

Bamboo as alternative enterprise in attaining wood and NTFP sufficiency

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President & CEO
Rizome



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8-12 Nov 2023

Subic Bay Exhibition & Convention Center, Zambales



Society of Filipino Foresters, Inc.




REFORESTING NATURE THROUGH THE MIRACLE OF BAMBOO





**NURTURING FORESTS...
IS NURTURING LIFE**

Congratulations
75 Years of
Stewardship & Fellowship



GigaTon Carbon Potential through the Miracle of Bamboo

Rizome develops NBS Carbon Removals
by Reforesting Grasslands into thriving Forests
Anchored by Timber Grade Bamboo
& Flourished with Native Trees & Grasses

Rizome engineers Timber Grade Bamboo
Into Structural Building Materials as
Green Alternatives to Steel, Concrete
& Tree based lumber.



Plant Bamboo
Make Lumber
Sequester Tons of CO₂

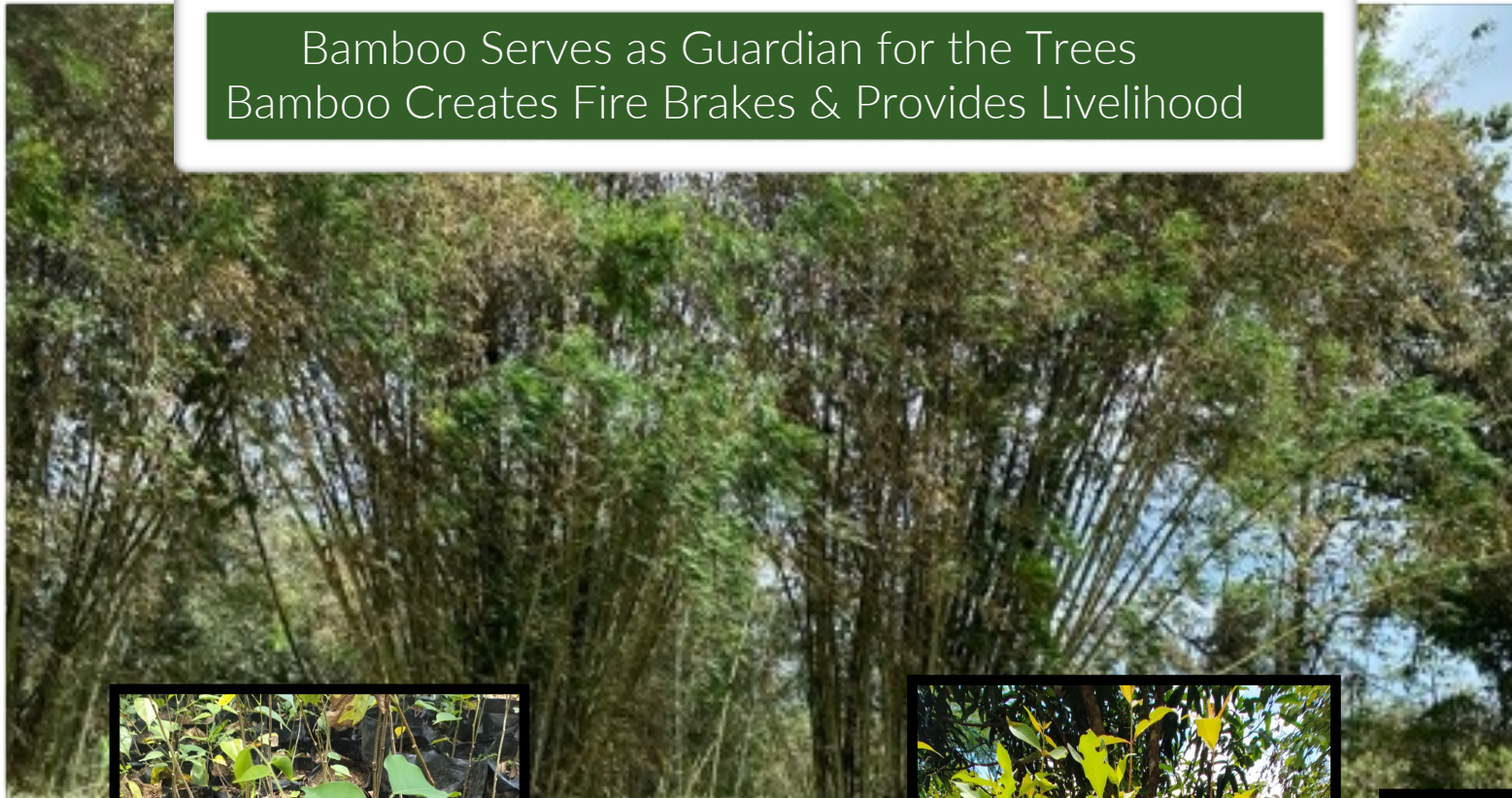
We are developing 1 Million Hectares of Regenerative Forests anchored by Timber Grade Bamboo



Current Projects across Mindanao

Upcoming Projects In Luzon & Visayas

Bamboo Serves as Guardian for the Trees
Bamboo Creates Fire Brakes & Provides Livelihood



YLANG-
YLANG

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NARRA

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WHITE LAUAN

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BAGRAS

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KAMANSI

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NBS Anchored By Timber Grade Bamboo

Rizome's approach to NBS Carbon Removal is anchored on the Miracle of Bamboo:

- Grows 15 faster than Trees
- Removes 10 times more CO₂
- Survives fire & drought
- Naturally Resistant to Disease
- Serves as a Buffer for other NBS species



High Performance Carbon Removal Per Year / Hectare

Timber Grade Giant Bamboo:

- Giant Bamboo draws-down Carbon faster than any other land based plant
- New Shoots Grow to Canopy in Weeks
- Bamboo Culms (poles) Reach 20 meters Tall and hold 60% of the Biomass
- The Bamboo Root Network (the rhizome) holds 40% of the Biomass

Reforest with Trees & Bamboo. Cut Only the Bamboo & Improve Permanence of the Forest



Plant Trees



Plant Bamboo



Cut Bamboo

Reforesting the Philippines with *Bamboo & Native Trees*



Propagation

Super Charged Seedlings

We use advanced organic inoculants for super-charged propagation materials & will launch lab-based tissue culture protocols to clone bamboo plants for large scale, efficient planting



Nursery

SME Partners

We also work with local agri-businesses to grow bamboo & tress seedlings in nursery in proximity to the planting areas



Land

Partner with Owners

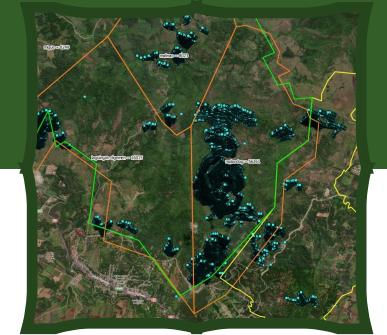
We partner, under long term contracts, with local landowners —indigenous peoples, government holdings and large agricultural entrepreneurs to develop bamboo on their lands creating a diversified value chain



Optimization

Growing System


We use precision based farming practices and organic fertilization techniques to increase bamboo fiber yields from each hectare grown



Technology

Data Centric

GPS geo-tagging and satellite monitoring allow us to track and trace our carbon credits at the individual bamboo plant level and hectare level for trees



**AND NOW
PHILIPPINE
BAMBOO**

**IS THE
MIRACLE
TIMBER**

Common Uses for Bamboo



Timber Grade - Giant Bamboo
An Ideal Alternative to Cutting Down Trees for Lumber

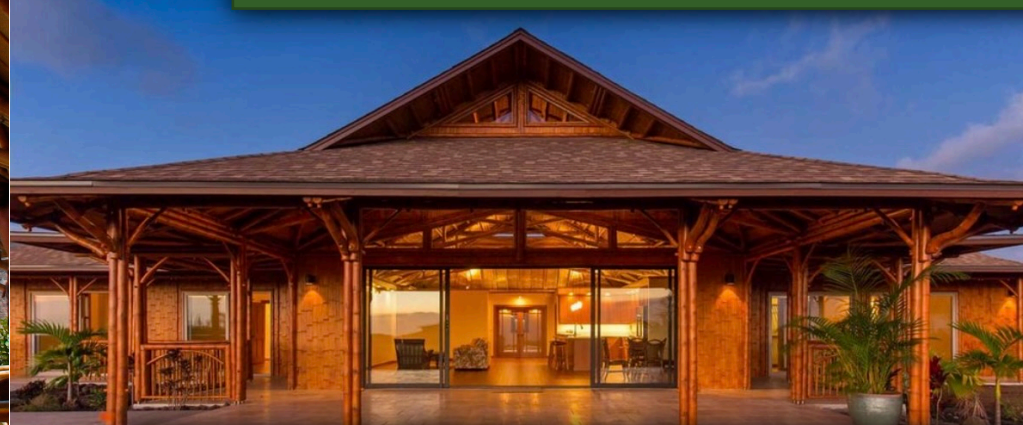


We are Structural Bamboo Experts

Our Sister Company

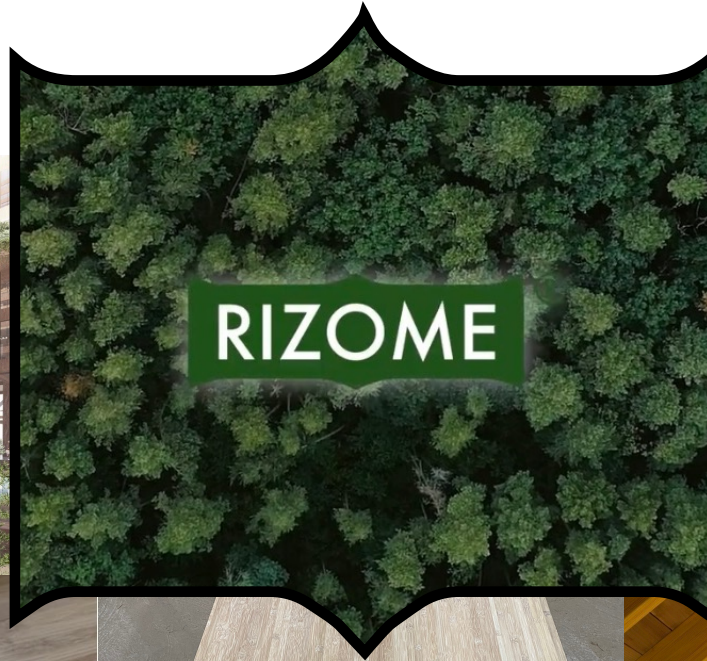


Pre-fab House Manufacturing Center in Vietnam



Hundreds of Bamboo Buildings Built in USA

We now make Dimensional Bamboo in Philippines



New Uses: Engineered Bamboo is Ideal for Buildings



Strength of Steel
Toughness of Concrete



Laminated Veneer Lumber

Rizome constructs its LVL using our 4x8 bamboo single-ply veneers laid up in a linear construction and then cut to size like other clear lumber products based on customer specifications. Our LVL products are superstructural with high tensile and bending strength and excellent resistance to deflection. The products are defect-free and offer a beautiful visual finish. These bamboo LVL products fit well where clear lumber is currently used, such as stair treads & risers; exposed beams; door rails, stiles, and trim; window trim; and butcher block style table and countertops.

Laminated Strand Lumber

Rizome constructs its Laminated Strand Lumber (LSL) using bamboo strands laid up in a linear construction and then cut to size like other lumber products per customer specifications. While quite beautiful, Rizome LSL is constructed primarily for strength and is well suited for applications that need maximum resistance to deflection, such as beams. Our LSL offers high rolling shear values and works well for container flooring and industrial platforms.



Mechanically Strong

Technical Specifications

Rizome Bamboo Compression: 7,000-11,000 psi	vs	Concrete: 3,000-6,000 psi	MOR: 22,000 psi	vs	12,500 psi for Douglas fir
MOE: 2.8 million psi	vs	1.4 - 1.7 million psi for Douglas fir	Janka Hardness: 1,600 LB/ft	vs	660 LB/ft for Douglas fir
			Shear: 1,700 psi	vs	910 psi for Douglas fir

100% Glue Bond Adhesion for hybrid softwood laminated lumber. 100% Sustainably-Harvested Dendrocalamus asper (Giant bamboo).

Beautiful as Hardwoods

rizomebamboo.com

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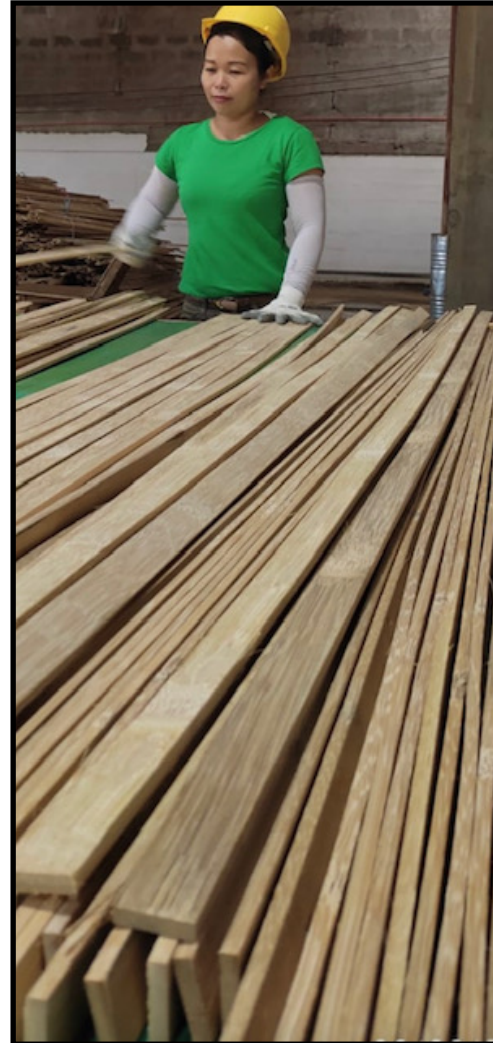


Good for the earth, good for people.

rizomebamboo.com

Bamboo Manufacturing Provides Jobs and Livelihood & Builds Community Support

Rizome Creates the Market for the Bamboo by Manufacturing Bamboo Lumber & Building Materials.



Most Things Made from Wood can also be Made from Bamboo



Beams



Cabinets



Moldings



Doors



Cladding



Floors

Rizome Engineered Bamboo Lumber & Panels



Boards

Up to 10' Long

Solid Asper Bamboo

S4S

Free & Clear

1/4 " thick



Veneers

1/4 Inch Thick

Solid Asper Bamboo

4' x 8'

Free & Clear

Custom thickness available



Panels

Multi Ply

Solid Asper Bamboo

4' x 8'

Up to 1.5 " thick

based on customer
requirements



Laminated Lumber

Custom Sized

Solid Asper Bamboo

Cut to Size

Custom Thickness

Structural



Strand Woven

Exterior Grade

Available as 4' x 8' panel or

Cut to Size boards

Ideal for outdoor
applications

Rizome Finely Finished Bamboo Products





The Miracle Timber®

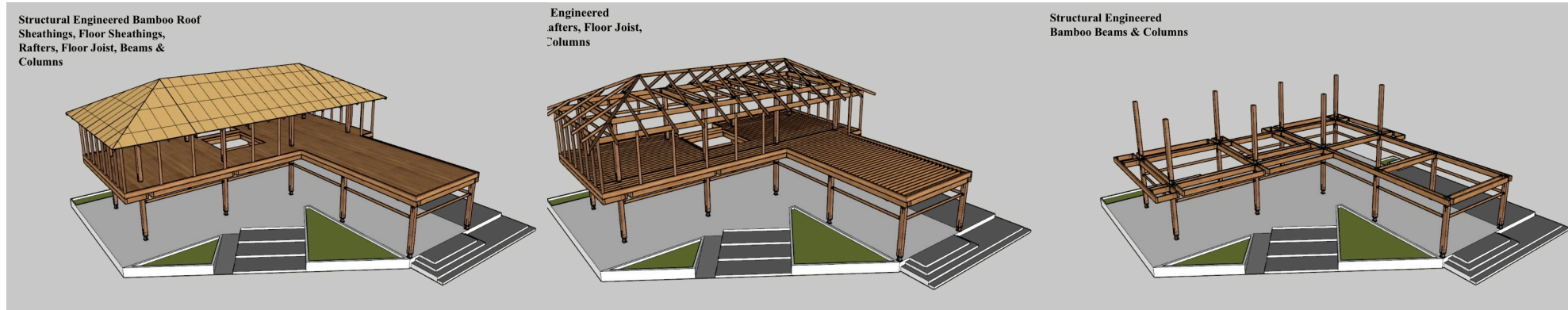
Rizome Engineers & Manufactures Structural Bamboo

Beams, Columns, Rafters & Trusses



Bamboo is Strong Like Steel

Allowing Rizome to make Bamboo Structural Elements



Female 'SEB'



Male 'SEB'

And Airports Too

Let's Make the Next one with Filipino Bamboo





Russell Smith

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The Miracle Timber



Thank You

FOREST is LIFE