

**Minutes of the Meeting of the Research Advisory & Monitoring  
Committee (RAMC) of the Botanical Survey of India (BSI)  
held at Dehradun on October 22, 2013**

The Meeting of the Research Advisory & Monitoring Committee was held in the Committee room of the Northern Regional Centre, BSI, Dehradun under the Chairmanship of Prof. A.K. Koul, Dean, Academic Affairs, School of Biosciences and Biotechnology, Baba Ghulam Shah Badshah University, Rajouri on 22<sup>nd</sup> October, 2013. The meeting was followed by a visit to the associated botanic garden, the herbarium, library and the laboratories of the Centre, at Dehradun. The list of members / invitees who attended the meeting is appended at the end.

Before the commencement of the meeting the Committee paid homage to late Prof. S.P. Vij, former Professor & Head, Department of Botany, Punjab University, Chandigarh – a renowned Orchidologist and founder of the ‘Orchid Society of India’ and late Dr H.C. Pande, Scientist D, BSI, NRC, Dehradun – a young yet very promising Pteridologist.

The deliberations began with Dr Paramjit Singh, Director, BSI, extending a warm welcome to the Chairman, Prof. A.K. Koul and other distinguished members of the Committee and the Special Invitees. He observed that the collective wisdom of the Committee has greatly helped the Survey to develop a holistic vision towards plant taxonomic research and seek collaboration for expeditious documentation of country’s plant diversity and its effective conservation. He drew attention of the Committee to the recent devastation caused in Uttarakhand, Odisha and Andhra Pradesh and informed that BSI will carry out the impact of these natural calamities on the flora in the affected areas.

Acknowledging that it was the last meeting of the present Committee, Prof. A.K. Koul, Chairman, expressed satisfaction that the Committee could push through some issues that it felt important for the BSI. He said that the ‘Flora of India’ programmes of BSI should be strengthened and that all Emeritus Scientists of BSI should contribute towards this scheme. He, however, expressed disappointment that the Committee could not help BSI fill all positions of the Emeritus Scientists and raise the emoluments of Junior and Senior Research Fellows and the honorarium for the Emeritus Scientists and observed that the new Committee should continue to pursue these issues with the ministry. Prof. Koul observed that BSI’s contributions towards documentation and conservation of plant diversity of the country is unparalleled. Being the nodal research organisation of the country in the field of plant taxonomy, BSI should proactively try to widen the base of taxonomic researches in India by patronising the institutions and programmes focussing on taxonomy and conservation of plants; should continue to help colleges and universities to develop gardens and herbaria and guide them through regular capacity building training programmes in taxonomy.

The Agenda Items were then taken up in seriatim.

### **Agenda Item No. 1: Confirmation of the minutes of last meeting:**

Dr D.K. Singh, Member Secretary, informed the Committee that the minutes of the last meeting, held at Andaman & Nicobar Regional Centre of BSI at Port Blair on 22<sup>nd</sup> March 2013, were circulated among the members on 3<sup>rd</sup> April 2013. Comments from the Director, G.B. Pant Institute of Himalayan Environment & Development (GBPIHED), Almora only were received, which was placed as Annexure to the minutes of the last meeting for consideration and confirmation of the minutes by the Committee. The minutes were later confirmed.

### **Agenda Item No. 2: Action taken on the decisions of the previous meeting:**

1. **Director BSI should be empowered to appoint Consultants in order to expedite time bound research programs:** It was informed that as per the extant Rules, powers for appointment rested only with the 'Head of the Departments' of attached offices, whereas the BSI is a subordinate office. The Committee was further informed that the Directors of GBPIHED, Wildlife Institute of India (WII), Forest Survey of India (FSI), ICFRE Institutes under the ministry are placed in the grade of 'Scientist H', whereas Directors of BSI and ZSI - the two much bigger organizations with much larger mandate, are ironically placed in 'Scientist G' grade, which has severely limited the administrative as well as financial powers of the Director, BSI. The Committee expressed surprise and strongly recommended that the ministry should remove this anomaly and empower the Director, BSI to be able to take decisions deemed necessary for effectively fulfilling department's mandate.
2. **The 'Guidelines' for the Emeritus Scientist Scheme in BSI should be revised raising the number of Emeritus Scientists from 6 to 10 and the upper age limit from 65 to 70 years:** It was informed that the decision of the ministry on the proposal was still awaited. The Committee strongly reiterated its recommendation to raise the upper age limit of Emeritus Scientist (ES) as is the case in UGC and CSIR. The Committee further noted that since the approval process of the appointment of ES takes considerable time, the retired scientists offered the position of ES at present usually do not get the full term of five years, which affects the outcome of their project. As such, raising the upper age limit to 70 years will ensure full 5-year tenure of an ES without any added financial implication to the organization/Government. The Committee further emphasized to expedite the approval process by vesting this power with Director, BSI.
3. **Extension of the tenure of Dr H.J. Chowdhery, Emeritus Scientist, BSI, NRC, Dehradun; Dr K.P. Singh, Emeritus Scientist, BSI, CRC, Allahabad and Dr J.R. Sharma, Emeritus Scientist, BSI, NRC, Dehradun for a further period of two years from the date it becomes due:** It was informed that the tenure of three Emeritus Scientists in BSI was extended from the date it became due for a further period of 02 years or their attaining the age of 65 years, whichever is earlier. The Committee expressed satisfaction, but observed that the decision to raise the upper age limit should be expedited to ensure that these Emeritus Scientists get their full 5-year tenure.

4. **Engagement of consultants for editing / writing of 'Flora of India'.** Dr D.K. Singh informed that the ministry has since approved the engagement of two Consultants on selection basis. The notice inviting proposals for the same will appear in 25<sup>th</sup> October issue of Current Science.
5. **Enhancement of fellowship amount of BSI research scholars on par with DST and CSIR:** Dr D.K. Singh informed that the ministry's decision on the proposal submitted by BSI was still awaited. In the meantime, however, the ministry has issued 'Guidelines' for research scholars under various research programmes of the ministry wherein CSIR rates of emoluments are linked to NET qualification. The Committee reiterated its earlier recommendation in the matter and observed that the MoEF, being the nodal ministry for Convention on Biological Diversity (CBD), should devise its own rules to promote taxonomic researches in the country - which is key to fulfilling the commitments to CBD, rather than following CSIR model.
6. **BSI should bring out publication documenting plants rediscovered / recollected after long intervals along with reasons for non-collection, biotic and natural threats, etc.:** Dr D.K. Singh informed that BSI has compiled information on 48 such species that have been relocated by the scientists of BSI over the past decade and presented a copy of the draft report to the Chairman. The Committee expressed satisfaction on the efforts made by the BSI. Dr P. Singh, Director, BSI said that the draft Report will be uploaded on BSI's website for awareness and for inviting comments/inputs on these species. Prof. S.P. Singh observed that there is need to celebrate 'trees' to elicit support of the common man in conservation drive. He drew the attention of the members towards a species of *Litsea* (locally known as 'Lampatia') which is left with just about 1000 trees in Ukhimath in Garhwal and just 100 - 200 individuals in Nainital in Kumaon region. Dr G.S. Goraya suggested that BSI could enter into MoU with National Bureau of Plant Genetic Resources (NBPGR) for storage of the germplasm of the threatened species. To a query from the Chairman about the status of domestication of *Pyrenaria khasiana* - supposedly a wild relative of tea plant, it was informed that the species is currently under cultivation in the garden of Eastern Regional Centre of BSI at Shillong. The Chairman suggested that BSI should try to release other publications during the conference of Indian Botanical Society and also display its publications at these conferences to give them wider publicity amongst the botanical fraternity.
7. **BSI should enter into collaborative research programmes with peer institutions/ stakeholders in the areas of core competence of the collaborating partners based on mutually agreed terms and conditions without affecting its on-going activities:** It was informed that while the MoU between BSI and the Old Dominion University, Norfolk, Virginia, USA for taxonomic and systematic studies on genus *Hedyotis* has already been approved by the ministry, approval for the ones between Royal Botanic Garden, Kew, U.K. and the Ashoka Trust for Research in Ecology and the Environment (ATREE) is still awaited.

### **Agenda Item No. 3: Review of the Progress report of BSI from March to August 2013:**

Dr D.K. Singh made the presentation on the progress made by the BSI from March to August 2013, during which 66 field tours (including those by BSI research scholars) were undertaken in two wetlands, 26 protected areas, 07 sacred groves and different ecosystems spreading across 08 bio-geographic regions, viz. Western Himalaya, Eastern Himalaya, North-east India, Arid-Semi Arid region, Gangetic Plains, Deccan Peninsula, Western Ghats and the Coasts in four biodiversity hotspots, i.e. the Himalaya, Indo-Burma, Sundaland and the Western Ghats-Sri Lanka; c. 9,541 specimens of flowering as well as non-flowering plants were collected; over 8,204 specimens were identified into 4,201 taxa; 21 taxa were discovered as new to science, 41 taxa recorded as new to India and documented range extensions in 122 taxa across major geographical regions/States; recollected four species after a gap of over 50 years; 178 taxa under national flora, 1,373 taxa under regional/state/district flora, 1,123 taxa under flora of protected areas were documented; ethno-botanical information from Balasore and Koraput districts of Odisha and Dang district of Gujarat were documented; over 3,027 saplings/seeds/propagules belonging to c. 432 threatened, endemic or economically important species were introduced in AJC Bose IBG, Howrah and other associated botanic gardens of BSI; nutraceutical value of six wild edible plants of Meghalaya was analyzed; 11 books, three periodicals, 149 research papers, 03 book chapters and 51 popular articles were published; 7,507 specimens were bar-coded and digitized; 1,241 specimens were identified for the students/scientists outside BSI; about 3,660 pages of literature was provided and three training programme/workshop/seminar were organized at SRC, Coimbatore/CNH, Howrah/NRC, Dehradun. In addition, images of type specimens of 102 taxa; protologues of 112 taxa and 993 pages of literature were repatriated by the Indian Botanical Liaison Officer at Royal Botanic Garden, Kew, U.K. Dr Singh also informed about the new 'Cyber-taxonomy' initiative of BSI which envisages launching of digital edition of all its publications and archival materials on its web portal.

The Committee commended the achievements of BSI during the period under review. The Chairman observed that BSI should involve students/research scholars from outside BSI in their field tours, as recommended earlier, as part of their capacity building exercise. Dr P. Singh informed that it is often not possible for logistic and financial reasons. The Chairman suggested that students should be encouraged to make their own arrangement during such excursions. Prof. S.P. Singh asked about the new distributional records of plants in Indian flora as to whether these are weedy elements making their appearance due to climate change. Dr G.S. Goraya commended the conservation efforts of BSI and underlined the need for recording the population size and status of regeneration of a species. Prof. S.C. Srivastava observed that the BSI is doing excellent work on Angiosperms and, to some extent, on Bryophytes and Pteridophytes, but very little work is being done on Algae and Lichens. The Chairman suggested that different modern facilities, like tissue culture laboratory, etc. should be selectively created at different centres and not all the centres. He observed that progress report does not find any mention of augmentation of museum exhibits/artefacts or the modernization of museum.

Dr S.K. Srivastava, Scientist D-in-Charge, Northern Regional Centre, BSI, Dehradun made brief presentation on the activities and achievements of the centre. The Chairman commended the vibrance of the Centre.

**Agenda Item No. 4: Review of proposals for appointment of Emeritus Scientist in BSI:**

Dr D.K. Singh informed that BSI received three applications for the position of Emeritus Scientist and the review process for two of them, viz. Dr A.A. Ansari, former Scientist E, BSI and Dr Veena Chandra, former Scientist F, ICFRE, were completed. The Committee noted that in case of Dr Ansari, two reviewers had recommended the proposal "Taxonomic revision of genus *Desmodium* Desv. (Leguminosae) in India", the third reviewer was of the view that the proposed work was already done and published by BSI. During the deliberations, however, it emerged that the revision of genus *Desmodium* was still not published. The Committee, therefore, decided that Dr Ansari should be requested to respond to the observations of the third Reviewer and authorised the Chairman to take a final decision in the light of Dr Ansari's response. In case of Dr Veena Chandra also the Committee noted that two reviewers had recommended the proposal "Taxonomic revision of tribe Scirpeae, family Cyperaceae in India", while the third reviewer suggested revision of the project proposal as it was not properly prepared. Dr D.K. Singh informed that in the light of the suggestions of Reviewer 3, the applicant was asked to revise and resubmit the project proposal and the revised proposal was once again forwarded to the Reviewer. The Reviewer 3, who was present in the meeting as one of the members, gave his concurrence to the proposal. The Committee, therefore, recommended Dr. Veena Chandra for the Emeritus Scientist position in BSI. The Committee further recommended that the names of the Reviewers should not be disclosed, except to the Chairman.

**Agenda Item No. 5: Any other issue for consideration with permission of the Chair:**

Dr Sangeeta Gupta suggested that BSI should enhance the rate for its identification service. Dr P. Singh said that BSI is getting lot of wood samples, from different enforcement Agencies, for identification and that BSI would like to collaborate with ICFRE in this regard. Dr G.S. Goraya suggested that revenue generated by BSI through various services should be ploughed back to the organization. Dr Goraya further suggested that all Regional Centres of BSI should display 'Plant/Flower of the month' of the respective region.

Prof. S.C. Srivastava suggested that the 'All India Coordinated Project on Capacity Building in Taxonomy (AICOPTAX)' should be revived. Dr P. Singh informed that the 2<sup>nd</sup> phase of the project has already been approved, but it is limited to phytoplanktons and lower groups of fungi as far as plants are concerned. But, there is still possibility that other plant groups will also be included.

Dr R.R. Rao complemented BSI for its excellent work and the quality of publications and observed that the research programmes should be strictly monitored. He said that BSI's achievements/publications should be effectively

publicised and that all its publications should be reviewed in good journals. He said that since BSI has a huge repository of good photographs of plants, it should bring out on-line 'Pictorial Flora of India' as recommended in the last meeting.

Dr P.G. Latha said that BSI should continue the training programme in taxonomy to attract younger generation to the subject.

Dr C.S. Nautiyal proposed collaborative programme between NBRI and BSI on molecular taxonomy and the digitization of herbarium specimens.

Dr S.P. Singh appreciated the research programmes being carried out by the BSI and suggested that the data on habitat and distribution of the species, especially abundance, needs to be more precise where ecologists could join and contribute. He further observed that knowing the biology of tree species, together with meta-analysis/statistical analysis of associated ecological data, will be very interesting.

Dr P.K. Hajra suggested that the frequency of taxonomy capacity building trainings, organized by BSI, should be increased. He expressed concern about fewer applications for the position of Emeritus Scientists in BSI.

Dr H.J. Chowdhery said that more supporting scientific/technical staff is required for smooth and efficient functioning of BSI. Dr J.R. Sharma observed that the primary emphasis on field surveys should continue.

The Chairman observed that the taxonomic institutions the world over are treated as affiliates of the 'Academy of Slow Science' and termed the BSI as 'Mecca' for all botanists in the country. He appreciated the quality of contributions made by BSI and expected it to 'do many more things'.

### **Recommendations:**

The following recommendations emerged from the deliberations:

1. The position of Director, BSI should be upgraded to the level of Scientist H to empower him administratively and financially to take expeditious decisions necessary for fulfilling department's mandate. **(Action: MoEF)**
2. The BSI should publish on-line 'Pictorial Flora of India' **(Action: BSI)**
3. The 'Guidelines' for the Emeritus Scientist Scheme of BSI should be revised raising the number of positions from 6 to 10 and the upper age limit from 65 to 70 years. **(Action: BSI/MoEF)**
4. Enhancement of the amount of Junior/Senior Research Fellowship of JRFs / SRFs working in BSI bringing it at par with best in the country. **(Action: MoEF)**
5. Appointment of Dr Veena Chandra, formerly Scientist F, FRI, Dehradun, as Emeritus Scientist in BSI. **(Action: BSI/MoEF)**

The meeting ended with vote of thanks by Dr D.K. Singh.

## List of Participants

1.	Prof. A.K. Koul	Chairman
2.	Dr C.S. Nautiyal, Director, NBRI, Lucknow	Member
3.	Dr P.G. Latha, Director, TBGRI, Trivendrum	Member
4.	Dr R.R. Rao, Bangalore	Member
5.	Prof. S.C. Srivastava, Lucknow	Member
6.	Dr P. Singh, Director, BSI	Member
7.	Dr (Mrs.) Sangeeta Gupta, MoEF Representative	Member
8.	Dr G.S. Goraya, D.D.G. (Research), ICFRE, Dehradun	Special Invitee
9.	Prof. S.P. Singh, Chair of Excellence, ICFRE, Dehradun	Special Invitee
10.	Dr P.K. Hajra, Former Director, BSI	Special Invitee
11.	Dr H.J. Chowdhery, Emeritus Scientist, BSI, Dehradun	Special Invitee
12.	Dr J.R. Sharma, Emeritus Scientist, BSI, Dehradun	Special Invitee
13.	Dr P. Venu, Scientist F, BSI, Hyderabad	Special Invitee
14.	Dr S.K. Srivastava, Scientist D, BSI, Dehradun	Special Invitee
15.	Dr Ambrish Kumar, Scientist C, BSI, Dehradun	Special Invitee
16.	Dr P.K. Pusalkar, Scientist C, BSI, Dehradun	Special Invitee
17.	Dr R. Manikandan, Scientist C, BSI, Dehradun	Special Invitee
18.	Dr G.S. Panwar, Scientist B, BSI, Dehradun	Special Invitee
19.	Shri Sabyasachi Saha, Asstt. Inf. Officer, BSI, Kolkata	Special Invitee
20.	Dr D.K. Singh, Scientist F, BSI, Kolkata	Member Secretary