

Bamboo Info

A quarterly newsletter of Bamboo Technical Support Group (BTSG) - KFRI



Bamboo in Bundelkhand – Documenting the Region's Bamboo Potential

The publication, “Bamboo in Bundelkhand”, serves as a practical guide for researchers, extension personnel, students, entrepreneurs, and farmers. This book is compilation of scientific and region-specific information on bamboo suitable for the Bundelkhand region.



From Training to Enterprise Development: Bamboo-Based Entrepreneurship Program at ICAR-CAFRI

To strengthen bamboo-based livelihoods and enterprise development, ICAR-CAFRI organized a series of skill development and entrepreneurship-oriented training programmes.



Bamboo Bazar

A bamboo bazaar usually means a traditional marketplace or trading area where bamboo products, raw materials, and crafts are bought and sold. It serves as a platform for artisans, entrepreneurs, and self-help groups to display and sell value-added bamboo products, promoting creativity, skill development, and sustainable livelihoods.

The Bazaar also helps to connect producers with customers, encourages the adoption of bamboo-based products, and supports the growth of bamboo enterprises by creating better market opportunities.

Editor's Desk

Dear readers,

Welcome to the third issue of Volume II of Bamboo Info, your source for all things that are bamboo-related!

In this edition of Bamboo Info, we bring together articles, field experiences, and updates from the bamboo sector. The issue features Bamboo Quill, highlighting Bamboo in Bundelkhand – Documenting the Region's Bamboo Potential, and Chronicles, which presents from Training to Enterprise Development, showcasing a bamboo-based entrepreneurship programme at ICAR-CAFRI.

The edition also includes news and updates from the bamboo sector, along with highlights of World Environment Day activities promoting sustainable bamboo development and environmental conservation.

At BTSG, we believe that through comprehensive training programs, community engagement and hands-on projects, we can transform landscapes and improve livelihoods by bringing farms to homes, creating sustainable solutions for a brighter tomorrow. By prompting local self-government institutions to cultivate bamboo, we aim to cultivate change, improve livelihoods, and foster sustainable development. We invite you to join us as we navigate the intersection of tradition and technology, seamlessly blending ancient wisdom with modern solutions.

As we launch Bamboo Info, we invite you to become an integral part of this interactive space. Use it to stay connected, share your stories, and be inspired by the groups' efforts that amplify the impact of bamboo and contribute to a more sustainable and resilient world.

Thank you for joining us on this exciting journey!

**Editorial team
Bamboo Info**

Bamboo as a Construction Material

Bamboo has been used for a long time to build houses and other products because it is cheap and can be used in many ways. People use bamboo to make floors, walls, ceilings, roofs, furniture, doors, windows, and other parts of buildings. The reason people like to use bamboo is that it is light, strong, and easy to work with, so anyone can use it, even if they are not very skilled.

World-renowned bamboo structures include the Green School Bali in Indonesia and the Great Wall Bamboo House in China, are a remarkable modern bamboo constructions. Bamboo species such as *Dendrocalamus asper*, *Guadua angustifolia*, *Bambusa bambos*, *Dendrocalamus strictus*, and *Bambusa balcooa* are widely used for construction due to their tensile strength and durability. As a fast-growing, renewable, and environmentally friendly resource, bamboo is an excellent alternative to conventional timber. When properly treated, it offers high durability and has emerged as a promising construction material for sustainable and green building practices.

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Bamboo Quill



Bamboo in Bundelkhand – Documenting the Region's Bamboo Potential



Bundelkhand's semi-arid climate, frequent droughts, and degraded soils require climate-resilient land-use systems. Bamboo is well suited to these conditions due to its adaptability, rapid growth, and low maintenance. Integrating bamboo into agroforestry supports annual crop cultivation during its establishment while providing long-term economic returns, conserving soil and water, sequestering carbon, restoring degraded lands, and enhancing ecosystem services. Recognizing the potential of bamboo for the semi-arid landscapes of Bundelkhand, ICAR-Central Agroforestry Research Institute (CAFRI), Jhansi, has been conducting systematic research on bamboo-based agroforestry since 2014. The institute has established long-term experimental plantations to evaluate suitable bamboo species, optimize propagation and crop management practices, and develop scientifically validated

bamboo-based production systems for the region. Research conducted at ICAR-CAFRI has demonstrated that *Dendrocalamus strictus*-based agroforestry systems integrated with crops such as sesame and chickpea improve overall system productivity, enhance land-use and resource-use efficiency, increase carbon sequestration, and provide higher and more stable economic returns compared with conventional monocropping systems. These research outcomes have established a strong scientific basis for the wider adoption of bamboo-based agroforestry in Bundelkhand. Through the production of high-quality planting material, on-farm demonstrations, farmer capacity-building programmes, and technology dissemination, ICAR-CAFRI continues to promote bamboo as a climate-smart, economically viable, and environmentally sustainable component of agroforestry for enhancing farm resilience, restoring degraded landscapes, and supporting sustainable rural livelihoods in the region.

Previous research impetuous bamboo's fast growth, multipurpose utility, and strong potential for improving rural livelihoods and restoring degraded lands. In continuation, ICAR-CAFRI (Jhansi) held discussions with stakeholders including

small-scale industry, forest department, CDOs, state line departments and nursery entrepreneurs, to explore practical implementation pathways in Bundelkhand. These interactions emphasized real-world application, nursery supply, market linkage, and farmer training for promoting bamboo-based systems. This is a preliminary effort focused on feasibility of bamboo integration in the Bundelkhand region. Based on these, ICAR–CAFRI published “*Bamboo in Bundelkhand*” as a book covering species selection, propagation, nursery management, plantation techniques, agroforestry models, utilization, and economics.

The book, “*Bamboo in Bundelkhand*”, serves as a practical guide for researchers, extension personnel, students, entrepreneurs, and farmers by compiling scientific and region-specific information on bamboo suitable for the Bundelkhand region. It comprehensively covers key aspects such as suitable bamboo species, propagation techniques, nursery management, plantation establishment, agroforestry models, crop compatibility, management practices, utilization, economics, and the role of bamboo in climate-resilient agriculture. The book supports the wider adoption of bamboo-based agroforestry for sustainable development and ecological restoration,

while also serving as an important reference for students and researchers. It is expected to encourage further studies on bamboo propagation, nursery techniques and plantation management, thereby motivating innovation and the development of improved field practices in bamboo-based systems. Overall, this book is intended to facilitate the expansion of bamboo-based agroforestry and contribute to sustainable agricultural development, ecological restoration, and livelihood enhancement in the Bundelkhand region.

Acknowledgments

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Reference

Ramanan, S.S., A. Arunachalam, R. Prajapati and S. Syed. 2026. *Bamboo in Bundelkhand*. ICAR-Central Agroforestry Research Institute, Jhansi - 284003, Uttar Pradesh, India. 44 p.

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From Training to Enterprise Development: Bamboo-Based Entrepreneurship Program at ICAR-CAFRI

Bundelkhand is a region comprising of districts from Uttar Pradesh and Madhya Pradesh. It is characterized by irregular topography, semi-arid climatic conditions, irregular rainfall, degraded soils, limited irrigation facilities, and recurring droughts that have made agriculture increasingly vulnerable and economically unsustainable (NITI Aayog, 2018). In this context, bamboo can be a promising resource for sustainable livelihood enhancement due to its adaptability to diverse environments, rapid biomass production, and multipurpose utility within agroforestry systems (Nath et al., 2015). India possesses rich bamboo diversity, with genera such as *Bambusa*, *Dendrocalamus*, and *Ochlandra* constituting nearly 45% of the country's bamboo species. While the North-Eastern region remains the primary bamboo biodiversity hotspot, Uttar Pradesh also contributes significantly with approximately 1,598 km² under bamboo resources. In Bundelkhand, bamboo is not only a natural resource but also an integral part of regional trade and traditional livelihoods. Since large-scale bamboo cultivation is limited in districts such as Jhansi, the region largely depends on bamboo supplies sourced through trade

networks from Assam, Odisha and Madhya Pradesh to meet local demand for fencing, construction, handicrafts, and other uses. These supply chains feed into local markets where bamboo is sold for fencing, scaffolding, household construction, agricultural uses, and traditional handicrafts. Within the Jhansi market ecosystem, small traders, artisans, and informal entrepreneurs are central to bamboo-based livelihoods. Local vendors purchase bamboo in bulk from wholesale suppliers and redistribute it to rural and urban consumers. Many artisans in Jhansi and nearby Bundelkhand areas engage in value-added activities such as making baskets, mats, furniture, decorative items, and agricultural tools, thereby transforming raw bamboo into marketable products. Recognizing the vast potential of bamboo as a sustainable livelihood resource in the Bundelkhand region, the Industrial Agroforestry Complex (IAC) established



at ICAR-Central Agroforestry Research Institute (ICAR-CAFRI), Jhansi has emerged as an important centre for promoting bamboo-based entrepreneurship and value addition. The IAC functions as a demonstration, training and technology dissemination, providing practical hands-on training to farmers, rural youth, women self-help groups and aspiring entrepreneurs in bamboo cultivation, processing, product development, value addition, enterprise management and market opportunities.

To strengthen bamboo-based livelihoods and enterprise development, ICAR-CAFRI organized a series of skill development and entrepreneurship-oriented training programmes. The Entrepreneurship Development Programme (EDP) on Bamboo: Propagation and Processing trained participants in bamboo cultivation practices, propagation techniques, processing technologies, and value addition methods. In another training in the Entrepreneurship for Rural Youth programmes, which focused on business planning, enterprise development and market-oriented opportunities in the bamboo sector. Additionally, the Agroforestry Technologies for Rural Youth and Women Clusters programmes trained participants, emphasizing the integration of bamboo into agroforestry systems and the creation of bamboo-based livelihood opportunities for rural households. These capacity building initiatives significantly enhanced participant's the technical skills and entrepreneurial competencies while increasing awareness of bamboo as a viable,



sustainable economic resource. The programmes encouraged technology adoption, value addition, self-employment and income diversification, thereby facilitating the establishment of bamboo-based enterprises in the Bundelkhand region. Through these efforts, ICAR-CAFRI has contributed substantially to promoting bamboo entrepreneurship, sustainable rural livelihoods and inclusive economic development. These programmes focused on developing entrepreneurial skills, promoting bamboo-based livelihood opportunities and encouraging the adoption of agroforestry technologies suitable for the Bundelkhand region. The trainings demonstrations and continuous technical support provided through the IAC have increased awareness regarding





the economic and environmental benefits of bamboo, strengthened local capacities for value addition and marketing and motivated rural communities to establish bamboo-based micro-enterprises. Feedback from the trained participants indicates a strong and positive inclination towards adopting bamboo-based entrepreneurship as a viable livelihood option. Most participants reported that the hands on-training in bamboo cultivation, propagation, processing, value addition and enterprise development significantly improved their confidence and technical understanding. They expressed high appreciation for the practical exposure to business planning and market-oriented opportunities, which helped them recognize the income-generating potential of bamboo-based enterprises. Many participants shows readiness to initiative small-scale bamboo ventures and integrate bamboo into existing farming systems to diversify income sources. As a result, the CAFRI-Industrial Agroforestry Complex has emerged

as an important catalyst for technology adoption, entrepreneurship development and sustainable rural livelihood enhancement through bamboo resource utilization in Bundelkhand.

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The authors gratefully acknowledge the support extended through the UPCAR-Funded project, “Fostering Agroforestry-based incubation to booster the agribusiness in Uttar Pradesh.” The institutional support from ICAR-CAFRI are sincerely acknowledged.

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Bamboo Beats

Collection of news and activities from the bamboo sector



»B Jharkhand Bamboo Craft Receives Geographical Indication (GI) Tag

Jharkhand bamboo craft has been awarded the prestigious Geographical Indication (GI) tag, recognising the unique skills and traditional craftsmanship of the state's rural artisans. The craft showcases the innovative use of locally available bamboo to create a variety of utility and decorative products. The GI recognition is expected to enhance the identity of Jharkhand bamboo crafts, improve market opportunities for artisans, and promote sustainable livelihoods through the bamboo sector. It will also help preserve the region's rich cultural heritage while encouraging the growth of bamboo-based enterprises. The achievement reflects continuous efforts to promote indigenous products and traditional crafts through skill development, design innovation, cluster development, market linkages, and branding initiatives, strengthening the bamboo value chain in the state.

»B New Bamboo and Cane Technology Centre Inaugurated in Arunachal Pradesh

Chief Minister Pema Khandu inaugurated the Arunachal Pradesh Bamboo & Cane Technology Centre at Gungu near Itanagar on 16 June 2026. The centre aims

to promote the sustainable development and value addition of the state's abundant bamboo and cane resources.

During the inaugural ceremony, the Chief Minister highlighted bamboo as a valuable natural resource with immense potential for economic growth, employment generation, entrepreneurship, and environmental conservation. He noted that modern technologies have expanded the use of bamboo beyond traditional handicrafts to sectors such as furniture manufacturing, construction, textiles, biofuel, and even aviation fuel. The newly established centre is expected to support artisans, self-help groups, entrepreneurs, and local youth by providing opportunities for skill development, innovation, and the production of value-added bamboo and cane products, thereby strengthening the bamboo-based economy of Arunachal Pradesh.

»B CSIR-NEERI Conducts Bamboo Handicraft Training for Women SHGs

CSIR-National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur, organised a five-day bamboo handicraft training programme for women Self-Help Groups (SHGs) from June 16 to 20 under the theme, “*Empowering Women Self-Help Groups through Bamboo Handicrafts from*

Bamboo Grown on Fly Ash Dumps." The programme aims to equip women with practical skills in bamboo-based livelihoods while promoting the sustainable use of bamboo cultivated on reclaimed fly ash dump sites. Participants receive hands-on training in bamboo harvesting, treatment, processing, handicraft making, value-added product development, branding, marketing, entrepreneurship, and product design. The initiative also highlights the potential of transforming reclaimed industrial lands into productive bamboo landscapes, creating income-generating opportunities for local communities while supporting environmental restoration and sustainable development.

World Environment Day Celebrated at KFRI Field Research Centre, Veluppadam

World Environment Day was celebrated at the KFRI Field Research Centre, Veluppadam, with the participation of students from St. Joseph HSS, Veluppadam.



The programme was inaugurated by Ms. Meena Madanan, President of Varandarappilly Grama Panchayat. As part of the programme, the students visited the Bambusetum, where they were introduced to the rich diversity of bamboo species conserved at the centre. KFRI scientists and staffs explained the ecological and economic importance of bamboo and its role in environmental conservation. The students also learned about the various uses of bamboo and its potential as a sustainable and eco-friendly resource. The programme helped create awareness among the younger generation about the importance of protecting the environment and promoting bamboo as a valuable resource for a greener future.





Submission Guidelines

We at Bamboo Info are excited to invite you to contribute full-length articles, news snippets, reports, and announcements of bamboo-related events for our upcoming issues. We welcome submissions on a wide range of topics, including but not limited to:

Spotlight: Share your knowledge and expertise on any aspect of bamboo you're passionate about. You may introduce readers to a topical issue in the bamboo sector that deserves more attention.

Out of the Box: Have you stumbled upon a design concept, product novelty, or innovation that uses bamboo in a unique and creative way? We want to hear about it! Please submit an illustrated note describing the species used, dimensions, and other relevant details. The design should be original.

Species in Focus: Do you have a particular species of bamboo that you

find fascinating? Share your insights on its distribution, ecology, salient features, specific uses, cultivation, and economic potential.

Roots: Bamboo has a rich cultural history and is still used in many traditional ways today. We would love to showcase time-tested bamboo products, cultural uses of bamboo, and traditional technologies from far and wide.

Chronicles: We are interested in hearing stories from the field about bamboo resource development, technology adoption, training, and other related topics.

Bamboo Quill: This section will highlight relevant books or publications about an emergent aspect of bamboo.

To submit your notes and articles, please send them to btsg@kfri.res.in or btsgkfri@gmail.com.

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Bamboo Bazaar at FRC Velupadam

About Bamboo Info

Bamboo Info is a quarterly newsletter from the Bamboo Technical Support Group (BTSG)-KFRI. Contents do not

necessarily reflect the views or policies of BTSG-KFRI. Articles may be reprinted without charge, provided BTSG-KFRI and the author are credited. All photos should be credited to BTSG-KFRI.

About BTSG-KFRI

The Bamboo Technical Support Group is hosted at KFRI and supported by the National Bamboo Mission of the Ministry of Agriculture and Farmers Welfare to serve as a unit providing support to the National Bamboo Cell in technical and research matters.

KFRI BTSG team has expertise in various areas relating to bamboo which includes taxonomy, propagation, germplasm conservation, plantation technology, preservative treatments, harvesting techniques, pest and disease management, Value addition and marketing of bamboo products, inventory of bamboo stocking using Remote Sensing and GIS, socio-economic and livelihood potential, training programmes, cluster development and livelihood improvement of artisans and farmers, etc.

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