Institute of Forest Genetics and Tree Breeding, Coimbatore

Report of Seminar on "Forest Genetic Resource Management " on 5-03-2020

IFGTB had organized one day periodical seminar on "Forest Genetic Resource Management" on 5-03-2020 and Interactive meeting on 6-03-2020. Dr. R. Anandalakshmi, Scientist F & Head of FGRM welcomed all the members and briefed about the Importance of FGR and implementation of National level FGRM Programme. Dr. S. Murugesan, Director, IFGTB in his opening remarks informed about the formation of FGRM Division in 2013 and funds of nearly 100 Cr. released after the visit of former Minister, Shri. Jairam Ramesh during the Farmers Mela. He also stated about the action plan framed by Dr. S. Nagarajan, Chair of Excellence for FGR to establish a National Bureau on Forest Genetic Resources (NBFGR). IFGTB is one of the pivotal centre connecting southern ICFRE institutes and state forest departments for the national program of FGR funded by CAMPA. The scientists of IFGTB, scientists of IWST, TFRI involved in FGR programme, officers and research staff including SRFs, JRFs, RAs and FAs, attended the seminar.

Guest lecture by Dr. K. S. Varaprasad, Senior Consultant, UNDP-India & APAARI, Thailand presented about the creation of PGR profile where genetic reservoir accommodates the diversity centres, cultivars and breeding programmes. New forms of diversity in use, different Institutions carrying out diversity conservation in India, PGR policies developed both national and International were also presented. He also presented his views on the major deliverables of the national programme for conservation and management of Forest Genetic Resources.

Suggestions on conservation of FGRs

Preparation of comprehensive inventory of the FGRs of the country with distribution maps

- To check the publications, records of 50 years for the availability of populations, changes in population structure and then their distribution maps to be created.
- NRSC to monitor for *in-situ* conservation. Ground level validation is required for the creation of distribution maps.
- To follow the Biodiversity International, World Agroforestry (ICRAF) and CGIR for related references and to create species based NAGS.
- Distribution maps for seeds can also be developed.

Preparation of priority list of FGRs with road map for their conservation and development

Once the priority lists of FGRs are listed, the ecosystem of the population should be studied. The reproductive behaviour for the existence of pollinators, existing microclimate, insects, birds, root biosphere should also be included.

Protocols for characterization should be developed. Access of benefit sharing has to be set up to whom to share and what to share.

He also presented the strategies for conservation of bioresources through *in situ* and *ex situ* modes. The various repositories approved by NBA – Forestry for different categories were also shared. Creation of National Genomic Resources Repository have to be created as an institutional framework for methodical and centralized efforts to collect, generate, conserve and distribute genomic resources for forestry research.

He also presented the global level accessions of CGIAR & International Research Centre germplasm holdings and World Agroforestry (ICRAF) Field Genebank and the world status on Gene banks in Svalbard Global Seed Vault, Norway.

The second topic on “Forest vis a vis Plant Genetic Resources management approaches for development and use” was presented by Dr. B. Sarath Babu, NBPGR, Hyderabad. He briefed about the Conservation of the PGRs / FGRs for sustainable utilization. The lines of NBPGR can be followed to establish and develop Forest Genetic Resources in the institute (NBFGR). He explained about the crop diversity, FGR wealth of India, diversity of different crop germplasm, diversity in medicinal crop, germplasm characterization and evaluation of different crop species and the efforts taken by NBPGR on genetic resource utilization.

He emphasised the focus group need to work on the Establishment of National Bureau of Forest Genetic Resources, to identify key FGRs, institutes to share the mandate of FGR and networking, initiate linking up of regional institutions at various agroecological zones for germplasm collection, *ex-situ* and *in-situ* conservation as well as need based introduction and evaluation, hiring experts in essential areas of expertise in FGR / PGR management involving communities and NGOs.

The third talk on “Morphological Characterization of Tree Germplasm” was presented by Dr. V. Sivakumar, Scientist, IFGTB. He presented on the development of descriptors for registration of clones of Eucalyptus spp., *Casuarina* spp., *Melia dubia*, *Tectona grandis*, *Ailanthus excelsa*, *Pterocarpus santalinus* and *Santalum album* by PPV & FRA. The tools used for the study and the different morphological characterization like anthocyanin content in leaves, leaf shapes, apex shape, leaf texture, leaf petiole, trichomes in leaf, flower petal colour, number of petals, fruit compactness, variation in fruit tips, crown shape, lenticels in bark, branch angle, branch thickness, leaf tip colour, crown shape, scar projection in primary branches, primary branch thickness, annual peeling of bark, flower operculum etc were projected.

The seminar concluded with the vote of thanks by Dr. A. Vijayaraghavan, Scientist, IFGTB.

Seminar on Forest Genetic Resources Management on 5.3.2020 at IFGTB