

**TRAINING
MANUAL
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Preservation of Bamboo



NATIONAL MISSION ON BAMBOO APPLICATIONS

Technology Information, Forecasting, and Assessment Council (TIFAC)
Department of Science and Technology, Government of India



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The National Mission on Bamboo Applications (NMBA) has been established by the Department of Science and Technology (DST), Government of India. Implemented by the Technology Information, Forecasting, and Assessment Council (TIFAC), the Mission is tasked with providing a new impetus and direction to the bamboo sector.

It supports technological upgradation, develops indigenous capacities and enterprise, provides linkages with markets, functions as a platform for exchange of knowledge and technology and encourages association and cooperation amongst sectoral constituents and stakeholders.

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PREFACE

Bamboo culms as well as processed bamboo in the form of cuts, splits, slices and sticks provide excellent raw material for number of value added products and applications in structural and non-structural segments. But bamboo in culm form as well as in processed form faces the problem of biological degradation as a raw material as well as processed products. Though a wide range of protective measures and processes are known to prevent such degradation, their spread is limited due to lack of knowledge and awareness, lack of treatment facilities, and uncertainties about advantages and economics for the same.

This Training Manual elaborates the structure of bamboo culm and limitations it poses to treatability, causes of biological degradation and the factors that hasten or limit the process, traditional as well as chemical preservation techniques and also detail procedures for preparation of bamboo, formulation of chemicals, treatment of bamboo in various forms, and precautions associated with a particular treatment technique. It also includes bill of quantities of chemicals as well as list of manufacturers/suppliers to enable working out costing and economics of a particular preservation technique. The manual also lists related standards for preservation and treatment of bamboo.

This manual has been written as a joint effort of the NMBA team lead by Ms. Sanghmitra Chakraborty, and Dr.Satish Kumar, former Scientist, Forest Research Institute Dehradun. Lot of inputs has been taken from the earlier work done at the Forest Research Institute, Dehra Dun. The support of Dr.Walter Liese, an eminent authority in bamboo preservation, is gratefully acknowledged for allowing using his pictures related to bamboo protection.

It is hoped that the manual will help understanding the basics of bamboo preservation and encourage use of treated bamboo as well as setting up of treatment facilities at dispersed locations. This will also lead to increased usage of treated bamboo for structural and non-structural products and applications, thereby increasing the shelf life and value of bamboo and bamboo products, as well as reduce frequent replacement of bamboo used in structural applications. Enhanced durability will also enable popularization and increased utilization of next generation bamboo based composites and panels.

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