

Training Report
11.07.2023 to 13.07.2023



Training Programme under **Van Vigyan Kendra**

**ICFRE-INSTITUTE OF FOREST BIODIVERSITY (ICFRE-IFB),
HYDERABAD**

Three Days Training Programme on

“PROPAGATION OF SANDALWOOD IN TELANGANA”



Indian Sandalwood (*Santalum album* L.) which is acknowledged as the ‘**Royal Tree**’ in the Indian subcontinent is associated with Indian culture and heritage. India was contributing 85% of the world’s trade of sandalwood but it has been reduced to a negligible level in recent years and it is in IUCN’s ‘vulnerable’ list of tree species. This resulted in changes in the policy of sandalwood cultivation in states and central governments. Consequently, the farming of sandalwood is gaining momentum. In this context, ICFRE-Institute of Forest Biodiversity (ICFRE-IFB), Hyderabad in collaboration with ICFRE-Institute of Wood Science and Technology, Bengaluru organized a three days of training on “**Propagation of Sandalwood in Telangana**” for the staffs of T.S. Forest Department from 11.07.2023 to 13.07.2023 (03 days) at TSFA, Dulapally, Hyderabad. A total of 60 forest officers participated in this training program.

Dr. Kavi Sidharthan, Sc-B, welcomed the guests on the dais and spoke in brief about the genesis of the training program. The Chief Guest **Shri R.M. Dobriyal, IFS, PCCF (HoFF), Telangana, Shri E. Venkat Reddy, IFS, Director, ICFRE-IFB, Dr. S. J. Asha, IFS, Director, TSFA, Shri S. Ramesh, IFS, Addl. Director, TSFA, Shri Sandeep Pratty, IFS, DCF, ICFRE-IFB, Smt. B. Praveena, IFS, Joint Director, TSFA** were part of the inaugural session.

The meeting was inaugurated with lighting of lamp by the chief guest and other dignitaries. The programme started with the welcome address by **Shri Sandeep Pratty, IFS, DCF, Head Extension**, who highlighted the importance of propagation of Sandalwood in Telangana, nursery & plantation techniques and departmental permissions, etc.

Shri E. Venkat Reddy, IFS, Director, ICFRE-IFB, in his inaugural address spoke about the genesis of Sandalwood cultivation, the role of Research Institutions & Forest department, ICFRE-IFB Extension activities through VVK centers, ICFRE-IWST research on Sandalwood, Central & State Governments policies, National Medicinal Plant Board subsidies, Karnataka State polices, KSDL process and plans, Sandalwood demand in other countries, nursery techniques, protection & marketing techniques, etc.



The Chief Guest **Shri R.M. Dobriyal, IFS, PCCF (HoFF), Telangana**, emphasized the importance of Propagation of Sandalwood in Telangana, Agro-climatic conditions in Telangana, Agroforestry models, Sandalwood cultivation need aspects, soil conditions, host plant, nursery techniques, pest and diseases, protection and marketing techniques, hardwood estimation, Sandalwood policies in Telangana, need aspects of sandalwood training to forest frontline staffs etc.

Dr. S. J. Asha, IFS, Director, TSFA, explained in detail about the training program and the role of future forest staffs in promoting Sandalwood cultivation in forest as well as village level in Telangana.

The inaugural session was concluded with vote of thanks **by Dr. Kavi Sidharthan, Sc-B, ICFRE- IFB**, Hyderabad who profusely thanked the dignitaries. He expressed that the scientific effort from ICFRE-IFB & ICFRE-IWST and the active participation from the TSFD staffs will be successful in achieving the desired goals.

Day-I (11.07.2023)

Technical Session-I

The first technical session started with a presentation on 'Introduction to sandalwood and the history of its cultivation in India' by **Dr. A. N. Arun Kumar, Scientist-G, ICFRE-IWST, Bengaluru**. He explained in detail the history of Sandalwood in India, its importance, distribution, variability, wood quality, heartwood and oil content & case studies, natural variation in heartwood, inherent problems & measures, sandalwood research, inherent advantages and disadvantages, prospects in sandalwood utilization, ICFRE-IWST research studies and activities on sandalwood.

This was followed by a presentation on 'Sandalwood nursery and plantation techniques' (Online) by **Dr. N. Ravi, Scientist-E, ICFRE-IWST, Bengaluru**. He explained in detail the seed collection, processing, nursery techniques and method of quality seedling production to the participants.



Technical Session-II

The second technical session commenced with a presentation on 'Sandalwood based agroforestry models for Karnataka and their management' by **Dr. M. V. Durai, Scientist-D, SFM division, ICFRE-IWST, Bengaluru**. He elaborately explained the suitability of Sandal for agroforestry systems, cultivation methods, spacing, manuring, irrigation, host-sandal management, choice of hosts, pruning, various sandal based agroforestry models, and sandalwood maturity.

Day-II (12.07.2023)

Field Visit

The second day of the sandalwood training was entirely dedicated to a field visit wherein forest staffs were first taken to a sandal nursery at the Centre for Excellence of Fruits, Mulugu. Here the participants were exposed to practical aspects of sandal seed sourcing, processing, nursery beds, nursery practices & management, primary host, and insect pest management. This was followed by a visit to Telangana Forest Development Corporation plantations at Mulugu and a farmer's plantation at Ghatkesar. During these plantation visits the resource persons and the farmer shared their practical experiences about plant sourcing, plantation techniques and management, host plants, pruning techniques, insect & pest management, financial aspects, protection measures. During these plantation visits, scientists from ICFRE-IFB & ICFRE-IWST suggested insect & pest management practices, pruning measures, host plant management & protection measures.

Shri M. Kantha Reddy, Consultant, Hyderabad gave a presentation on practical aspects of Sandalwood cultivation. He discussed his field experiences involving Sandalwood production and price, economics, threats, host plant and various case studies.



Day-III (13.07.2023)

Technical Session-III

The third technical session commenced with a presentation on ‘**Heartwood** estimation of sandalwood and the economics of sandalwood cultivation’ by **Dr. B. N. Divakara, Scientist-F, ICFRE-IWST, Bengaluru**. He described in detail the cost of sandalwood cultivation and the revenue that could be generated from sandalwood. He, also, elaborated comparative economics of sandalwood cultivation against other farming species. Further, he explained the process of heartwood formation and the method of estimation.

This was followed by a presentation on ‘Sandalwood-based agroforestry models for Telangana’ by **Dr. G.R.S. Reddy, Retd. Scientist-G, ICFRE-IFB, Hyderabad**. He explained in detail the Sandalwood uses, diversity, distribution & ecology, nursery techniques, host plants, plantation techniques, financial analysis, policy constraints; Sandal based Agroforestry models and case studies.

This was followed by presentations on disease and pest managements. **Dr. A. Muthu Kumar, Scientist-E and Head, ICFRE-IWST, Bangalore** gave a talk on ‘Disease management in sandalwood cultivation’ (Online). He explained the basic principles of disease, method of infection, major diseases in sandal nurseries and plantations and control methods. **Dr. Rashmi Ramesh Shanbhag, Scientist-D, ICFRE-IWST, Bangalore** covered ‘Insect pests of Indian Sandalwood’ (Online). She explained major insect pest types of Indian sandalwood, economic loss, management practices.

The third technical session was concluded with a final presentation on ‘Legal and policy issues involved in the cultivation and marketing of sandalwood’ (Online) by **Shri Siva Kumar, IFS, GCR, ICFRE-IWST, Bengaluru**. He explained in detail the monopoly of the state, regulations applicable to Sandalwood in Telangana, the Telangana Forest Act-1967, Felling permissions, Transit permissions, Sandalwood &



Red sanders Wood Transit Rules-1969, Telangana Sandalwood possession rules-1969, Regulation under Indian Forest Act-1927, liberalization of rules, Sandalwood promotion by Govt. of India & States, ICFRE-IWST initiatives, Sandalwood Development Committee, impacts of policy liberalization, trade of Sandalwood, import restrictions, restriction on export, protection, and punishment.

The three days training on sandalwood was concluded with a valedictory session where the participants interacted with the experts and offered their feedback on the usefulness of the training program and suggestions for further improvement. **Dr. S. J. Asha, IFS, Director, TSFA, and other senior officials distributed** participation certificates to all trainees. This session was concluded with a vote of thanks by Dr. Kavi Sidharthan, Sc-B, ICFRE- IFB.

Feedback /Suggestions of the trainees:

- The course module covered all the aspects related to sandalwood. Such trainings need to be organized regularly.
- The talks should be delivered in the local language to make them more effective for all front-line forest staffs.
- The disease and pest management aspects need to be demonstrated in field sessions to make them more effective.
- All classes should be in off-line mode in future training programmes.
- Sandalwood training material is required in the local language.











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“PROPAGATION OF SANDALWOOD IN TELANGANA”

Organizing Committee

| S. No. | Name of the Institution | Name off the Officer/ Staff |
|--------|--|--|
| 1 | ICFRE-Institute of Forest Biodiversity, Hyderabad | <ul style="list-style-type: none">• Shri E. Venkat Reddy, IFS, Director• Dr. S. Pattanaik, Sc-G & GCR, Course Director• Dr. M. Deepa, Scientist - E & DDO• Shri Sandeep Pratty, IFS, DCF• Shri M.B. Honnuri, Sc-C• Shri. E. Manikanta Reddy, Technician• Shri D.S.S. Prasad, Technician• Shri A. Sasidhar, Technician• Shri A. Rakesh, LDC• Shri CH. Srinivas, MTS• Shri Chhotu Kumar Yadav, MTS |
| 2 | ICFRE-Institute of Wood Science and Technology, Bengaluru | <ul style="list-style-type: none">• Dr. M.P. Singh, IFS, Director, ICFRE-IWST• Shri Shivakumar C.M, IFS, CCF, GCR• Shri Rajesh S Kallaje, IFS, CCF, Head SFM Division |
| 3 | Telangana State Forest Academy, Hyderabad | <ul style="list-style-type: none">• Dr. S. J. Asha, IFS, Director, TSFA• Smt. N.R. Sangeetha, SFS, Course-Director• Smt. K. Shiva Jyothi, Assistant Course-Director |