National Workshop on Tree Seed Science and Silviculture

The National Workshop on Tree Seed Science and Silviculture was held at IFGTB from 28-29th November 2013.

Dr. N. Krishna Kumar, Director, IFGTB, in his presidential address, said that silviculture had become a fading subject in the field of forestry research. He stressed the need of providing quality seeds and precision silviculture to the stakeholders such as farmers, industries and forest departments.

The chief guest Shri. Gautham Dey, IFS, PCCF and Head of Forest Force, Tamil Nadu, in his inaugural address, appreciated the research work carried in the institute. He elaborated on the history of scientific management of Forests promulgated by eminent workers like Champion and Seth, Brandis etc. He highlighted on various aspects of trees outside forests citing its success in different states. Further he stressed need of connecting together all the stallholders like Forest Department, Universities, Research organisations and NGO for betterment of forest and biodiversity management for welfare of man.

Felicitaions were delivered by Mrs. C.S. Rama Lakshmi, IFS, Commissioner of Sericulture and Dr. R.R. Hanchinal, Chairman, PPV&FRA, Govt. of India. Mrs. C.S. Rama Lakshmi, in her address, suggested integration of MNREGS programme with forestry activities to facilitate farmers to take up tree planting programme. She expressed the possibility of including private players in forestry seed supply as is happening in agriculture. Dr. R.R. Hanchinal, in his felicitation address highlighted the role of woman and tribal people in production and conservation food crops, oil seeds, pulses etc. He stressed the importance of integrated farming system, community seed bank, seed village concept, requirement of capacity building, employment generation programme and suggested to take up early registration of tree species to protect IPR rights of breeders.

Two books one on "Forest seed Science and Technology" and "A compendium of Silvicultural Technologies" was released to commemorate 25 years of seed and silvicultural research in the institute. A software –CYCUS to calculate yield of casuarinas plantations and the 19th Newsletter of the Institute were also released.

Dr. R. Anandalakshmi, Organizing Secretary, gave an overview of the workshop while Dr. C. Buvaneswaran, Organising Secretary proposed vote of thanks. About 120 participants from ICFRE institutes, Wood Based Industries, Forest Departments, Universities, NGOs, Students etc. from 16 states participated in the Workshop.

The Workshop comprised of three themes. The first theme dealt with the status of seed and silviculture research in different organisations including the State Forest Departments. Senior Forest Officers namely Shri T. R. M. Prasad, Dr. Aruna Basu Sarcar, Dr. V. Ramakantha, Dr. Jagdish Chander, Dr. D. Rajasekar, Ramakant Tewari and Shri G.J. Teggi elaborated on the

status of silviculture and seed research in the States of Gujarat, Tamil Nadu, Manipur, Haryana, Punjab, Uttarakhand and Kerala respectively.

The theme on seed science and technology addressed issues on Seed Biology, Seed banks and FGR repository, Seed Certification and policy issues, and seed health. Dr. K.S. Varaprasad, Director, NBPGR, Hyderabad and Dr. K. Sudhakara, Dean, College of Forestry, KAU gave lead talks on the subject of seed technology in forestry. The theme on precision silviculture and site-specific technologies dealt with papers on advanced technologies in forest nursery management, site-specific silvicultural practices, mechanization in forestry, restoration forestry and silviculture for arid and semi-arid tropics.

Fifty papers were presented in four sessions. A poster session with 40 posters was also arranged, with awards presented to the best poster presenters. The plenary session came out with various recommendations of relevance to policy and research issues. The draft recommendations are elaborated here.

Draft Recommendations

Silviculture:

1. Approved working plan / management silvicultural plan prescriptions need to be effectively implemented and monitored. Thinning regimes in teak and clump congestion reduction of bamboo need to be carried out to meet the demand of market and thus revenue generation to the SFDs.
2. Emphasis on integrated pest and disease management for all the important forest plantation species needs to be increased. Studies on resistance of wild germplasm of plantation crops against biotic and abiotic stresses need to be undertaken.
3. Development of cost – effective techniques for mass multiplication of different clones of industrially important tree species with suitable agroforestry models for fast growing and appropriate package of practices to meet the demands of wood based industries.
4. Modern tools and techniques like GIS should support identification of gaps in support of Trees outside Forests. This will enable species-site matching.
5. Along with supply of quality planting material for new species like *Melia dubia*, farmers should also be advised on the package of practices to be taken up for higher economic returns. Research is needed on fixing harvest age for fast growing tree species for better economic returns for farming communities.
6. Identification and Planting of naturally associated species needs to be encouraged in mixed planting programmes / multi species forestry programmes. Such success stories needs immediate dissemination.
7. Site and species-specific precision silvicultural procedures for pulpwood, timber and NTFP species need to be evolved on an All India Coordinated Project mode on a long term basis involving SFDs, ICFRE and its institutes, Agricultural / forestry universities and other research organizations working on related aspects.
8. Urban tree transplantation / afforestation needs to be researched.
9. Intensified research on mortality of species of high timber value like *Dalbergia sissoo, Shorea robusta* and *Acacia catechu* needs attention.
10. Adoption of suitable native trees for afforestation of different problem soils should be undertaken.

11. Forest Designs (adaptive management approach) can be applied on forest ecosystem in one reserve forest and understand how these mathematical models work in other forests.

Seed:

12. National Bureau of Forest Tree Genetic Resources need to be established immediately.
13. A National Institute for Forest Seed Science and Technology needs to be established.
14. ICFRE may focus on implementation of seed certification procedures and mechanisms on the lines of OECD scheme for trade and exchange of reproductive material for forestry species in India. Forest departments should get involved in seed certification and labeling.
15. Public – private partnership mode of seed collection may be evolved.
16. Evolve soft registration mechanisms for registration of seeds of forestry species under ICFRE / NBFGR and other forestry research organizations.
17. Seed handling, processing and storage techniques and mechanization wherever applicable need to be evolved for many forestry species.
18. Institutes like IFGTB should become an ISTA accredited referral lab for certification of forestry seeds.

General:

19. There is an urgent need to hasten documentation and conserve biodiversity of the country, the NE region in particular due to anthropogenic pressures. Strategies for *ex situ* and *in situ* conservation need to be developed for RET species.
20. Monographs on different species which are existing need to be updated and for new species have to be brought out.
21. Infrastructure and staff support need to be provided for research in SFDs with appropriate skill development.
22. Investments in seed and silvicultural research need to be intensified.


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