

Forest Research Institute, Dehradun

Workshop on

Utilization of Pine Needles as a source of Natural Fiber

[17th February, 2022]

A workshop on the Utilization of Pine Needles as a Source of Natural Fiber was organized at Nahan on 17th February 2022 by the Himachal Pradesh Forest Department in collaboration with the Forest Research Institute Dehradun.

Chemistry and Bioprospecting Division of Forest Research Institute Dehradun has developed a facile and eco-friendly technique to extract natural fiber from pine needles. The technique is simple, cost-effective, and does not demand large space, energy, instrumentation, etc. This makes it replicable on pilot scale and can be easily taken up in remote areas having abundant pine needles.

The technology is being adopted in the State of H.P. for the first time. An agreement was signed between the Himachal Pradesh Forest Department and Forest Research Institute Dehradun for the transfer of this technology. The agreement was signed by Sh Ajay Srivastava, Pr. Chief Conservator of Forest (HoFF), Himachal Pradesh, and Sh. Arun Singh Rawat, Director, FRI and Director-General ICFRE, Dehradun. On the occasion, Sh R.P. Singh, Head Silviculture, FRI; Dr. Vineet Kumar, Chief Scientist who developed the technology; and other senior officers from Forest, Rural Development, Panchayati Raj Departments were present.

In Himachal Pradesh, an area of about 1,25,885 ha is estimated to be covered with Chir pine forests. About 1.2 tons of pine needles are shed per hectare of pine forest annually, between April to June every year. These pine needles are highly combustible and cause devastating forest fires during the summer season causing loss to timber, resin, plantations, wildlife, and biodiversity thereby slaughtering the ecosystem with extensive tangible and intangible losses. The Department incurs crores of rupees on forest fire prevention and control measures.

On the one hand, adoption of this technology will help prevent forest fire while on the other hand, it will also generate livelihood options at the local level from the locally available abundant bioresource. Successful implementation of this technology would involve community participation in a big way. Himachal Pradesh has a policy on 'Collection and Removal of pine needles from the forest' that also envisages investment subsidy on pine needle-based industries.

Speaking on the occasion, Sh Ajay Srivastava, IFS, Pr. Chief Conservator of Forest (HoFF) Himachal Pradesh expressed hope that adoption of this technology will curb the summer forest fire menace in the state in near future. He said that in a

state where about 90% of the population is rural, this technology offers an option of income generation using a bioresource that was so far considered a waste. The fiber isolated from the pine needles can be spun into handloom cloth and several products like mats, carpets, ropes, etc. can be spun with it. A sample of the products made by the pine fiber like fabric, ropes, etc was also exhibited during the workshop. Sh. Arun Singh Rawat, Director-General ICFRE, Dehradun congratulated the Himachal Pradesh Forest Department for adopting this technology and emphasized that the adoption of innovations will be highly useful for better utilization of bioresource and livelihood generation. In recent years FRI has developed many processes which can be adopted by Himachal Pradesh Forest Department and State Forest Departments. The preparation of natural fiber from combustible pine needles is one of the innovative examples. Dr. Vineet Kumar, Chief Scientist who developed the technology made a detailed presentation about the methodology used for the extraction of fiber from the needles. A detailed demonstration of the pine fiber extraction process was showcased during the workshop. Members of Village Forest Development Societies from Renukaji and Nohradhar actively participated in the workshop and their queries were answered by the resource persons to their satisfaction.

