



## Common Msasa - The resilient & sustainable construction material

As a steward of a **46,000-hectare concession** in **Mozambique** (Sofala Province), primarily **abundant** with **Brachystegia Spiciformis (Msasa)**, this presentation aims to **advocate** for the adoption of this local wood as a **sustainable** and **cost-effective** alternative to imported pine wood. Emphasizing its **mechanical properties**, we highlight its **potential applications**, **economic impact**, **durability**, **competitive pricing**, and propose an **implementation strategy**.

### Key Facts

#### Applications

- **Msasa** is **versatile**, suitable for all **construction purposes**, when properly kiln dried also for **doors and windows**.
- A sustainable and **cost-effective substitute** for imported pine wood.

#### Competitive Pricing

- **Locally sourced** means **reduced** transport costs, no middle hands and **no import fees**.
- Superior product at very **affordable prices**, in many instances **cheaper than pine**.

#### Durability and Maintenance

- Upon undergoing **CCA pressure treatment**, **Msasa** wood exhibits **exceptional resistance** to **termites and wood borers**.
- The **CCA treatment** has demonstrated a **durability** exceeding **70 years** in applications subjected to **environmental exposure**.

**Msasa** stands out in numerous studies, with a key focus on its **exceptional resistance to nail extraction**. Crucially, ongoing **research underlines** the importance of **wood density** in determining this resistance. Notably, **Msasa** exhibits significantly **superior results compared to pine**, highlighting its strength and durability.

#### Economic Impact:

- **Empowers** the **local economy** through **sustainable forestry practices**.
- **Increased demand** for locally sourced wood resources results in **job creation** in rural areas.

#### Implementation Strategy

- Initial **implementation** in **Sofala Province** due to favorable conditions.
- **Goal:** Create **demand** for **sustainable woods**, establish **Msasa** as a preferred choice, as both a **development** and **sustainability vehicle**.



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## Msasa VS Tropical Pine

As we explore the **unique qualities** of **Msasa**, it's essential to **compare** its **mechanical attributes** with commonly used, **fast growing Pine**.

The table below highlights the **significant differences** between **Msasa** and **Pine** in terms of most **relevant mechanical properties**. Many of these are crucial for **resilient constructions**, especially **resistance to strong wind force**.

**A Mechanical comparison**

	Messassa	Tropical Pine	Difference
Average Density at 12% moisture (kg/m3)	<b>735</b>	<b>420</b>	<b>75%</b>
Modulus of Rupture (Mpa)	<b>107.2</b>	<b>54.8</b>	<b>96%</b>
Modulus of Elasticity (Mpa x 10/3)	<b>13.6</b>	<b>6.2</b>	<b>119%</b>
Compression Strenght Parelell to Grain (Mpa)	<b>59.1</b>	<b>30.6</b>	<b>93%</b>
Shear strength paralell to Grain (Mpa)	<b>14.4</b>	<b>8.5</b>	<b>69%</b>

### Conclusion

**Msasa** emerges as the **superior choice** for **construction wood** in **Mozambique**. This **indigenous resource** not only **aligns** with **sustainability goals** but also offers a **durable** and **cost-effective alternative** to imported pine wood.

With **superior mechanical properties**, **Msasa** stands as a **powerful contributor** to both **environmental** and **economic well-being**, making it the **ideal candidate** for widespread adoption in **construction projects across the region**.



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