



SOCIETY OF FILIPINO FORESTERS, INC.  
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# WOOD SELF-SUFFICIENCY THROUGH TREE PLANTATIONS

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# Outline of Presentation

- Introduction to Tree Plantations
- Market Demand Analysis
- Financial Feasibility
- SFFI Forest Plantation Establishment
- Regulatory Framework
- Challenges
- Recommendations



# Tree Plantations

A **plantation forest** is an intensively managed planted forest that at maturity is composed of one or two species, has one age class, and has regular tree spacing (FAO, 2020)

It consists of **introduced species** or, in some cases, **indigenous species**.





# Tree Plantations

FAO defined **tree plantations** as “forest areas primarily established for the production of wood or wood-derived products” (FRA 2000 on Definitions of Forest and Forest Change, 2024).

Asia contains by far the largest forest plantation resource of any region, although the bulk of the resource is concentrated in a handful of countries. Asia's three largest plantation countries, China, India and Japan, account for 78 percent of forest plantations in the region.





# Tree Plantations

## Significance

### Environmental Sustainability

- Carbon sequestration
- Soil Conservation
- Biodiversity Support
- Water Cycle Regulation

### Socio-Economic Benefits

- Job Creation and Livelihoods
- Ecosystem Service Valuation
- Sustainable Practices
- Support for Local Economies
- Alignment with Global Goals



# Overview of Tree Plantations in the Philippines



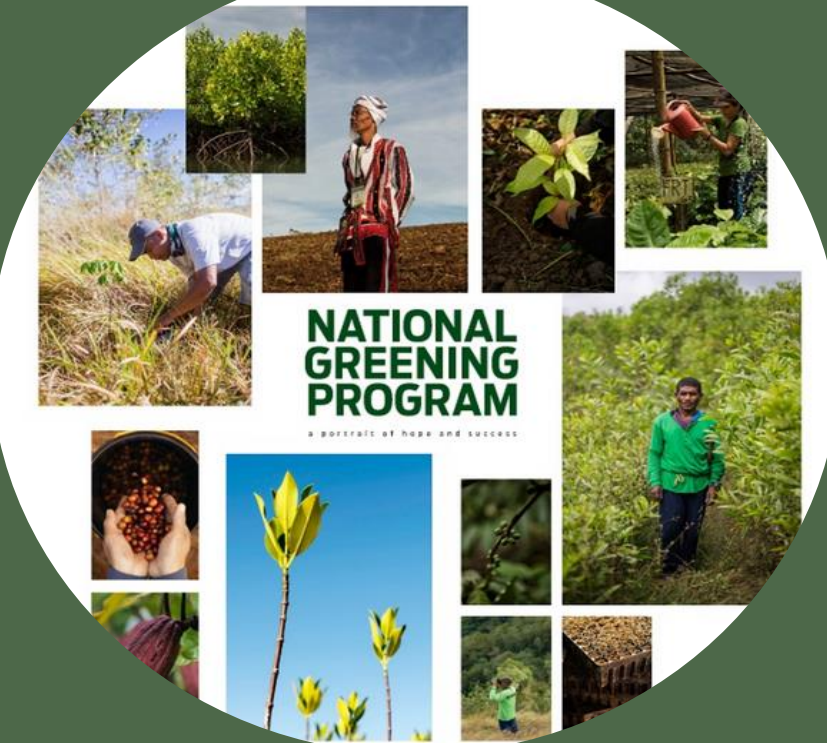
<https://2.bp.blogspot.com/-bqkgKIHnQ00/VQ9J80FKiv/AAAAAAAAABqM/lv9Fc6B5Ths/s1600/1A%2B-%2BCommunity%2BBased%2BForest%2BManagement.jpg>

# Community-Based Forest Management



# Industrial Tree Plantations

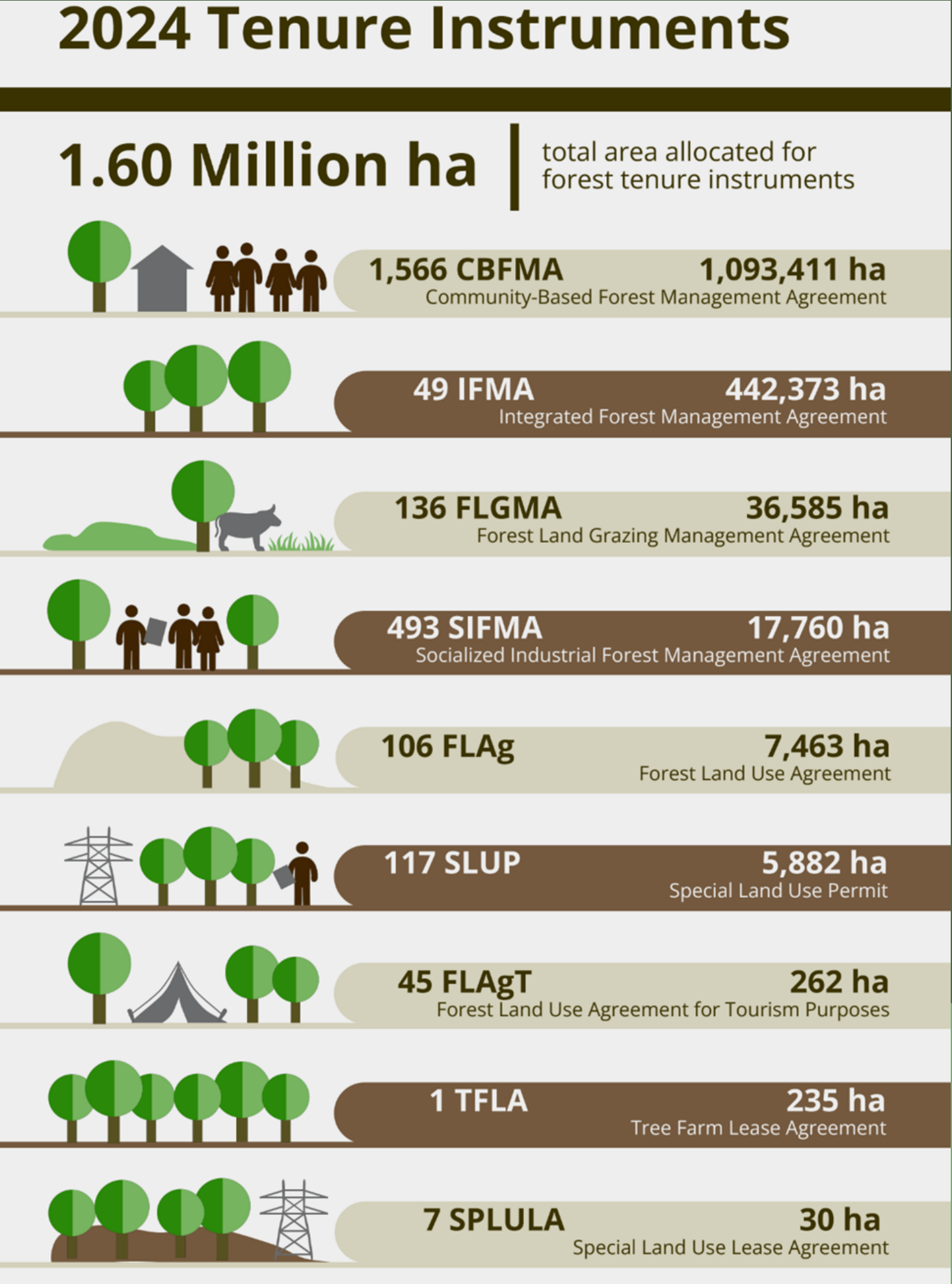
## IFMA & SIFMA



# National Greening Program (NGP)



# Overview of Tree Plantations in the Philippines



# Overview of Tree Plantations in the Philippines

[Enhanced] National Greening Program - Accomplishment



PFG 2024 Edition. (2024). "2023 Forest Development and Rehabilitation [Enhanced] National Greening Program". forestry.denr.gov.ph <https://drive.google.com/file/d/1qWbMEvdsWVkI2mrwmz6tkh2fZtAS6l9E/preview>



# Market Demand Analysis

## Sustainable Urban Development

### Current Trends in Demand and Supply



**US \$ 2.27 Billion**  
IMPORT FOB VALUE

TOP 5 IMPORTS	
59.8%	Paper & Articles of Paper & Paperboard
11.3%	Plywood
9.6%	Lumber
8.9%	Forest-Based Furniture
3.3%	Pulp and Recovered Paper

The Revised Master Plan for Forestry Development in the Philippines (RMPFD) projected that the demand for wood products would steadily grow by an average of 5% every year until the Year 2025 DENR (2003, cited by Carandang et al., 2015) .



# Market Demand Analysis

## Sustainable Urban Development

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The Revised Master Plan for Forestry Development in the Philippines (RMPFD) projected that the demand for wood products would steadily grow by an average of 5% every year until the Year 2025 DENR (2003, cited by Carandang et al., 2015) .

TOP 5 EXPORTS	
24.6%	Lumber
16.0%	Pulp and Recovered Paper
13.7%	Paper & Articles of Paper & Paperboard
10.5%	Wood Charcoal
9.4%	Other Wood-Based Manufactured Articles

**US \$ 0.71 Billion**  
**EXPORT FOB VALUE**





# Market Demand Analysis

## Factors Driving the Demand in Tree Plantation Products

### Government Restrictions on Logging from Natural Forests

Imposition of minimum logging ban in natural forest led to increasing demand of plantation-grown timber.

### Sustainable Development Goals

There is a high demand for sustainable sourced timber and non-timber products due to global emphasis on sustainable development

### Economic Growth and Infrastructure Development

Economic growth comes with the increasing demand for construction materials, including wood products.





# Factors Driving the Demand in Tree Plantation Products

## Community Involvement and Livelihood Opportunities

Plantation projects provide employment opportunities and enhance livelihood opportunities to local communities

## Legal Framework and Incentives

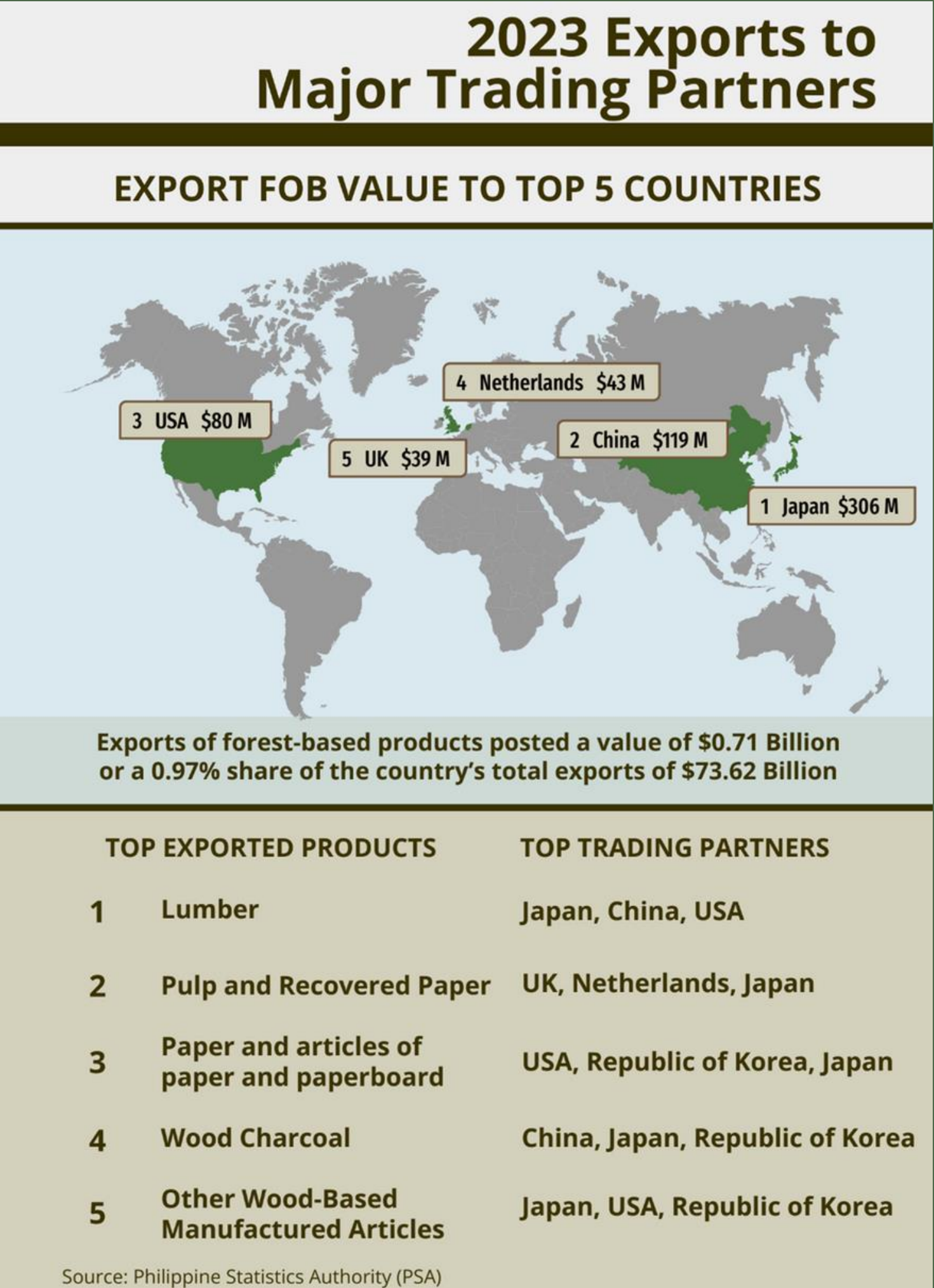
Laws and Policies are established to promote plantation initiatives. These frameworks provide legal support, and financial incentives are to encourage landowners to partake sustainable forestry practices.





Potential market opportunities for tree plantation products

## Exports to Major Trading Partners





# 2023 Price of Forest Products

## FOB Market Prices

### Top Locally Produced Log (per cubic meter)

Log Grade: **Sawlog** | Diameter Class: **30-38cm**



**Yemane**  
*Gmelina arborea*  
₱ 7,240 - ₱ 23,320



**Mahogany**  
*Swietenia macrophylla*  
₱ 5,430 - ₱ 14,130



**Falcata**  
*Paraserianthes falcata*  
₱ 2,820 - ₱ 10,600



### Unsplit Rattan (per lineal meter)

2 cm & above

**Limuran**  
*Calamus ornatus*  
₱ 1 - ₱ 20

**Tumalim**  
*Calamus mindorensis*  
₱ 1 - ₱ 70

**Palasan**  
*Calamus merrillii*  
₱ 10 - ₱ 70



### Bamboo (per piece)

**Bayog**  
*Bambusa merrilliana*  
₱ 1 - ₱ 270

**Buho**  
*Schizostachyum lumampao*  
₱ 2 - ₱ 300

**Bolo**  
*Gigantochloa levis*  
₱ 1 - ₱ 300

**Kawayan-tinik**  
*Bambusa blumeana*  
₱ 2 - ₱ 500

# 2023 Price of Forest Products

## Non-timber Forest Products (commonly sold across regions)



**Honey**  
(per liter)  
₱ 250 - ₱ 900



**Nipa Shingles**  
(per piece)  
₱ 2 - ₱ 8



**Sawali**  
(per square foot)  
₱ 4 - ₱ 60

## Lumber (2" x 4" x 8', per board foot)



**Falcata**  
*Paraserianthes falcata*  
₱ 20 - ₱ 100



**Mahogany**  
*Swietenia macrophylla*  
₱ 20 - ₱ 120



**Yemane**  
*Gmelina arborea*  
₱ 20 - ₱ 100



**Mangium**  
*Acacia mangium*  
₱ 20 - ₱ 100



# Regulatory Framework

## Legal Support and Financial Incentives for Plantation Establishment

### Legal Framework

Department Memorandum  
Circular No. 97-09  
Tree Growing Agreements  
(TGA)  
Integrated Forest  
Management Agreement  
(IFMA)  
Socialized Integrated Forest  
Management Agreement  
(SIFMA)

### Financial Incentives

- Agroforestry Plantation Program (APP)
  - Tax Credits and Deductions
- Cost-Share Programs

### Support Mechanisms

- Technical Assistance
- Public-Private Partnerships
- LGUs
- Community Engagement Initiatives (e.g NGO collaborations)





# SFFI Forest Plantation Establishment

Sample Cost Computation for Establishment of 100-ha Plantation

Investment Cost for 100 ha. Forest Plantation				
Plantation Establishment				Amount (₱)
	1.	Infrastructures (Costing included in Doc Tesoro's presentation)		
		a.	Roads (3 km)	
		b.	Watch towers (4 units)	
		c.	Bunkhouses (3 units)	
		d.	Water facility	
	2.	Plantation Development		
		a.	Boundary Delineation & Mapping	50,000.00
		b.	Soil Analysis, Flora & Fauna Survey	100,000.00
		c.	Site preparation and planting	3,000,000.00
		d.	Maintenance and monitoring for 5 years	5,400,000.00
			<b>SUBTOTAL</b>	<b>8,550,000.00</b>
	3.	Supplies		
		a.	Seedlings	500,000.00
		b.	Basal Fertilization using mykovam	30,000.00
			<b>SUBTOTAL</b>	<b>530,000.00</b>





# Forest Plantation Establishment

Sample Cost Computation for 100-ha Plantation

Investment Cost for 100 ha. Forest Plantation				
				Amount (₱)
	4.	Admin Cost		
		a.	Project Manager	2,280,000.00
		b.	Foresters (2)	3,600,000.00
		c.	Supervisors (5)	6,000,000.00
			<b>SUBTOTAL</b>	<b>11,88,000.00</b>
	5.	Logistics		
		a.	Vehicle	1,200,000.00
		b.	Tools and Equipment	75,000.00
		c.	Fuel Supply	250,000.00
			<b>SUBTOTAL</b>	<b>1,525,000.00</b>
	6.	Contingency (10% of total cost of items 1-5)		2,248,500.00
			<b>TOTAL</b>	<b>24,733,500.00</b>





# SAMPLE COMPUTATION OF HARVEST FOR A 100-HA MODEL

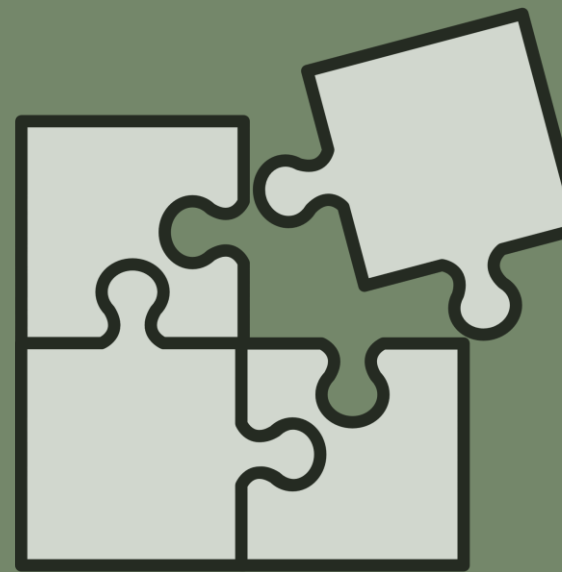
MAHOGANY Using Regional Volume Equation in Region 4	DBH	MH	VOL	Board foot	P55.00/bf	Spacing	No. of trees/ha	Value/ha	Value/100-ha
	30	10	0.46836	198.58464	10,922.16	4x4	625	6,826,347.00	682,634,700.00
	40	15	1.24896	529.55904	29,125.75	4x4	625	18,203,592.00	1,820,359,200.00
	50	18	2.3418	992.9232	54,610.78	4x6	416	22,718,082.82	2,271,808,281.60
	60	20	3.74688	1588.67712	87,377.24	4x6	416	36,348,932.51	3,634,893,250.56
	70	20	5.09992	2162.36608	118,930.13	4x6	416	49,474,935.91	4,947,493,591.04
FALCATA Using Regional Volume Equation in Region 9	DBH	MH	VOL	0.0000484	P35.08/bf	Spacing	No. of trees/ha	Value/ha	Value/100-ha
	30	10	0.4356	184.6944	6479.079552	4x4	625	40,49424.72	404,942,472.00
	40	15	1.1616	492.5184	17277.54547	4x4	625	10,798,465.92	1,079,846,592.00
	50	18	2.178	923.472	32395.39776	4x6	416	13,476,485.47	1,347,648,546.82
	60	20	3.4848	1477.5552	51832.63642	4x6	416	21,562,376.75	2,156,237,674.91
	70	20	4.7432	2011.1168	70549.97734	4x6	416	29,348,790.58	2,934,879,057.51
FALCATA Using Regional Volume Equation in Region 13	DBH	MH	VOL	0.00004961	P27.52/bf	Spacing	No. of trees/ha	Value/ha	Value/100-ha
	30	10	0.44649	189.31176	5,209.86	4x4	625	3,256,162.27	325,616,227.20
	40	15	1.19064	504.83136	13,892.96	4x4	625	8,683,099.39	868,309,939.20
	50	18	2.23245	946.5588	26,049.30	4x6	416	10,836,508.04	1,083,650,804.12
	60	20	3.57192	1514.49408	41,678.88	4x6	416	17,338,412.87	1,733,841,286.59
	70	20	4.86178	2061.39472	56,729.58	4x6	416	23,599,506.40	2,359,950,640.09





# Challenges for Success

- Insufficient sources of certified seed sources and quality planting materials
- Low field survival rate because of the absence of management intervention after field planting
- Insufficient information on the identification/optimization of technologies for the control of diseases
- Lack of new technologies for value-added products
- Harmonization of forest policies
- Lack of livelihood programs and marketing system





# Recommendations

Strategies to Enhance the Success Rate of Tree Plantation

- **Site Preparation and Management**
- **Choosing the Right Species**
- **Community Engagement**
- **Support from LGUs**
- **Simplified Registration**
- **Incentives for Early Registration**
- **Quality Standards for Planting Materials**
- **Training Programs**
- **Access to Financing**
- **Market Development Support**
- **Protecting Natural Forests**





# End of Presentation

**LET'S PLANT, HARVEST & SELL**

**Leonardo Lapie**  
2024 OCTOBER