

Arunachal's Bije Bamboo Shows Exceptional Strength, Say Researchers

A collaborative research by IIT Bhilai and NERIST reveals groundbreaking findings on Phyllostachys bambusoides (Bije bamboo), a rare species from Ziro Valley, Arunachal Pradesh.



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Itanagar: A collaborative research study by the Indian Institute of Technology (IIT) Bhilai and the North Eastern Regional Institute of Science and Technology (NERIST) has unveiled groundbreaking findings on *Phyllostachys bambusoides*. In India, it is found only in [Ziro Valley](#) of Arunachal Pradesh and is locally known as “Bije bamboo”.

Funded by the All India Council for Technical Education (AICTE), the study highlights the bamboo’s remarkable mechanical strength and antibacterial properties, closely resembling Japan’s Madake bamboo also known as the Japanese timber there.

Led by project fellow Priyam Kashyap under the guidance of Dr Santosh Tamang (NERIST) and Dr Jose Immanuel (IIT Bhilai), the research reveals that Bije bamboo is an excellent candidate for advanced composite materials and sustainable engineering applications.

The study confirms that integrating this bamboo into polymer composites significantly improves wear resistance, mechanical durability, and frictional stability under dynamic conditions.

With high tensile strength and superior wear resistance, Bije bamboo has the potential to replace [synthetic fibres](#) in composite materials. Additionally, its strong antibacterial properties open new possibilities for biomedical and hygienic applications.

As the global demand for sustainable and high-performance materials rises, Arunachal Pradesh’s bamboo emerges as a key player in advanced composite research.