



Capacity Building for Entrepreneurship Centered Around Trees Outside Forests

Module 3: Market opportunities of tree-based products

Lecture 4: Engineered wood products and their market trends

Introduction



- ❑ Engineered wood, also known as composite wood, man-made wood, or manufactured board.
- ❑ Engineered wood are composite wood manufactured by binding together wood strands, particles, fibers or veneers with adhesives.
- ❑ They are designed for particular application and the structural properties of the tree component affects the performance.

Manufacturing

- i. Raw Material Preparation: Wood is harvested and processed into the required form (strands, particles, fibers or veneers).
- ii. Veneer selection: Selection of high quality for surface layer.
- iii. Drying: The wood components are dried to a specific moisture content to ensure stability in the final product.
- iv. Gluing and adhesives: The wood elements are mixed with resins or adhesives that will bind them together.
- v. Forming: The mixture is formed into the desired shape, often in large sheets or panels.
- vi. Pressing: The formed material is subjected to heat and pressure to cure the adhesives, resulting in the creation of a unified board.
- vii. Finishing: The pressed panels may be sanded, cut to size, or given additional surface treatments

Types



Ply



Laminated



Cross laminated



Glued laminated



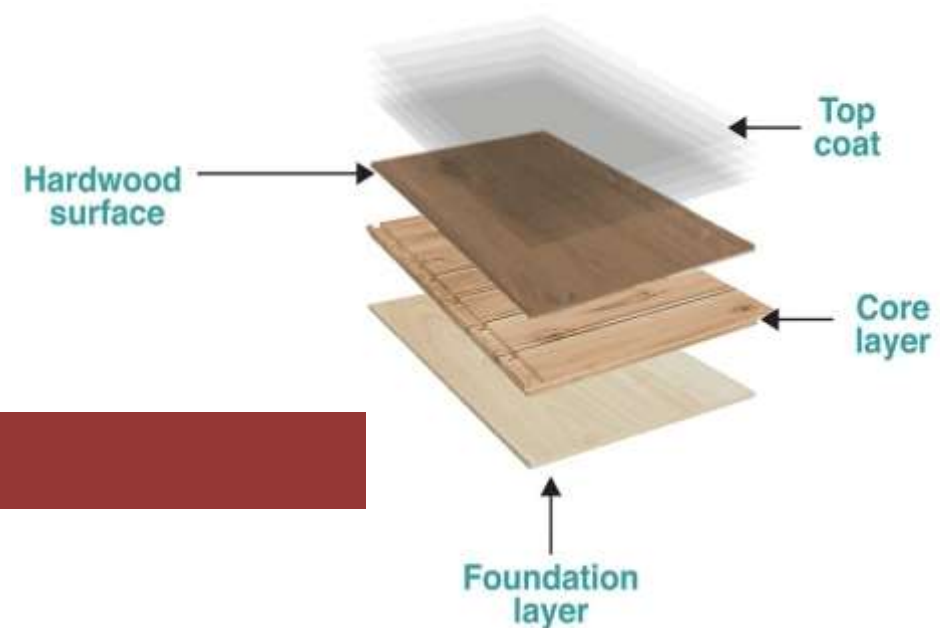
Oriented strand board



Particle



Medium density fiber board



Layers in an engineered wood

Components of engineered wood

- I. Core layer: High density fiberboard, plywood, hard board
- II. Adhesives
- III. Veneers: Topmost layer

Application

- Construction: Walls, roofs and flooring systems
- Furniture :Cabinetry, shelves, decorative items, DIY projects, tables and chairs
- Structural Elements: Beams headers and load bearing elements
- Industrial Applications: Plywood, pallets, sound proofing dye cutting
- Transportation: Ship building, flooring of vehicles

Advantages

- Consistency
- Dimensional Stability
- Resource Efficiency
- Strength
- Cost-Effectiveness
- Customization
- Durability
- Versatile
- Resistant to pest and decay
- Fire resistant options
- Available
- Simple installation

Disadvantages

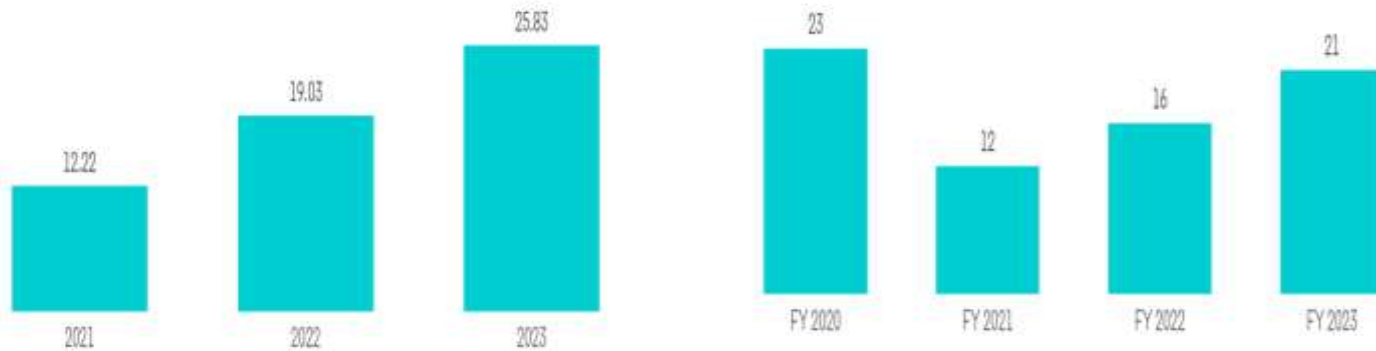
- Potential for Off-Gassing
- Refinishing Limitations
- Moisture Sensitivity
- Environmental Concerns
- Perception



Market trends in India



- The Indian wood market is segmented by type (hard wood and softwood), material (ply, laminates etc.) application (Residential and commercial) and distribution channel (offline and online)
- Indian wood market involves activities from logging and sawmilling to production of finished goods like furniture, wood base panels etc.
- The India Wood Market size is estimated at USD 16.07 billion in 2025, and is expected to reach USD 24.47 billion by 2030, at a CAGR of 8.78% during the forecast period (2025-2030).
- With increasing urbanization and growth in economy the demand for wood products is rising.
- Growth in the e-commerce platforms has led to significant rise in the demand of wood products.

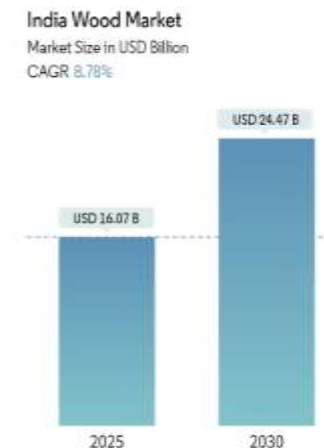


Source: Statista, Mordor Intelligence

Source: Mordor Intelligence, Statista

Online furniture growth in India, in percentage

Gross merchandise value of furniture and home market in billion



Source: Mordor Intelligence

Study Period: 2020 - 2030

Base Year For Estimation: 2024

Forecast Data Period: 2025 - 2030

Market Size (2025): USD 16.07 Billion

Market Size (2030): USD 24.47 Billion

CAGR (2025 - 2030): 8.78%

Market Concentration: Low

Major Players



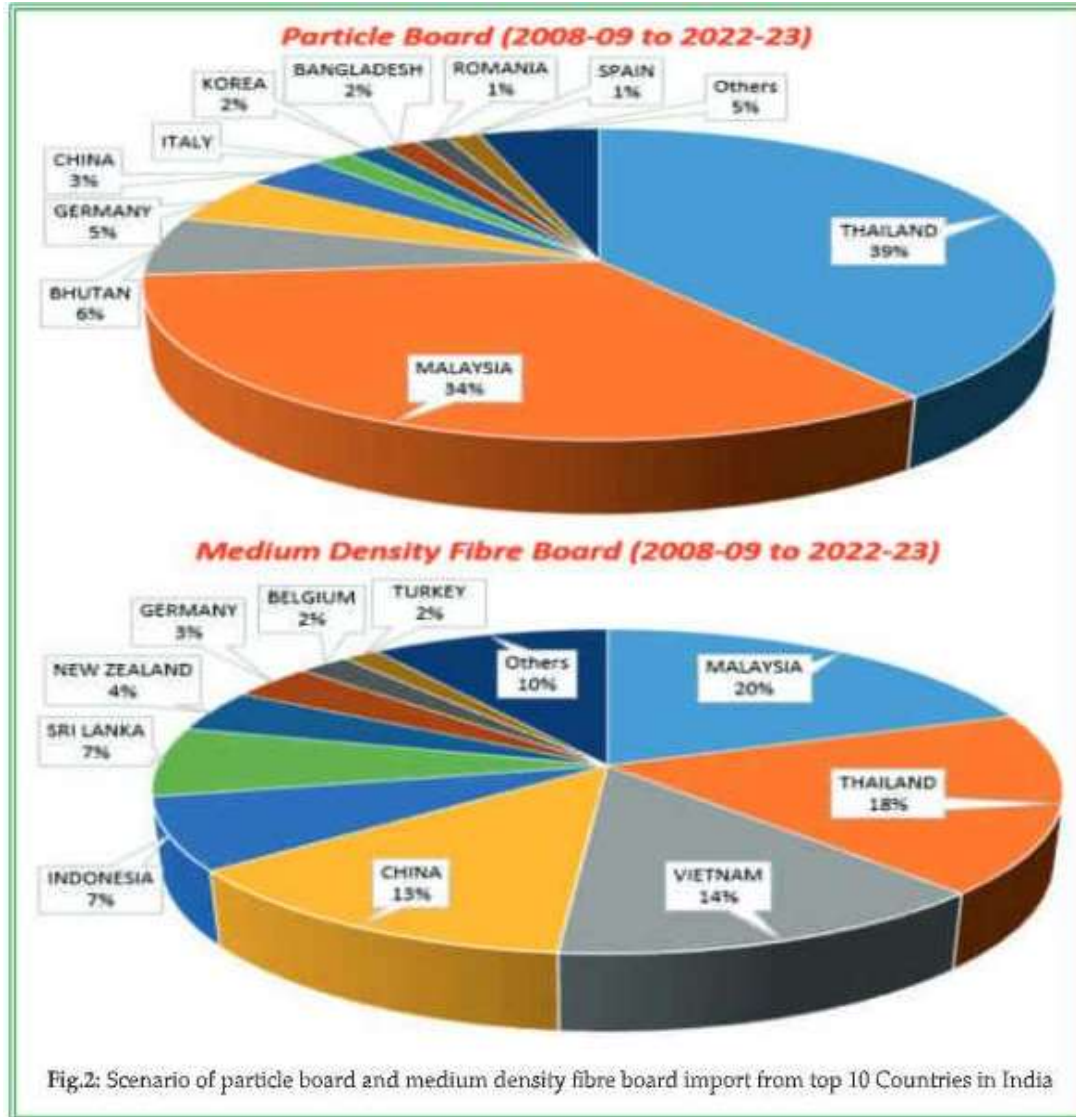


Fig.2: Scenario of particle board and medium density fibre board import from top 10 Countries in India

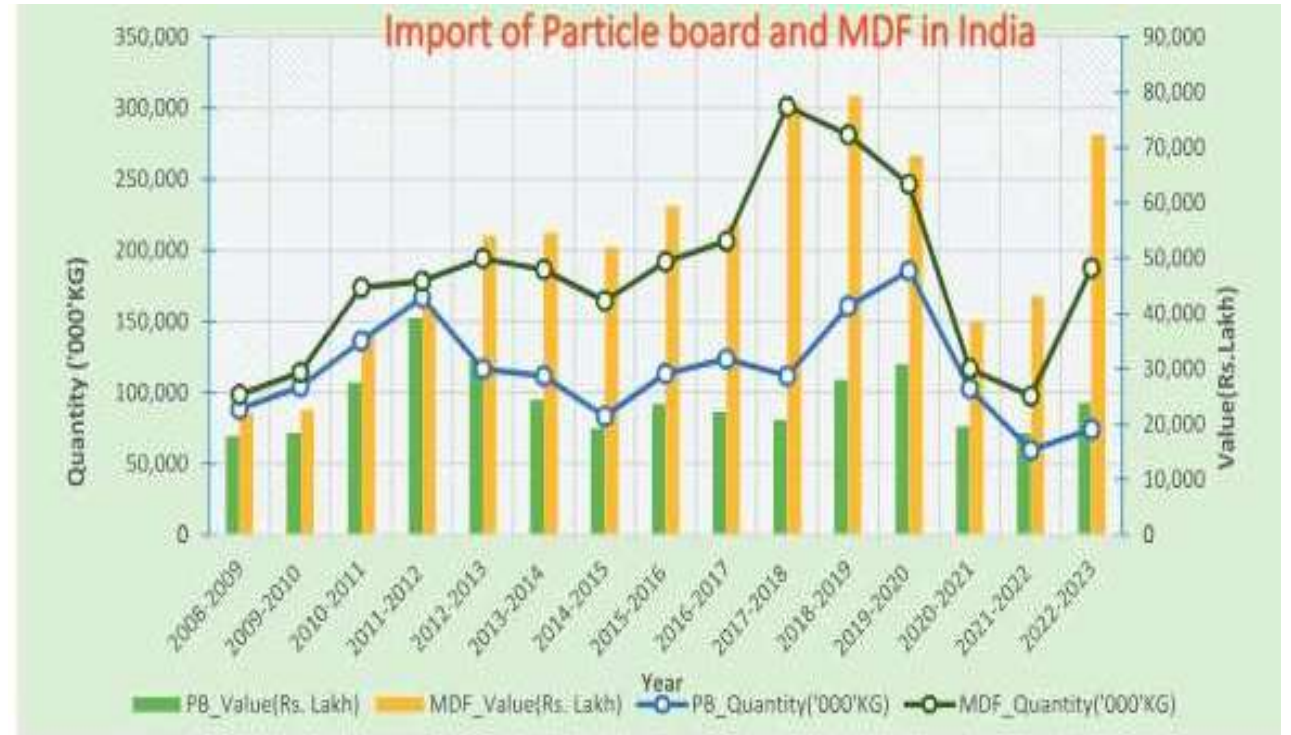
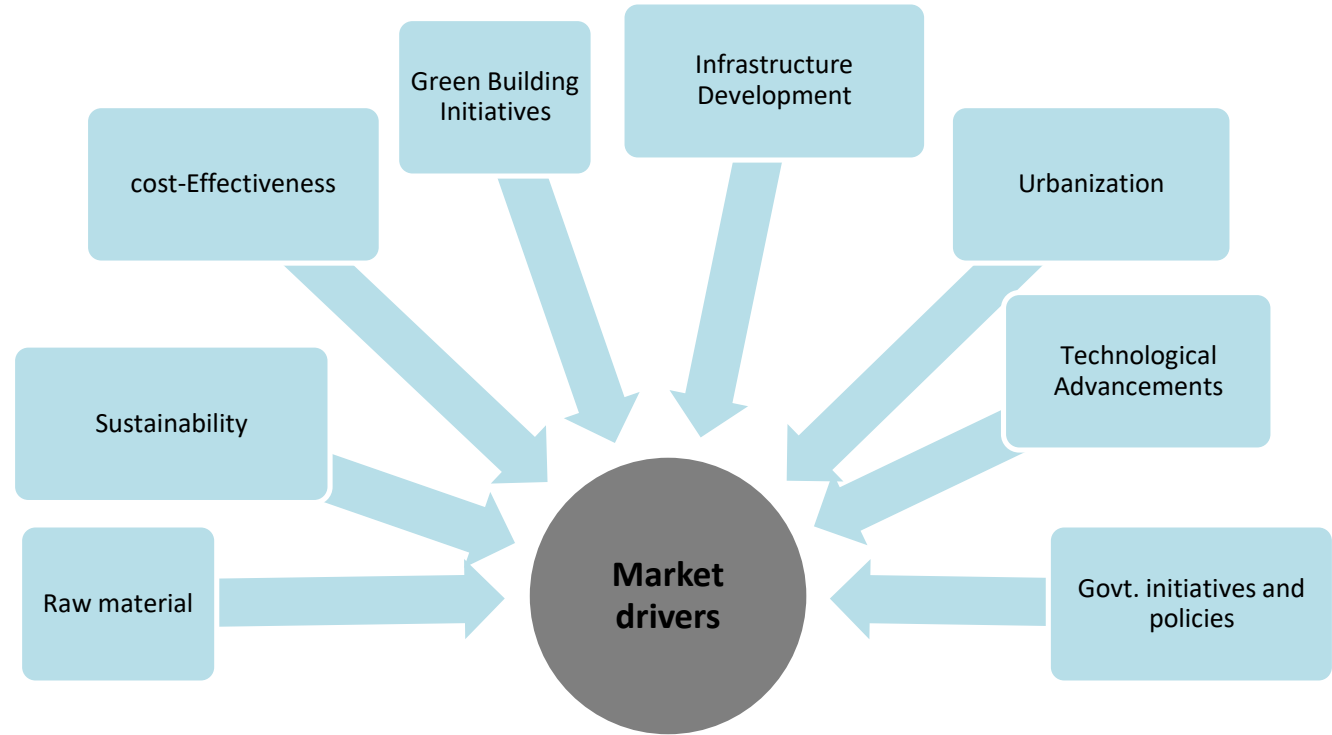
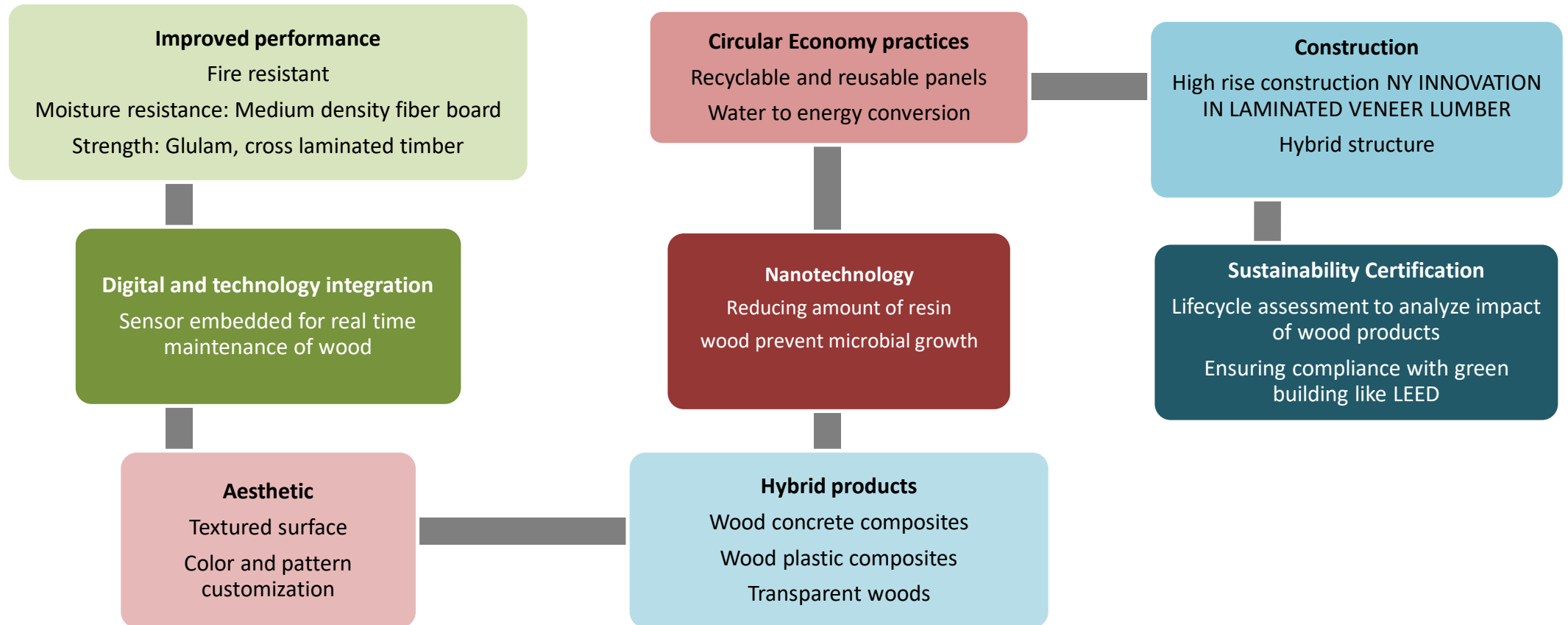


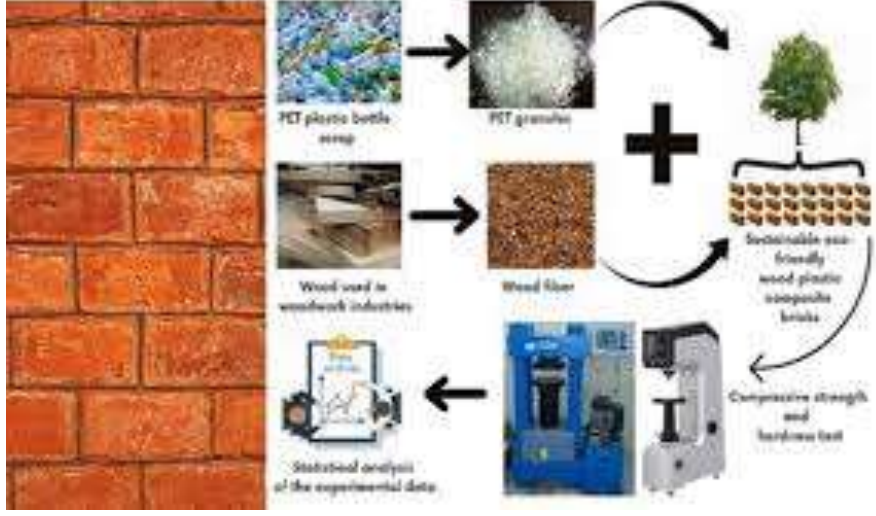
Fig1. Particle board and MDF import trends in India from 2008-09 to 2022-23.



INNOVATION



INNOVATIONS



ZiBOC

- A new wood preservative which is comparable to CCA.
- Judicious use of preservative in a non-durable wood greatly enhances (6-8 folds) life of products.



Wood Welding Machine

Engineered wood-based industries of India

