN) from October 15 – 30, 2013. Identification & preparation of plates</p> <p>Q4. Detailed Systematic study.</p> <p>Total 01 Herb. Consultation Tour</p>

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Sr No.	Name of the Project	Name of the executing scientists	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
35.	Flora of Uttarakhand Vol. IV (Gesneriaceae to Martyniaceae & Platanaceae to Phytolaccaceae) [ca. 326 spp.] (ca. 160 spp. to be completed this yr.) (New Project)	Dr. S. K. Srivastava, Scientist D, & Sri M. R. Debta, Bot. Asstt.	2013 – 2015	Q1. Documentation of ca.40 species. Q2. Documentation of ca.40 species. Q3. Documentation of ca.40 species. One Herbarium Consultation Tour to NBRI, Lucknow Q4. Documentation of ca.40 species.
36.	Flora of Uttarakhand Vol. IV (Acanthaceae, Verbenaceae, Urticaceae, Chenopodiaceae, Euphorbiaceae) [ca. 326 spp.] (ca. 160 spp. to be completed this yr.) (New Project)	Dr. K. Ambrish, Scientist C	2013 – 2015	Q1. Documentation of ca.40 species. Q2. Documentation of ca.40 species. Q3. Documentation of ca.40 species. One field tour to Almora (Dhauladevi, Mornala, Dwarahat, Hawalbagh, Kausani) from October 03 – 22, 2013 and ca.250 sq. km area to be covered. Q4. Documentation of ca.40 species. Total 01 Field Tour
37.	Flora of Uttarakhand Vol. IV (Lamiaceae, Scrophulariaceae, Elaeagnaceae, Lauraceae, Santalaceae) [ca.325 spp.] (ca.160 spp. to be completed this yr.) (New Project)	Dr. R. Manikandan, Scientist C	2013 – 2015	Q1. Documentation of ca.45 species. Q2. Documentation of ca.30 species. One field tour to Uttarkashi District. September 09 – 27, 2013 and ca. 150 sq. km. area to be covered Q3. Documentation of ca.42 species; Q4. Documentation of ca.43 species. Total 01 Field Tour
38.	Flora of Uttarakhand Vol. IV (Solanaceae, Orobanchaceae & Lentibulariaceae) [ca.80 spp.] (New Project)	Shri M. K. Singhadia, Botanist	2013 – 2014	Q1. Documentation of ca.20 species; Q2. Documentation of ca.20 species; Q3. Documentation of ca.20 species. Q4. Documentation of ca.20 species.
39.	Flora of Kalesar National Park, Yamunanagar, Haryana. (New Project)	Dr. S. K. Srivastava, Scientist D Dr. A. N. Shukla, Botanical Assistant	2013 – 2015	Q1. Listing of species from literature and herbarium. Q2. Survey and collection tour between 20.07.2013 to 04.08.2013; ca.20 km ² area to be covered. Identification of specimens. Q3. Survey & collection tour to be conducted w.e.f. 20.11.2013 to 05.12.2013; ca.26 km ² area to be covered. Identification of specimens. Q4. Identification of specimens and preparation of taxonomic description. Total 02 Field Tour
40.	Revision of the Family Bignoniaceae in India (Out of 59 species, 14 species completed during JRF period of Sri V. K. Madhukar. 15 species of remaining 45 species will be completed during 2013 – 2014) (New Project)	Sri V. K. Madhukar, Botanical Assistant Dr. S. K. Srivastava, Scientist D	2013 – 2016	Q1. Listing of species from published literature and herbarium. Q2. 01 Herb. Consultation Tour to CNH (CAL) & BSI–SHRC (BSHC) from August 15 – 30, 2013 for detailed study. Documentation of ca.05 spp. Q3. Documentation of ca.05 species. Q4. 01 Herb. Consultation Tour to BSI – ERC (ASSAM) and BSI – APRC (ARUN) for detailed study. Documentation of ca.05 species. Total 2 Herb. Consultation Tour

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Sr No.	Name of the Project	Name of the executing scientists	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
41.	<i>In vitro</i> propagation of RET species from North West Himalayas	Dr. G. S. Panwar, Sci. B & Ms L. I. Chanu, Bot. Asstt.	Ongoing	The <i>in vitro</i> propagation of the three endangered species viz. <i>Eremostachys superba</i> , <i>Pittosporum eriocarpum</i> and <i>Indopiptadenia oudhensis</i>
42.	Ex-situ Conservation of Endemic, Threatened and Economic Plant Species in the experimental gardens of NRC and recording of phenological data on flowering & fruiting	Dr. H.C. Pande, Scientist D Sri B. P. Kadam Garden Overseer and party	Ongoing	<p>Q1. Maintenance of the existing collection.</p> <p>Q2. Two field tours. [I]. <i>Microthelypteris ornata</i>, <i>Microlepis khasiyana</i>, <i>Pteris pellucida</i> and <i>Catamixis baccaroides</i>, to be collected from Haridwar, Sukhidhak and Tanakpur area. [II]. <i>Festuca lucida</i>, <i>Pseudodanthonia himalaica</i>, <i>Yushania jaunsarensis</i>, <i>Eulaliopsis duthiei</i>, <i>Campanula wattiana</i>, <i>Impatiens edgeworthii</i> to be collected from Chakrata – Deoban area.</p> <p>Q3. One field tour. <i>Valeriana mussooriensis</i>, <i>Eulophia obtusa</i>, <i>Eria occidentalis</i>, <i>Acer oblongum</i>, <i>Impatiens devendrae</i> to be collected from Mussoorie – Nagtibba, Kumaon.</p> <p>Q4. Maintenance of the existing collection.</p> <p>Total 03 Ex situ conservation Tour</p>

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	1	3	3	1	08
Herbarium Consultation Tour	0	2	2	1	05
Ex situ conservation Tour	0	2	1	0	03

List of projects completed in March 2013

1. Flora of Uttarakhand Vol. II (Casealpiniaceae to Parnassiaceae: 316 species) – Dr. S. K. Srivastava, Scientist D, NRC & Sri M. R. Debta, Bot. Asstt., NRC
2. Flora of Uttarakhand Vol. II (Fabaceae: 337 species) – Dr. K. Ambrish, Scientist C, NRC
3. Flora of Uttarakhand Vol. II (Hydraginaceae to Toricelliaceae: 315 species) – Dr. R. Manikandan, Scientist C, NRC
4. Endemic & Threatened Pteridophytic Flora of North West Himalayas – Sri Brajesh Kumar, Botanical Asstt., NRC
5. Flora of Cold Desert of North West Himalayas, Volume II (Part II) – Dr. S. K. Srivastava, Scientist D, NRC and Dr. A. N. Shukla, Bot. Asstt., NRC
6. *In vitro* propagation of RET species from North West Himalayas – Dr. G. S. Panwar, Scientist B, NRC and Ms. L. I. Chanu, Bot. Asstt., NRC

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ARID ZONE REGIONAL CENTRE, JODHPUR

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014		
43.	Flora of Jamwa Ramgarh Wildlife Sanctuary, Rajasthan (ca. 300 sq. km.)	Sri C R. Jadhav Botanist.	2011 – 2014	Q1. Identification, inventorisation and documentation of specimens collected in previous tours Q2. One Field Tour to the unexplored area of the sanctuary and ca. 100 sq. km area to be covered. Identification of specimens collected. Q3. Identification, inventorisation and documentation of specimen collected in previous tours Q4. One Field Tour to the unexplored area of the sanctuary and ca. 100 sq. km. area to be covered. Identification of specimens collected. One Herbarium Consultation Tour to CNH (CAL) and finalisation of manuscript for submission. Total 02 Field Tours and 01 Herbarium Consultation Tour		
44.	Ethnobotany of Dang District, Gujarat	Sri Vinod Maina, Scientist C	2012 – 2014	Q1. Identification, inventorisation and documentation of ethnobotanical uses of specimens collected in previous tours. One Field Tour to the unexplored area of Dang and ca. 450 sq. km. area to cover Q2. Identification, inventorisation and documentation of specimens collected in previous tours. Q3. One Field Tour to the unexplored area of Dang district and ca. 450 sq. km. area to be covered. Identification, inventorisation and documentation of specimens collected. Q4. Completion of identification, inventorisation and documentation of specimen collected in previous tours. Finalisation and submission of manuscript. Total 02 Field Tours		
45.	Flora of Shoolpaneshwar Wildlife Sanctuary, Narmada, Gujarat (ca. 607.7 sq. km.)	Dr. S. L. Meena, Scientist C	2012 – 2017	Q1. Identification, inventorisation and documentation of specimens collected in previous tours Q2. One Field Tour to the unexplored area of the sanctuary and ca. 300 sq. km area to be covered. Identification of specimens collected. Q3. One Herbarium Consultation Tour to CNH (CAL) detailed study of specimens collected. Q4. Identification, inventorisation and documentation of specimen collected in previous tours Total 01 Field Tours and 01 Herbarium Consultation Tour		
46.	Ex-situ conservation of endemic, threatened and economically important species of the Arid region.	Sri Vinod Maina, Scientist C	Ongoing	Selected species to be collected from Gujarat during the regular field tours for introduction in the Desert botanic garden. Recording of data on phenology of species growing in Desert botanic garden: <i>(List of species to be intimated)</i>		
Nature of Tour		Q1	Q2	Q3	Q4	Annual
Field Tour		1	1	1	1	04
Herbarium Consultation Tour		0	0	1	1	02

List of projects completed in March 2013

1. Flora of Gujarat State, Vol. III (Nyctaginaceae to Orchidaceae: 22 families, 254 spp.) – Dr. P. M. Padhye, Scientist E, Hqrs.
2. Flora of Gujarat State, Vol. III (Zingiberaceae to Cyperaceae: 28 families, 273 spp.) – Dr. S. L. Meena, Scientist C, AZRC.

WESTERN REGIONAL CENTRE, PUNE

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
47.	Ferns of Maharashtra	Dr. A. Benniamin, Scientist C (<i>Due to transfer of Dr. Vinit Kumar Rawat</i>)	November, 2010 – 2013 (<i>Extended upto March 2014</i>)	<p>Q1. Listing and documentation of previous collections</p> <p>Q2. One Field tour to several areas of Koyna Wildlife Sanctuary and Chandoli Wildlife Sanctuary, during August 2013 after rainy season, covering <i>c.</i> 850 km² for studying ferns in fertile condition</p> <p>Q3. One Field tour to several areas of Toranmar (Nandurbar dist.), Kinbat and Godara Wildlife Sanctuary during October 2013, covering <i>ca.</i> 800 km² for studying ferns in fertile condition</p> <p>Q4. One Field tour to several areas of Tadoba Wildlife Sanctuary, Chandrapur, Nagzira Wildlife Sanctuary (Bhndara district) Ramtake forest area (Nagpur) during January 2013 after rainy season, covering <i>ca.</i> 800 km² for studying some ferns in fertile condition. One Herbarium and Library Consultation Tour to CNH (CAL), CBL and ISIM (BSIS) and finalization of mss. for submission.</p> <p>Total 03 Field Tours and 01 Herb. Con. Tour</p>
48.	Foliicolous Fungi of Maharashtra	Dr. Rashmi Dubey, Scientist C Mrs. A. Neelima, Preservation Asstt	November 2010 – 2013 (<i>Extended upto March 2016</i>)	<p>Q1. Processing and Identification of Fungal species collected in previous tours and survey to areas near Pune. One Herbarium Consultation Tour to any Nationalised Fungal Research Institute/ Herbarium for study.</p> <p>Q2. One field tour to diverse habitats of Raigad and adjoining areas of Mumbai during September, 2013 and identification of fungal species collected earlier from the areas.</p> <p>Q3. Processing and Identification of Fungal species collected in previous tours and survey to areas near Pune.</p> <p>Q4. One field tour to unexplored areas of Nashik and Dhule districts of Maharashtra in January, 2014. Identification of fungal species collected earlier. Finalisation and submission of mss.</p> <p>Total 01 Herbarium Consultation Tour and 02 Field Tours</p>
49.	Studies on the Orchids of Maharashtra with special emphasis on endemic orchids	Dr. J. S. Jalal, Scientist C Sri H. C. Patil, Botanical Assistant	2012 – 2015	<p>Q1. One field tour covering <i>ca.</i> 400 sq.km to Mahabaleshwar, Koyna, Chandoli, Radhanagari, Amboli and Gaganbavada from 25th April to 15th May 2013.</p> <p>Q2. One field tour covering <i>ca.</i> 400 sq.km to Malshej Ghat, Satpura range (Northern western Ghats of Maharashtra) from 20th August to 10th Sep., 2013.</p> <p>Q3. One Herbarium Consultation tour to Dharwar University, Karnataka</p> <p>Q4. Descriptions for 50 spp. incl. phenology, distribution & habitat notes to be finalized.</p> <p>Total 02 Field Tours and 01 Herbarium Consultation Tour</p>

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Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
50.	Flora of Sharavathi valley Wildlife Sanctuary, Shimoga, Karnataka (ca. 431.23 sq. km.)	Dr. S. K. Das Das, Botanist	2012 – 2015	<p>Q1. One field tour during May – June, 2013 covering an area <i>ca</i> 50 sq. km.</p> <p>Q2. One field tour during August – September, 2013 covering an area <i>ca</i> 50 sq. km</p> <p>Q3. One field tour during November – December, 2013 covering an area <i>ca</i> 50 sq. km</p> <p>Q4. One field tour during February – March covering an area <i>ca</i> 50 sq. km and One Herbarium consultation tour to Mysore University.</p> <p>Total 04 Field Tours and 01 Herbarium Consultation Tour</p>
51.	Flora of Biligiriranga swamy Temple Wildlife Sanctuary, Karnataka (539.52 sq.km) (<i>New Project</i>)	Dr. (Ms.) J. Jayanthi, Scientist C	2013 – 2017	<p>Q1. Literature consultation and study of previous collections</p> <p>Q2. One field tour during 1st half of July 2013. Processing, studying and identification of specimens collected.</p> <p>Q3. One field tour during 1st half of October 2013. Processing, studying & identification of specimens collected.</p> <p>Q4. Inventorisation of 30 species</p> <p>Total 02 Field Tours</p>
52.	Ex – situ Conservation of EET plants of the region with focus on endemic trees of Western Ghats	Dr. (Ms.) J. Jayanthi, Scientist C R K Vishnoi Garden Overseer	Ongoing	Selected species to be collected from Western Ghats during the regular field tours for introduction in the Experimental garden. Recording of data on phenology of species growing in the botanic garden:

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	2	5	3	3	13
Herbarium Consultation Tour	1	0	1	2	04

List of projects completed in March 2013

1. Flora of Great Indian Bustard Wildlife Sanctuary, Maharashtra – Dr. (Ms.) J. Jayanthi, Scientist C, WRC

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DECCAN REGIONAL CENTRE, HYDERABAD

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
53.	Flora of Seshachalam Biosphere Reserve, Andhra Pradesh (<i>ca 4755.99 sq km</i>)	Dr. P.V.Prasanna, Scientist E & Sri M. Sankara Rao, Preservation Asstt., Gade I	2012 – 2017	Q1. Identification, inventorisation and documentation of specimens collected in previous tours. One Herbarium Consultation tour for further detailed study. Q2. One Field tour to the Biosphere Reserve for plant survey and collection. Q3. Identification, inventorisation and documentation of specimens collected in previous tours Q4. One Field tour to the Biosphere Reserve for plant survey and collection. <i>400 km² will be covered during those two tours and 200 species will be inventoried.</i> Total 02 Field Tours and 01 Herbarium Consultation Tour
54.	Flora of Nagarjunasagar Srisailam Wildlife Sanctuary (Tiger Reserve), Andhra Pradesh (<i>3568 sq km</i>)	Dr. L. Rasingam, Scientist B & Sri M. Sankara Rao, Preservation Asstt., Grade I	2012 – 2017	Q1. Identification, inventorisation and documentation of specimens collected in previous tours Q2. One Field tour to the Tiger Reserve for plant survey and collection. Q3. Identification, inventorisation and documentation of specimens collected in previous tours Q4. One Field tour to the Tiger Reserve for plant survey and collection. <i>400 km² will be covered during those two tours and 200 species will be inventoried.</i> Total 02 Field Tours
55.	Flora of 650 Sacred Groves of Andhra Pradesh	Dr. M. Ahmedullah, Scientist D Sri M.Sankara Rao, Pres.Asstt.I	2012 – 2017	Floristic Survey of 11 sacred groves (<i>Paladhra-Panchadara, Kotilinga Ksehtram, Kunthala Water Falls, Kondagattu, Ramagiri, Vemulawada Temple, Nugur Fort, Parnasala, Stambhadri, Sailaleshwaram, Ethipothala</i>) spreading over seven districts of Andhra Pradesh will be done and its flora will be documented.

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	0	2	0	2	04
Herbarium Consultation Tour	1	0	0	0	01

List of projects completed in March 2013

1. Herbs and Shrubs of Greater Hyderabad – Dr. P. V. Prasanna, Scientist E, DRC, Hyderabad

BSI: ANNUAL RESEARCH PROGRAMME 2013 – 14

SOUTHERN REGIONAL CENTRE, COIMBATORE

Sr No	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
56.	Seaweed Survey of Kerala Coast	Dr. M. Palanisamy, Scientist C Mr. S. K. Yadav, Bot. Asstt	2011 – 2013 (<i>Extended upto December 2013.</i>)	Two Field Tours to the area in Q1 & Q2 to cover the unexplored Naval area near Cochin. Identification, inventorisation and documentation of samples collected in previous tours. Finalisation and submission of manuscript. Total 02 Field Tours
57.	Flora of Srivilliputhur Wildlife Sanctuary, Tamil Nadu (<i>ca. 485 sq. km.</i>)	Dr. K A A Kabeer, Scientist C; Dr. G. Gnanasekaran, Bot. Asstt.	2011 – 2015	Q1. One Field tour in 1 st week of May 2013 to the Wildlife Sanctuary for survey and collection. Q2. Identification, inventorisation and documentation of specimens collected in previous tours. Q3. Identification, inventorisation and documentation of specimens collected in previous tours Q4. One Field tour in 1 st week of January 2014 to the Wildlife Sanctuary for survey and collection. Total 02 Field Tours
58.	Flora of Malabar Wildlife Sanctuary, Kozikode, Kerala (<i>ca. 74.22 sq. km.</i>)	Dr. J.H. Franklin Benjamin Scientist B	2012 – 2015	Q1. Identification, inventorisation and documentation of specimens collected in previous tours. Q2. One Field tour in 1 st week of August 2013 to the Wildlife Sanctuary for survey and collection. Q3. Identification, inventorisation and documentation of specimens collected in previous tours Q4. One Field tour in 1 st week of February 2014 to the Wildlife Sanctuary for survey and collection. Total 02 Field Tours
59.	Pollen and Seed morphology of Genus <i>Andrographis</i> Wall. ex Nees using SEM	Shri. G. Gnanasekaran, Botanical Assistant	2012 – 2017	Q1. One Herbarium Consultation Tour to BSI – WRC (BSI) and CNH (CAL) for consultation and pollen material collection during June 2013 2 nd and 3 rd week respectively Q2. Study of 4 species Q3. One Field Tour to Nallamalais & Palakonda hills, Andhra Pradesh Q4. Study & inventorisation of 4 species Total 01 Herbarium Consultation Tour and 01 Field Tour
60.	Seed morphology of <i>Ficus</i> L. using SEM	Sri J. V. Sudhakar, Botanical Assistant	2012 – 2017	20 species to be studied
61.	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 C	2012 – 2017	<i>Eragrostis</i> : 5 species. <i>Sporobolus</i> : 5 species. <i>Tripogon</i> : 5 species. (Total 15 species)
62.	Study of Pollinia of South Indian Orchids using SEM	Dr. G. V. S. Murthy, Scientist F	2012 – 2017	30 species to be studied

BSI: ANNUAL RESEARCH PROGRAMME 2013 – 14

Sr No	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
63.	Flora of Kerala Volume 7 (Part 1) Cyperaceae (18 genera and 230 taxa) <i>(New Project)</i>	Dr. K.A.A. Kabeer, Scientist C, Dr. J.H. Benjamin, Scientist B,	2013 – 2015	<ul style="list-style-type: none"> Study of Herbarium specimens. Complete descriptions and keys to all the 230 taxa and submission of manuscript. 01 Herbarium consultation tours to TBGRI, KFRI and Calicut University to be conducted in Q4 Total 01 Herbarium Consultation Tour
64.	<ul style="list-style-type: none"> Karaivetti Wildlife Sanctuary, Perambalur District (<i>ca. 4.54 sq. km.</i>) Vaduvur Wildlife Sanctuary, Tiruvarur District (<i>ca. 1.28 sq. km.</i>) Udayamarthandapuram Wildlife Sanctuary, Tiruvarur District (<i>ca. 0.5 sq. km.</i>) Point Calimere Wildlife Sanctuary, Nagapattinam District (<i>ca. 17.26 sq. km.</i>) <i>(New Project)</i>	Dr. G.V.S Murthy, Scientist F	2013 – 2015	<ul style="list-style-type: none"> Three field tours to be conducted in Q2 (July 1st week), and in Q3 (October 1st week) and also in Q3 (December 1st week) Collection, Identification and Inventory of 100 species. Total 03 Field Tours
65.	Ex situ conservation of Endemic, Endangered and Threatened plants of the region and recording of phenology of flowering/ fruiting of species in garden.	Dr. Kaliamoorthy, Scientist C (<i>Due to transfer of Dr. Satyanarayana</i>)	Ongoing	Two field tours in Q2 & Q3 for RET plant collection. Recording of phenological data Total 02 Ex-situ conservation Tours

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	2	3	3	2	10
Herbarium Consultation Tour	1	0	0	1	02
Ex situ conservation Tour	0	1	1	0	02

List of projects completed in March 2013 (as per AAP)

1. Flora of Kerala, Vol. V (Podostomaceae: 7 genera, 18 taxa) – Dr. J. H. Franklin Benjamin, Scientist B, SRC
2. Flora of Kerala, Volume V (Piperaceae: 3 genera, 24 taxa) – Dr. J. H. Franklin Benjamin, Scientist B, SRC
3. Flora of Kerala, Volume V (Euphorbiaceae: 46 genera, 181 taxa) – Sri J. V. Sudhakar, Bot. Asstt., SRC; Sri S. K. Yadav, Bot. Asstt, SRC and Dr. GVS Murthy, Sci. F, SRC

BSI: ANNUAL RESEARCH PROGRAMME 2013 – 14

ANDAMAN & NICOBAR REGIONAL CENTRE, PORT BLAIR

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
66.	Flora of Rani Jhansi Marine National Park (ca. 256 sq. km.)	Dr. C. Murugan, Scientist C	October 2011 – 2015	<p>Q1. Identification & inventorisation of earlier collections.</p> <p>Q2. One field tour to cover ca. 50 sq. km. (21.08.2013 to 30.08.2013). Identification & inventorisation of earlier collections.</p> <p>Q3. One field tour to cover ca. 50 sq. km. (21.01.2014 to 30.01.2014). Identification & inventorisation of earlier collections.</p> <p>Q4. Identification & inventorization of earlier collections</p> <p>Total 02 Field Tours</p>
67.	Foliicolous lichens of Andaman Islands	Dr. T.A.M. Jagadeesh Ram, Scientist C	2011 – 2014	<p>Q1. Morphological, Anatomical and Chemical characterization and identification earlier collections.</p> <p>Q2. Morphological, Anatomical and Chemical characterization and identification earlier collections.</p> <p>Q3. Morphological, Anatomical and Chemical characterization and identification earlier collections.</p> <p>Q4. Finalisation and submission of manuscript.</p>
68.	Flora of Landfall Wildlife Sanctuary, North Andaman (ca 29.5 sq. km.) (New Project)	Dr. M.Y. Kamble, Scientist-C	2013 – 2014	<p>Q1. Study of relevant literature and examination of specimens collected earlier from North Andaman.</p> <p>Q2. One field tour to cover ca. 15 sq. km. area. Identification & inventorisation of collected specimens.</p> <p>Q3. One field tour to cover ca. 15 sq. km. area. Identification & inventorisation of collected specimens.</p> <p>Q4. Finalization and submission of manuscript.</p> <p>Total 02 Field Tours</p>
69.	Collection of seeds of 20 tree species, raise nursery, work on seed germination, studies of all forest tree species, all Zingibers & Rattans are introduced in Dhanikhari Exp. Garden & Arboretum	Dr. Lalji Singh, Scientist C	Ongoing	<p>Q1. Literature consultation and listing of earlier report from the area. Herbarium consultation tours to be undertaken (1st week of May 2013) at CNH (CAL).</p> <p>Q2. Local tour will be undertaken (September 18 – 26, 2013) for collection of seeds and seedlings of tree species, Zingibers and Rattans.</p> <p>Q3. Local tours will be undertaken (December 18 – 26, 2013) for collection of seeds and seedlings of tree species, Zingibers and Rattans. Seed Germination Training Programme to be attended (month of October, 2013) at FRI Dehradun</p> <p>Q4. Local tour will be undertaken (January 20 – 28, 2014) for collection of seeds and seedlings of tree species, Zingibers and Rattans.</p> <p>Total 01 Herbarium Consultation Tour</p>
70.	Recording of Phenology: Dhanikari Experimental Garden – cum – Arboretum	Dr. Lalji Singh, Scientist C	Ongoing	To document flowering and fruiting period of selected tree species which are established at the Dhanikari Experimental Garden-cum-Arboretum.

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	0	2	2	0	04
Herbarium Consultation Tour	1	0	0	0	01

List of projects completed in March 2013: Flora of North Andaman Islands (Narcondam, Peacock, Paget and North Reef) – Dr. M. Y. Kamble, Scientist C, ANRC

BSI: ANNUAL RESEARCH PROGRAMME 2013 – 14

AJCBOSE INDIAN BOTANIC GARDEN, HOWRAH

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
71.	Collection, introduction and multiplication of 100 endemic, threatened, medicinal, ornamental and economically important plants	Dr. H. S. Debnath, Scientist E Dr. P. V. Sreekumar, Sci. C Dr. S. S. Hameed, Sci. C Dr. H. S. Mahapatra, Sci. C Dr. Pushpakumari, Sci. C Sri B. K. Singh, Pres. Asstt. I	2012 – 2017	Any 20 endemic, economic & threatened species out of 50 EET species listed in Annexure I to be collected in two tours in North East India to be taken up in Q2 and Q4 by Dr. H. S. Debnath and Sri Basant Kumar Singh. Total 02 Ex-situ conservation Tours
72.	Indigenous Palms of India	Dr. S. S. Hameed, Scientist C	2012 – 2015	Two tours to South India and Western India in Q2 & Q4 respectively for collection of 15 indigenous palm Total 02 Ex-situ conservation Tours
73.	Bamboos of India: Ex – situ Conservation	Dr. Pushpakumari, Scientist C	2012 – 2017	Collection, introduction and propagation of following 15 species in bamboosetum <i>Ampelocalamus patellaris</i> , <i>Bambusa cacharensis</i> , <i>Bambusa.majumdarii</i> , <i>Cephalostachyum capitatum</i> , <i>Cephalostachyum fuchsianum</i> , <i>Dendrocalamus hookeri</i> , <i>Dendrocalamus longispathus</i> , <i>Dendrocalamus sahnii</i> , <i>Dinochloa anadamanica</i> , <i>Ochlandra beddomei</i> , <i>Ochlandra setigera</i> , <i>Ochlandra talboti</i> , <i>Schizostachyum kurzi</i> . <i>Teinostachyum dullooa</i> , <i>Yushania hirsute</i> Two <i>Ex-situ</i> conservation tours, one in Q1 to Arunachal Pradesh and one in Q3 to Andaman & Nicobar Islands. Total 02 Ex-situ con. Tours
74.	Development of Division No. 25 of AJC Bose IBG.	Dr. H. S. Debnath, Scientist E Dr. H. S. Mahapatra, Sci. C	2012 – 2017	One tour to North East India in Q1 (incl. Mungpo) and Q3 for collection of Tea, Cinchona, Ipecac, Citrus. Total 02 Ex-situ conservation Tours
75.	Orchids of Tripura & North Bengal	Dr. P. V. Sreekumar, Sci. C	2012 – 2014	One tour to Tripura in Q3 for collection of 15 orchid species: <i>Aerides multiflora</i> , <i>Bulbophyllum clarkeanum</i> , <i>Bulbophyllum cornucervi</i> , <i>Bulbophyllum hookeri</i> , <i>Coelogyne barbata</i> , <i>Coleogyne griffithii</i> , <i>Cymbidium dayanum</i> , <i>Dendrobium chrysotoxum</i> , <i>Dendrobium formosum</i> , <i>Dendrobium grande</i> , <i>Eria bambusifolia</i> , <i>Habenaria plantaginea</i> , <i>Satyrium nepalense</i> , <i>Thunia alba</i> , <i>Vanda bicolor</i> Total 01 Ex-situ conservation Tours

Nature of Tour	Q1	Q2	Q3	Q4	Annual
<i>Ex-situ</i> Conservation Tour	2	2	3	2	09

BSI: ANNUAL RESEARCH PROGRAMME 2013 – 14

CENTRAL NATIONAL HERBARIUM, HOWRAH

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
76.	Flora of Buxa Wildlife Sanctuary, Jalpaiguri, WB. <i>ca.</i> 252 sq. km.	Dr. P. Venu, Scientist F (Deployed at DRC) Sri Anant Kumar, Preservation Asstt. Gr.I (Hq.)	2011 – 2015	Total 02 Field Tours to the area to cover <i>ca</i> 50 sq. km. each in Q2 & Q4. Inventorying 100 species
77.	Flora of Koderma Wildlife Sanctuary, Jharkhand (<i>ca.</i> 150 sq. km)	Dr. P. Lakshminarasimhan, Scientist D; Sri Shyam Biswa, Preserv. Asstt.	2010 – 2014	Completion of identification, inventorisation and documentation of specimens collected in previous tours. Finalisation of manuscript for submission.
78.	Flora of Palkot Wildlife Sanctuary, Jharkhand (<i>ca.</i> 183 sq. km.)	Dr. P. Lakshminarasimhan, Scientist D; Sri V.K. Mastakar, Preserv. Asstt., Hq		
79.	Flora of Jaldapara Wildlife Sanctuary, West Bengal (<i>ca</i> 216.51 sq. km.)	Dr. K. Karthigeyan, Scientist C	2012 – 2015	Total 02 Field Tours to the area to cover <i>ca</i> 50 sq. km in each tour in Q1 & Q3. Inventorying 100 species
80.	Flora of Gautam Buddha Wildlife Sanctuary, Bihar & Jharkhand (<i>ca.</i> 259 sq. km.)	Dr. P. Venu, Scientist F (Deployed at DRC) Sri Anant Kumar, Bot. Asstt. (Hqrs.)	2012 – 2016	Total 02 Field Tours to the area to cover <i>ca</i> 50 sq. km each in Q2 & Q4. Inventorying 100 species
81.	Verification of deposition of types at different herbaria of BSI based on names of new taxa published during 1990-2004 in some selected journals	Dr. Subir Bandyopadhyay, Botanist. Sri Gopal Krishna, Preservation Assistant	2013 – 2014	Searching of new taxa published in Current Science and Nordic Journal of Botany published during the period 1990-2004
82.	Palynotaxonomic studies of Lauraceae of India	Saurabh Sachan, Pres. Asstt. Dr. (Mrs.) A. Garg, Sci. C, CRC	2010 – 2014	Total 02 Herbarium Consultation Tours in Q1 & Q4 to CRC (BSA). Finalisation of manuscript for submission.
83.	Editing & Updating of mss. of Flora of West Bengal, Vol. V (Monocot) <i>Hydrocharitaceae – Poaceae</i> (37 families)	Dr. V.P. Prasad, Scientist C	2012 – 2015	Editing and updation of manuscript of 100 species not done earlier
84.	Flora of Vikramshila Gangetic Dolphin Wildlife Sanctuary, Bhagalpur, Bihar (<i>ca.</i> 60 km segment of Ganges) (New Project)	Dr. O. N. Maurya Scientist-'B'	2013 – 2016	Q1. Study of relevant literature and examination of specimens collected earlier. Q2. One field tour to cover <i>ca</i> 5 sq. km. area. Identification & inventorisation of collected specimens. Q3. One field tour to cover <i>ca</i> 5 sq. km. area. Identification & inventorisation of collected specimens. Q4. One field tour to cover <i>ca</i> 5 sq. km. area. Identification & inventorisation of collected specimens. Total 03 Field tours

BSI: ANNUAL RESEARCH PROGRAMME 2013 – 14

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014		
85.	Revision of the genus <i>Fimbristylis</i> of family Cyperaceae under Flora of India. (Ca. 120 spp. and 12 infraspecific taxa) (New Project)	Dr. V. P. Prasad, Scientist C	2013 – 2016	Total 01 Herbarium Consultation Tours to BSHC, ASSAM, & ARUN in Q3 for revisionary studies.		
86.	Flora of Bihar, Volume – I [Introduction, Key to the Families, Ranunculaceae – Mimosaceae (ca. 728 species, 62 families)]	<ul style="list-style-type: none"> • Dr. Vinay Ranjan, Scientist C • Dr. K. Karthigeyan, Scientist C • Dr. O. N. Maurya, Scientist B • Sri P. P. Ghoshal, Botanist • Sri K. L. Maity, Curator, CNH • Dr. T.K. Paul, Botanist • Sri C.R. Magesh, Preserv. Asstt. • Smt. Mahua Pal, Bot. Asstt. • Sri Anand Kumar, Bot. Asstt. (Hq.) • Sri Anant Kr., Preser. Asstt. (Hq.) • Sri C.R. Magesh, Preser. Asstt. Gr. I • Sri Gopal Krishna, Pres.. Asstt. Gr. I • Sri Shyam Biswa, Pres.. Asstt. Gr. I • Sri V.K. Mastakar, Pres.. Asstt. Gr. I 	2012 – 2015	<ul style="list-style-type: none"> • Dr. Vinay Ranjan, Scientist C <i>Fabaceae</i> [Tribes – <i>Abreae</i>; <i>Tephrosieae</i>, (5 genera, 15 spp.)] • Dr. K. Karthigeyan, Scientist C <i>Rutaceae</i> (24 spp.) • Dr. O. N. Maurya, Scientist B <i>Geraniaceae</i>; <i>Trapeolaceae</i>; <i>Oxalidaceae</i>; <i>Averrhoaceae</i>; • Sri P. P. Ghoshal, Botanist <i>Fabaceae</i> [Tribe: <i>Phaseoleae</i>-subtribes: <i>Erythrinae</i>; <i>Diocleinae</i> & <i>Glycinirae</i> (13 genera & 25 spp.)] • Sri Shyam Biswa, Preserv. Asstt. <i>Olacaceae</i>; <i>Opiliaceae</i>; <i>Icacinaceae</i>; <i>Aquifoliaceae</i> & <i>Sapindaceae</i> (14 spp.) • Sri K. L. Maity, Curator, CNH <i>Meliaceae</i> (16 spp.) • Dr. T.K. Paul, Botanist <i>Bombacaceae</i> & <i>Sterculiaceae</i> (32 spp.) • Sri C.R. Magesh, Preserv. Asstt. <i>Ochnaceae</i>; <i>Burseraceae</i> & <i>Leeaceae</i> (11 spp.) • Dr. (Smt.) Mahua Pal, Bot. Asstt. <i>Fabaceae</i> [Tribes: <i>Sophoreae</i>; <i>Dalbergiae</i> & <i>Indigofereae</i> (5 genera & 28 spp.)] • Sri Anand Kumar, Bot. Asstt. (Hqrs.) <i>Celastraceae</i>; <i>Siphonodontaceae</i> & <i>Hippocrateaceae</i> (10 spp.) • Sri Anant Kumar, Preserv. Asstt. (Hq.) <i>Rhamnaceae</i> (15 spp.) • Sri C.R. Magesh, Preserv. Asstt. Gr. I <i>Ochnaceae</i>; <i>Burseraceae</i> & <i>Leeaceae</i> (11 spp.) • Sri Gopal Krishna, Preserv. Asstt. Gr. I <i>Vitaceae</i> (19 spp.) • Sri Shyam Biswa, Preserv. Asstt. Gr. I <i>Olacaceae</i>; <i>Opiliaceae</i>; <i>Icacinaceae</i>; <i>Aquifoliaceae</i> & <i>Sapindaceae</i> (14 spp.) • Sri V. K. Mastakar, Preserv. Asstt. Gr. I <i>Anacardiaceae</i> & <i>Moringaceae</i> (9 spp.) 		
87.	Flora of Jharkhand, Volume I [Introduction, Key to the Families, Ranunculaceae – Mimosaceae (ca. 728 species, 62 families)]					
Nature of Tour		Q1	Q2	Q3	Q4	Annual
Field Tour		1	3	2	3	09
Herbarium Consultation Tour		1	0	1	1	03

List of projects completed in March 2013

1. Editing of Family Acanthaceae under Flora of India – Dr. P. Venu, Scientist F, CNH and Dr. P. Lakshminarasimhan, Scientist D, CNH
2. Flora of Udhwa lake Bird Sanctuary, Jharkhand – Dr. O. N. Maurya, Scientist B, CNH and Dr. P. Venu, Scientist F, CNH
3. Verification of deposition of types at different herbaria of BSI based on name of new taxa published during 1990 – 2004 in journals – Dr. S. Bandyopadhyay, Botanist, CNH
4. Study on Genera *Jencellus*, *Anosporum*, *Sorostachy* sand remaining taxa of family Cyperaceae under Flora of India – Dr. V. P. Prasad, Scientist C, CNH

CENTRAL BOTANICAL LABORATORY, HOWRAH

Sr. No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 14
88.	<p>Ethnobotanical Study of Odisha, Phase – II</p> <ul style="list-style-type: none"> ➤ Bargarh, Balangir, ➤ Nabrangpur, Dhenkanal, Naupada[#], Malkangiri[#], ➤ Koraput* (tribal population 5, 85,830 & area 8,534 sq.km.), ➤ Deogarh* (tribal population 92,103 & area 2781 sq.km.), ➤ Jajapur (tribal population 1, 25,989 & area 2885 sq.km.) ➤ Ganjam (tribal population 90,919 & area 8,033 sq.km.) <p># will be kept pending due to disturbed situation. Jajapur district and Ganjam district are included respectively, on replacement.</p> <p>* Newly included districts</p>	<ol style="list-style-type: none"> 1. Dr. A. Pramanik, Scientist ‘D’, 2. Dr. Harish Singh, Scientist ‘C’ 3. Smt. Sujana, K.A. Scientist ‘C’ 4. Sri A.C. Halder, Botanist, Hqrs., 5. Sri P. K. Baske, Botanist, CNH, 6. Sri. R. Saravanan, Bot. Asstt., 7. Smt. Monika Mishra, Bot. Asstt., 8. Sri N. R. Siddabathula, Bot. Asstt., 9. Sri Dhole Pankaj Arvind, Bot. Asstt. 10. Sri P. A. Diwakar, Preserv. Asstt.-I 	<p>2012 – 2017 (For Koraput, Jajpur, Deogarh and Ganjam the tenure is 2013 – 15)</p>	<p>Q1.Literature survey, completion of identification, inventorisation, and documentation of specimens collected earlier. One Field Tour to Koraput (area 4267 sq.km.) by Smt. Sujana K.A., Smt. Monika Mishra, Sri Dhole Pankaj Arvind, & Sri Pandey Amit Diwakar</p> <p>Q2.Literature survey, completion of identification, inventorisation, and documentation of specimens collected earlier. One Field Tour to Jajapur (area 1442 sq.km.) by Sri A.C. Halder, Sri P. K. Baske, Botanist, Sri N. R. Siddabathula, & Sri Dhole Pankaj Arvind.</p> <p>Q3.Literature survey, completion of identification, inventorisation, and documentation of specimens collected earlier. One Field tour to Deogarh District (area-1360 sq.km.) by Dr. Harish Singh, Sri P. K. Baske, CNH, Sri R. Saravanan, Bot. Asstt. & Sri Dhole Pankaj Arvind, Bot. Asstt.</p> <p>Q4.Literature survey, completion of identification, inventorisation, and documentation of specimens collected earlier. One Field tour to Ganjam (area 4015 sq.km.) by Dr. A. Pramanik, Sri A.C. Halder, Sri N. R. Siddabathula, & Sri Pandey Amit Diwakar.</p> <p>Total 4 Ethnobotanical Field Tours</p>

BSI: ANNUAL RESEARCH PROGRAMME 2013 – 14

Sr. No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 14
89.	Flora and Ethnobotany of Balasore district, Odisha (ca. 3706 sq. km.) (New Project)	1. Smt. Sujana K. A., Scientist-'C' , 2. R. Saravanan, Bot. Asstt., Smt. 3. Monika Mishra, Bot. Asstt. & 4. Pandey Amit Diwakar, Preserv. Asstt-I	2013 – 2016	Q1. Literature study and collection of Ethnomedicinal data from survey of ca. 200 literature Q2. One field tour to Balasore district covering 617 sq. km. Q3. Processing, Identification and documentation of collected specimens. Q4. Completion of processing identification, inventorisation and documentation of specimens collected earlier. One field tour to Balasore district covering 617 sq. km.

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	1	2	1	2	06

List of projects completed in March 2013

1. Ethnobotanical Study of Odisha, Phase II (Bargarh, Balangir, Nabrangpur and Dhenkanal) – Dr. A. Pramanik, Sci. D, Dr. Harish Singh, Sci. C, Dr. Sujana, Sci. C, all CBL
2. Ethnomedicinal uses of Fabaceae in India recorded in herbarium and in published literature – Smt. Geeta Chowdhury, Botanist, ISIM and Sri Sarvanan, Bot. Asstt., CBL
3. Ethnobotanical information recorded in herbarium and literature for treatment of stone – Dr. (Mrs.) Sujana, KA, Scientist C, CBL

BSI: ANNUAL RESEARCH PROGRAMME 2013 – 14

INDUSTRIAL SECTION, INDIAN MUSEUM, KOLKATA

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
90.	Listing of collections of George Watt in BSIS (ca. 6000 collections)	Dr. T.Chakraborty, Sci.D Ms. Sudeshna Dutta, Preserv. Asstt., Gr.-I.	2011 – 13 (<i>Extended upto March 2014</i>)	Listing of remaining 4000 specimens
91.	Collection of economic plant materials for enrichment and replacement of exhibits of the Botanical gallery	Dr. A.K. Sahoo, Scientist C	2013 – 2014 (<i>New Project</i>)	Two field tours in Q1 & Q4 in tribal localities of Ranchi & Lohardaga districts of Jharkhand for collection of medicinal plant materials for changing of old materials in Gallery.
92.	Procurement (or exchange) of seasonal plant materials from other Museum	Dr. A.K. Sahoo, Scientist C	2013 – 2014 (<i>New Project</i>)	One study tour to NBPGR, New Delhi in Q3 for procurement of ca 40 selected species of seasonal plant materials
93.	Collection of Oil Crops, Pulse & Medicinal Plant materials for enrichment of Botanical Gallery	Mr Arumugum S., Botanical Asstt. & Mr B.C. Dey, Preservation Asstt., Gr.-I. Ms. Sudeshna Dutta, Preservation Asstt., Gr.-I.	2013 – 2014 (<i>New Project</i>)	Q1. Documentation of relevant literature and consultation of libraries of ISIM & CNH Q2. One Field tour to East Sikkim for collection of plant materials for enrichment of Gallery. Q3. Arrangement of Botanical Gallery, labeling and maintenance Q4. One Field tour to Koraput, Odisha for collection of plant material for enrichment of gallery
94.	Listing and identification of Dicot herbarium specimens at BSIS.	Mrs. Geeta Chaudhury, Botanist Ms. Sudeshna Dutta, Preservation Asstt., Gr.-I. Mr. B. C. Dey, Preservation Asstt., Gr.-I.	2013 – 2016 (<i>New Project</i>)	Consultation of BSIS for information recorded in herbarium sheets of the specimens of Dicotyledons
95.	Listing and identification of Monocot herbarium specimens at BSIS.	Mr Arumugum S., Botanical Asstt	2013 – 2016 (<i>New Project</i>)	Consultation of BSIS for information recorded in herbarium sheets of the specimens of Monocotyledons
96.	Revision of the subtribe <i>Sporobolinae</i> under family: Poaceae in India.	Mr Arumugum S., Botanical Asstt	2013 – 14 (<i>New Project</i>)	The revisionary studies are to be completed by 2014.
97.	Revision of Family Gesneriaceae of North East India	Dr. B.K. Sinha, Sci. E Ms. Sudeshna Dutta, Preserv. Asstt., Gr.-I.	2013 – 15 (<i>New Project</i>)	The revisionary studies are to be completed by 2015. No Field Tour and HCT are approved for 1 st year.

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	1	1	0	2	04
Herbarium Consultation Tour	0	0	1	0	01

PHARMACOGNOSY

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
98.	Pharmacognostic studies on medicinal Aconites of India	Dr. A. B. D. Selvam, Scientist C	2010 – 2015	1 field tour in Q2 (end) alongwith Dr. K. Ambrish, or Dr. Pusalkar of NRC to be conducted to W. Himalayas to collect following 4 medicinal Aconites: <i>Aconitum deinorrhizum</i> , <i>A. heterophyllum</i> ; <i>A. laeve</i> & <i>A. rotundifolium</i>

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	0	1	0	0	01

BSI: ANNUAL RESEARCH PROGRAMME 2013 – 14

CRYPTOGAMY

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
99.	Liverworts & Hornworts of Sikkim (excl. East dist.) (ca. 230 spp.)	Dr. D. K. Singh, Scientist F Dr. D. Singh, Scientist C	2011 – 2014	<p>Q1. Identification of old and new collections, camera lucida illustrations, description and photomicrography for 10 species to be completed.</p> <p>Q2. Continuation of identification, camera lucida illustrations, description and photomicrography of 12 species to be completed</p> <p>Q3. One field tour to West and South Sikkim (ca 200 sq.km). Continuation of identification, camera lucida illustrations, description and photomicrography for 10 species to be completed</p> <p>Q4. One herbarium and library consultation tour to Lucknow University, Lucknow, NBRI, Lucknow and Dept. of Botany, Feroze Gandhi College, Raebareli. Continuation of Identification, camera lucida illustrations, description & photomicrography of 15 spp. to be completed. Finalisation & submission of ms.</p> <p>Total 01 Field Tour and 01 Herb. Consultation Tour</p>
100.	Wood Rotting Fungi of Koderma Wildlife Sanctuary, Jharkhand	Sri Arvind Parihar, Preservation Asstt. Dr. J.R. Sharma, Em. Sci.	2010 – 2014	<p>Q1. Identification, preparation of taxonomic description and photomicrographs of the backlog specimens collected previously from the area.</p> <p>Q2. One field tour to Kodarma Wildlife Sanctuary covering about 60 sq.km. area will be surveyed extensively. Identification, preparation of taxonomic description and photomicrographs of the backlog specimens collected previously from the area.</p> <p>Q3. Identification, preparation of taxonomic description and photomicrographs of specimens collected in Q2.</p> <p>Q4. One herbarium consultation tour to NRC for consultation and identification, preparation of taxonomic description and photomicrographs of the specimens collected in the Q2.</p> <p>Total 01 Field Tour and 01 Herb. Consultation Tour</p>
101.	Algal Flora of Jharkhand	Dr. R. K. Gupta, Scientist C	2012 – 2017	<p>Q1. Field Tour to Sahibganj, Godda and Pakur Districts. Total area 2611 sq. Km. Photomicrography and taxonomic description of the collected samples.</p> <p>Q2. Field Tour to Dumka and Deogarh Districts. Total area 1490 sq. Km. Photomicrography and taxonomic description of the collected samples.</p> <p>Q3. Identification, Photomicrography, Taxonomic description of the collected samples.</p> <p>Q4. Field Tour to Jamtara and Dhanbad Districts. Total area 5327 sq. Km. Photomicrography and taxonomic description of the collected samples.</p> <p>Total 03 Field Tours</p>
102.	Studies on Wild Mushrooms of North Sikkim	Dr. Kanad Das, Scientist C	2011 – 2014	<p>Q1. Study and examination of specimens collected earlier.</p> <p>Q2. One Field Tour to North Sikkim</p> <p>Q3. Inventorisation of ca. 45 species</p> <p>Q4. SEM study tour to BSI – NRC, Dehradun</p> <p>Total 01 Field Tour and 01 SEM study/ Herb. Consultation tour</p> <p><i>NB: Manuscript to be finalized for submission by August, 2014.</i></p>

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Sr No.	Name of the Project	Name of the executing scientist	Tenure	Quantifiable deliverables (targets) for 2013 – 2014
103.	Wood-rotting fungi of Rajmahal hills Jharkhand	Sri Manoj Emanuel Hembrom Botanist CNH	2013 – 2017 (<i>New Project</i>)	Q1. Study of relevant literature of the study area. Q2. One field tour to Rajmahal hills situated at Sahibganj Dist. covering approx. 100 sq.km area Q3. Identification, preparation of taxonomic description & photomicrographs of specimens collected in Q2. Q4. One herbarium consultation tour to BSI/NRC-Dehradun and PUSA, ICAR, New Delhi for herbarium and library consultation. Total 01 Field Tour and 01 Herb. Consultation Tour

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	1	4	1	1	07
Herbarium Consultation Tour	0	0	0	4	04

ECOLOGY

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Proposed Quantifiable deliverables (targets) for 2013 – 2014
104.	Eiphytic Algal Flora of AJC Bose IBG, Howrah (<i>New Project</i>)	Dr. Pratibha Gupta Scientist D	2013 – 2017	Sampling of palms in large palm house, in different seasons, will be completed

List of projects completed in March 2013: Checklist of Dinophyceae in India (*ca* 600 species) – Dr. Pratibha Gupta, Scientist D

PLANT CHEMISTRY

Sr No.	Name of the Project	Name of the executing scientist	Tenure	Proposed Quantifiable deliverables (targets) for 2013 – 2014
105.	Chemical composition and nutritive value of Wild Edible Plants of NE Region	Dr. Tapan Seal, Scientist B	2008 – 2015	One field tour to Meghalaya State in Q3 to collect selected plants in bulk volume for the study. Analysis of chemical composition and nutritive value of 20 samples.

Nature of Tour	Q1	Q2	Q3	Q4	Annual
Field Tour	0	1	0	0	01

BREAKUP OF TOURS

Regional Centre	Annual Target for 2013 – 14											
	Field tours				Herb. Consultation Tours				Ex-situ conservation tours			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. APRC	3	4	3	1	1	1	1	2	0	0	0	0
2. ERC	1	2	2	1	1	0	2	0	0	1	1	0
3. SHRC	1	2	1	1	2	0	2	2	0	0	0	0
4. CRC	0	2	2	2	0	0	0	0	0	0	0	0
5. BGIR	0	0	0	0	0	0	0	0	1	1	1	1
6. NRC	1	3	3	1	0	2	2	1	0	2	1	0
7. AZRC	1	1	1	1	0	0	1	1	0	0	0	0
8. WRC	2	5	3	3	1	0	1	2	0	0	0	0
9. DRC	0	2	0	2	1	0	0	0	0	0	0	0
10. SRC	2	3	3	2	1	0	0	1	0	1	1	0
11. ANRC	0	2	2	0	1	0	0	0	0	0	0	0
12. AJCBIBG	0	0	0	0	0	0	0	0	2	2	3	2
13. CNH	1	3	2	3	1	0	1	1	0	0	0	0
14. CBL	1	2	1	2	0	0	0	0	0	0	0	0
15. ISIM	1	1	0	2	0	0	1	0	0	0	0	0
16. PHARM	0	1	0	0	0	0	0	0	0	0	0	0
17. CRYPTO	1	4	1	1	0	0	0	4	0	0	0	0
18. ECOLOGY	0	0	0	0	0	0	0	0	0	0	0	0
19. PL. CHEM	0	1	0	0	0	0	0	0	0	0	0	0
TOTAL	15	38	24	22	9	3	11	14	3	7	7	3
GRAND TOTAL	99				37				20			