



INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
SHORT ABSTRACT OF THESIS

Name of the Student : MONIKUNTALA DAS

Roll Number : 186105005

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Thesis Title: **Guidelines For Craftspeople's Bamboo Products To Meet United Nation's Sustainable Development Goals 2030**

Name of Thesis Supervisor(s) : DR. AMARENDRA KUMAR DAS

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SHORT ABSTRACT

Bamboo is becoming a significant material in the Indian market due to its eco-friendly properties and versatile applications in construction, automobiles, furniture, and interior design. Its mechanical strength, easy processability, and widespread availability in tropical and subtropical regions make it a renewable resource ideal for product and furniture design. As a non-timber product with a short replenishment time, bamboo addresses concerns over depleting natural resources.

India's North-East Region (NER) is crucial in commercial bamboo production, holding 66% of the nation's bamboo stock. Bamboo craftsmanship supports local livelihoods, providing employment to about 20 million people, or 1.5% of India's population. Assam alone has 480 units involved in cane and bamboo work, employing 2,212 people. Despite bamboo's potential, its craftsmanship has yet to achieve significant commercial success due to several challenges.

Firstly, bamboo craftsmanship's domestic association hampers its mass production potential. Secondly, high commercialization is lacking because the products haven't been designed for retail market demands in terms of design, cost, or production. Lastly, there's insufficient validated information on bamboo's quality, durability, and environmental benefits, deterring stakeholder investment.

This research aims to support design, business, and entrepreneurial decisions in the NER bamboo sector through a comprehensive study of craftsmanship, entrepreneurship, manufacturing, and business dynamics. It also updates on sustainability, craft synergy, and theoretical frameworks for validating bamboo's eco-friendliness, aligning with the United Nations Sustainable Development Goals 2030 (UNSDG 2030).

The study includes four sections:

1. Craftsmanship and Eco-Design Principles
2. Bamboo Entrepreneurship and Market Study
3. Comparative Life Cycle Assessment of Competing Furniture Materials
4. UN SDG 2030 in Bamboo Craftsmanship Sector

Each section offers insights into decision-making in bamboo furniture manufacturing and business, highlighting socio-economic contributions to NER's bamboo craftsmanship. The research provides business guidelines, emphasizing interventions for socio-economic upliftment in NER and addressing future eco-conscious product possibilities, validating bamboo for the urban market, and suggesting holistic amendments in craft entrepreneurship towards sustainable business design.

