



Monthly Research Seminar Report

THEME – Biodiversity Conservation and Forest Genetic Resource Management

Topic: Biotechnology in Forest Genetic Resource Management

Speaker: Dr. Gaurab Gangopadhyay

Professor, Division of Plant Biology, Bose Institute, Kolkata

Topic: Ever increasing impacts of climate change: Case studies and need for microbial conservation

Speaker: Dr. Aparna Banerjee, Assistant Professor, Universidad Católica del Maule, Chile

Dr. Rajib Bandopadhyay, Professor, The University of Burdwan, Burdwan

Topic: *In vitro* conservation of FGR for medium term storage: status and prospects in India

Speaker: Dr. Animesh Sinha, Scientist –F & HoD, G&TI Division

The Monthly Seminar/ Webinar started with welcome address by the Head, Genetics and Tree Improvement Division. Thereafter, in the opening remarks, Dr. Nitin Kulkarni, Director informed the august body about the importance of conservation and management of FGR. Since more than 80% of the biological diversity is believed to be held in the forest landscapes, its conservation can be achieved only if the forest management for goods and services is made compatible with conservation through sound planning and coordination of activities at national, regional and local levels. India has set up National Bureaus on animal genetic resources (NBAGR), fish genetic resources (NBFGR) and plant genetic resources (NBPGR). However, neither the forest biodiversity in its entirety documented nor threats to the forest biodiversity are fully documented. This situation has resulted in decline in the populations of many species from their natural habitats and many of the species have actually come to face the spectra of extinction. There is an urgent need to initiate immediate action for long-term conservation of the forest germplasm before it is permanently lost.

Dr. Gaurab Gangopadhyay, Professor discussed different techniques of biotechnology for management of FGR with case studies from his diverse research for last 30 years. Conservation biology has already expanded its arena from traditional floral and faunal conservation to an all-integrated microbial conservation approach. Dr. Aparna Banerjee,

Assistant Professor delivered the lecture on essentiality of microbial conservation for the maintenance of biodiversity hotspots. Dr. Animesh Sinha, Scientist- F described about the techniques of *in vitro* conservation and its application for FGR conservation. The recent initiatives for FGR conservation by the ICFRE, Dehradun was briefly discussed by Dr. Yogeshwar Mishra, GCR.

The seminar ended after critical discussion on the presentations and formulation of future strategies and networking under the chairmanship of Dr. Nitin Kulkarni, Director, Institute of Forest Productivity, Ranchi. Vote of thanks was proposed by Dr. Aditya Kumar, Scientist– D.

Expected outcome of the seminar:

1. Identification of research needs:

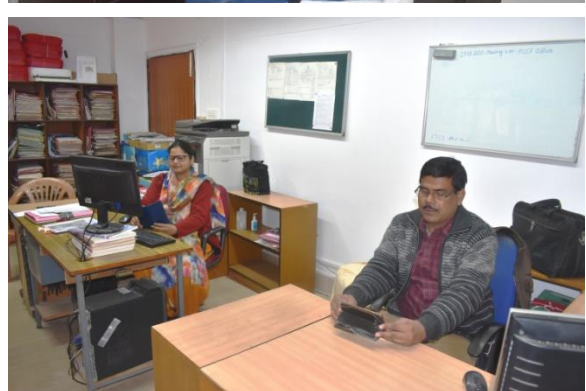
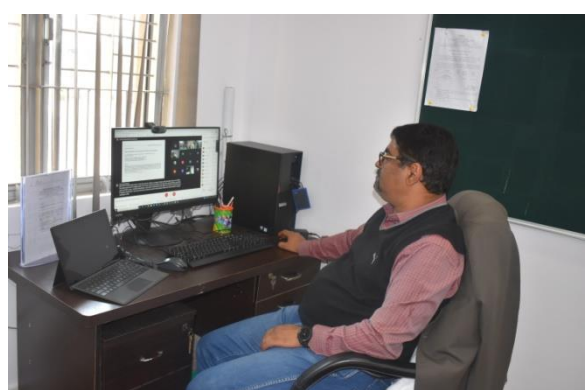
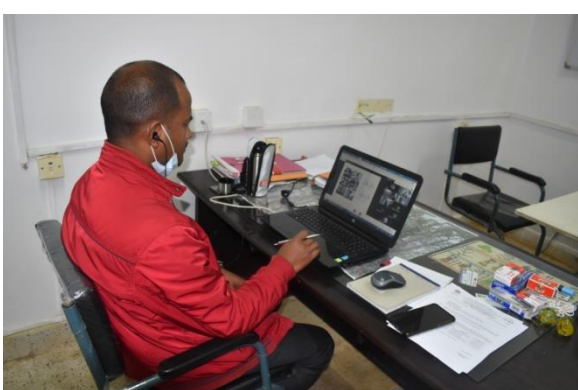
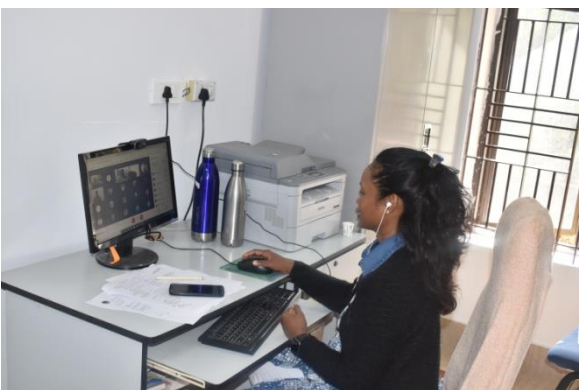
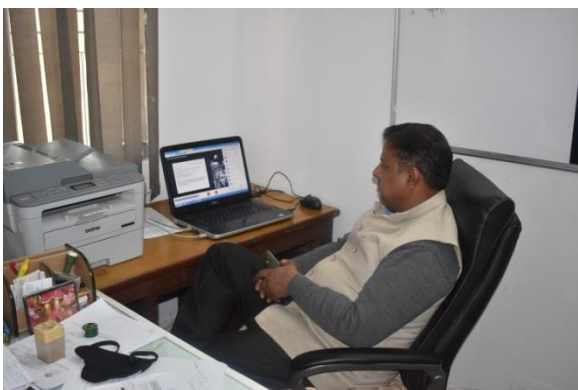
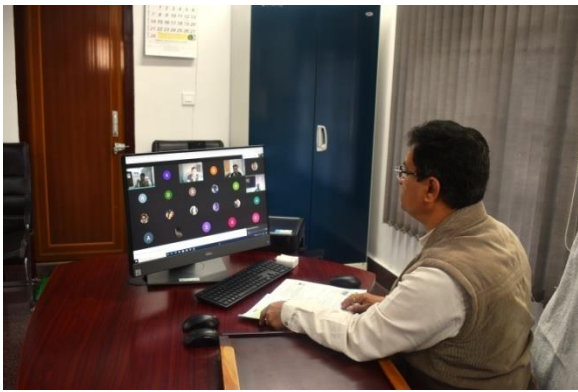
- Refinement in existing procedures for commercializing *in vitro* propagation of forest trees.
- Techniques to be developed for *in vitro* conservation of FGR species for medium term storage.
- The mechanism should be developed to monitor genetic stability – development of molecular markers.

2. Formulation of future strategies/road map

- Research to be carried out *in vitro* propagation and conservation of important tree species, particularly which have threat perceptions.
- In FGR programme, initiative has been taken to establish culture of 8 woody perennials for experimentation of *in vitro* conservation.
- Measure will be taken for collaboration with the Bose Institute, Kolkata particularly for tree tissue culture and conservation of FGR including mangroves.

3. Networking research options & opportunities

- Not only protocols are to be reported but also **substantial *in vitro* collections** are to be done. It is, therefore, desirable that germplasm curators who have good collections of such plants, collaborate with the researchers actively developing *in vitro* protocols, with a goal to generate a safety back of these precious germplasm.
- The networking with State Forest Departments in eastern India as well as other research institutions and universities in relevant field to be promoted.



Glimpses of the Seminar