

## **Proceedings of the Institute level Monthly seminar held on 20 February 2020 at Extension Hall, IWST, Bengaluru.**

In continuation of the series of monthly seminar, a talk on “Acoustics behaviour of natural fibres based composites.” was delivered by Dr. S.K. Sharma, Scientist –G, WPP Division, on 20th of February 2020. Dr. M.P. Singh, Director, IWST, Dr. V.P. Tewari, Group Co-ordinator (Research), all the HoDs, Scientists, Forest Officers, Officers of Technical services, Research staff and project staff were present during this seminar. Shri. Anand Nandanwar, Scientist - E from IPIRTI was also present as a subject expert.

Dr. M.P. Singh, Director, IWST chaired the seminar. Dr. V.P. Tewari, Group Co-ordinator (Research) welcomed the Director and all the participants



Dr. S.K. Sharma, the speaker, his talk started with a brief introduction of the subject “Acoustics behaviour of natural fibres and its significance”



### **Outcome of the seminar:**

#### **A. Identification of research needs**

- It was opined that study on acoustic behaviour of natural fibres is most essential in order to manage the sound reverberations disturbing in an auditorium or a Lecture Hall. The echoing effect and transmission of sound could be reduced and brought to the minimal by adopting ideal natural wood or wood composite in wall cladding of the hall or auditorium which would absorb the noise (reflected and transmitted sound). A study of identifying the noise absorption coefficient of various wood species is essential for this purpose.
- At present, usage of natural fibre composites such as particle board, or veneers for wall cladding are having their own limitations like low durability, high costs etc. Sound absorbing coefficient (acoustics) of many natural fibres are yet to be evaluated.
- Also, economically cheaper and non-biodegradable materials like acoustic solutions are available in the market. It is imperative to identify a suitable natural fibre with high natural durability and low cost.

## **B. Formulation of future strategies/road map**

The speaker highlighted that a project was formulated and submitted to ICFRE. But, due to high cost of instruments required under the project, it could not get approved. The Director, IWST suggested to recost and submit a fresh.

## **C. Networking research identified**



Similar work is being carried out in IIT, Kharagpur, IIT Kanpur and IPIRTI, Bengaluru. Shri. Anand Nandanwar, Scientist – E, IPIRTI mentioned about the limitations and hurdles that would come across during the study. Including of high cost instrument to carry out the study. A collaborative research with good instrument facility maybe taken up by the IWST and IPIRTI.

## **D. Future research directions discussed for implementation and opportunities for funding**

The Director, IWST suggested that a project on study of acoustics behaviour in natural fibre based composites could be formulated and submitted to a external funding agencies.