

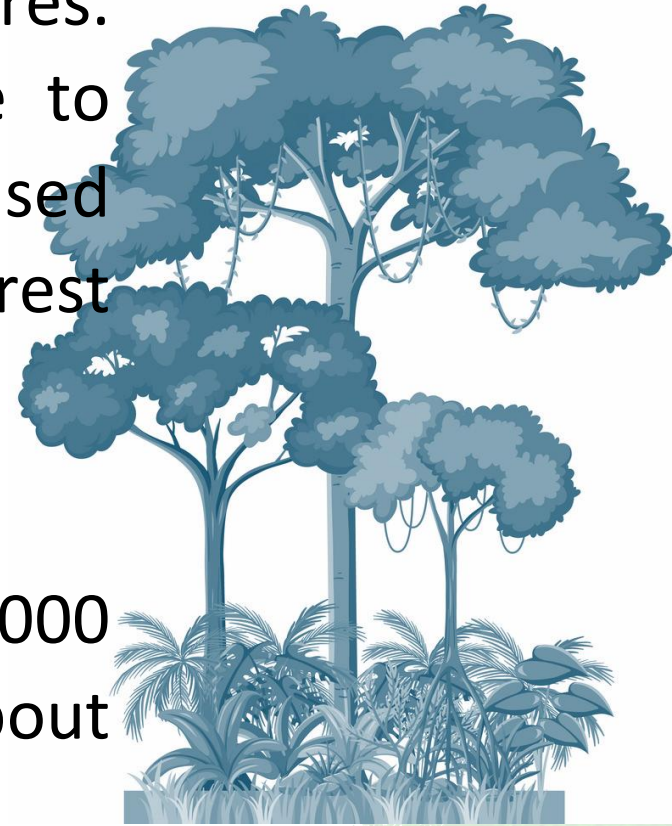
# SFFI FOREST PLANTATION ESTABLISHMENT AND DEVELOPMENT



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In the 1930s our forests were estimated at 17 million hectares. This has been reduced to only about 7 million ha due to unmitigated logging followed by kaingin-making that caused massive deforestation, resulting in heavy loss of forest ecosystem services;

The reported production of timber was only around 900,000 cubic meters in 2021, while our annual requirements are about 6 million cubic meters (round timber equivalent);



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The Industrial Forest Management Agreement (IFMA) contributed to the 2021 production of only 9,829 cubic meters and the combined production of CBFMA, CSC and ISF amounted to only 2,695 cubic meters;

As a result of limited timber production of the country, the value of imported timber, lumber, veneer and plywood amounted Php 40 Billion in 2021;



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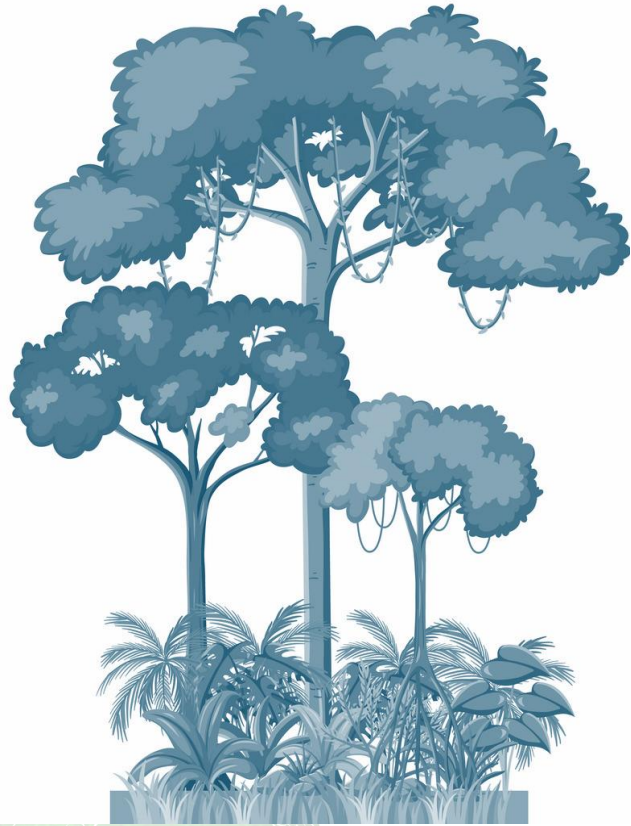


In spite the presence of a huge potential market for timber and wood products in the Philippines investors are hesitant to invest in forest plantation development;

There is a tremendous need to demonstrate that forest plantations are viable and profitable business venture, and demonstrate the good plantation establishment, and management, and development practices; in addition to contributing to the country's climate resiliency;



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**Filipino foresters have the obligation, desire, and commitment to catalyze the resurgence of forestry in the country and demonstrate that indeed forest plantation establishment and development is a viable and profitable business undertaking;**



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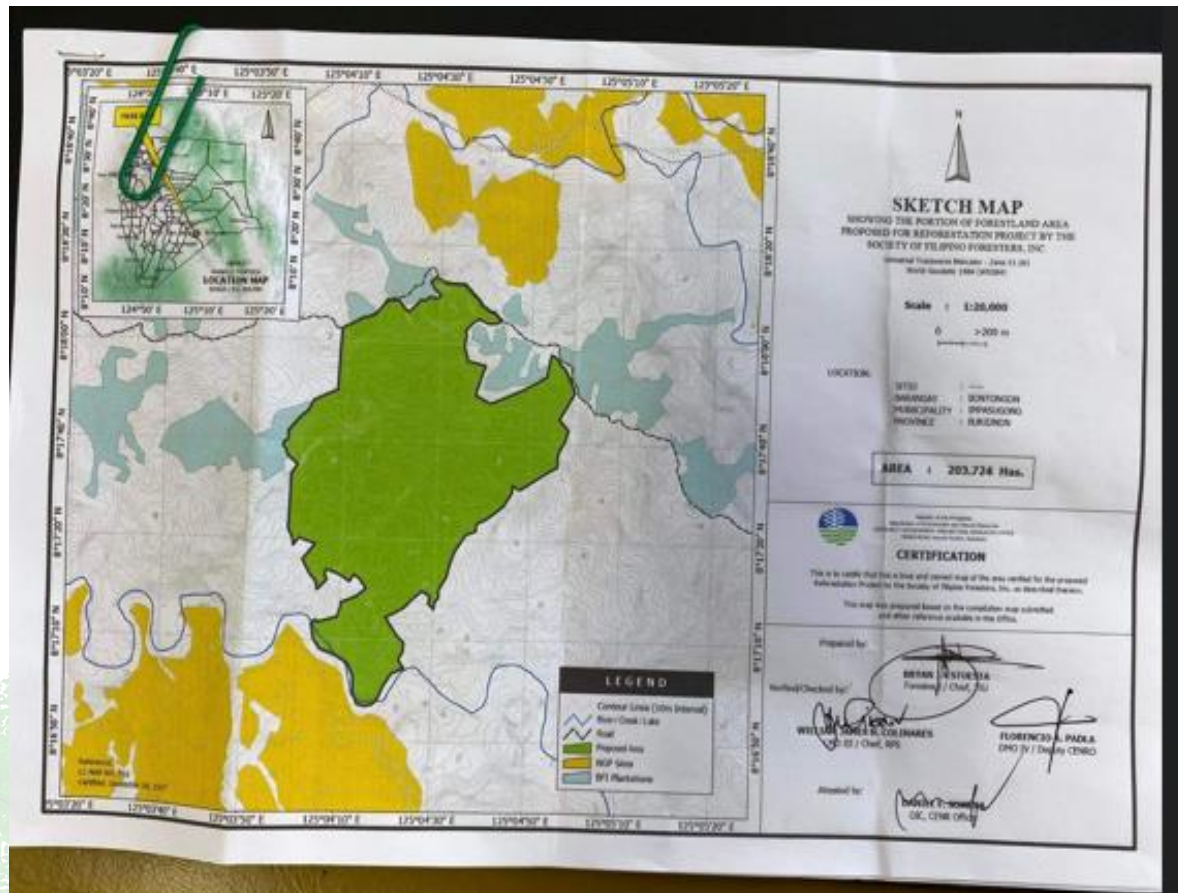


For and in consideration of the above premises, Filipino foresters hereby bind themselves to establish and operate an entity devoted to the establishment, maintenance, and development of production forest plantations.



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# SIFMA Area applied for

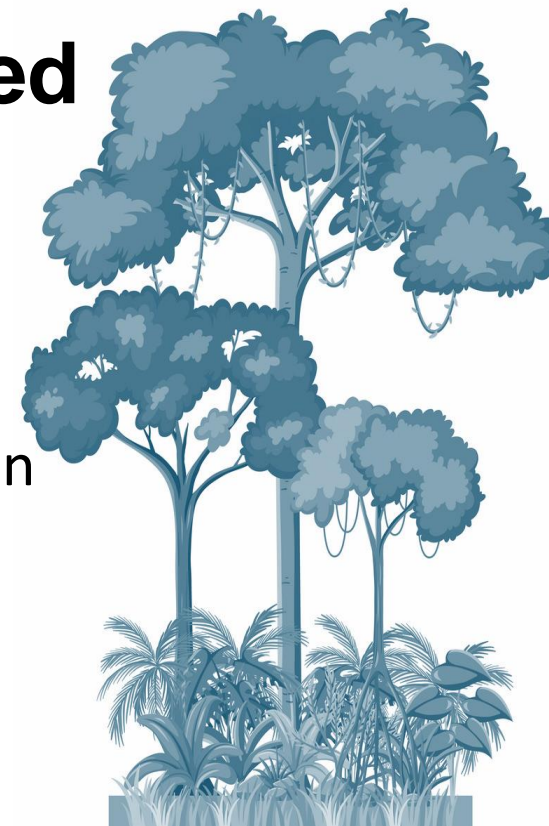
Approximate area 203 ha

Location: Province: Bukinon

Municipality/City:

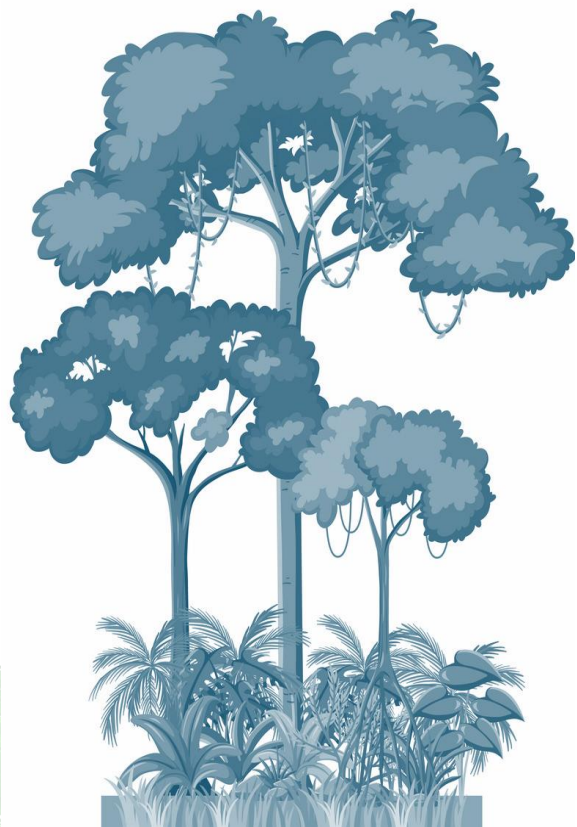
Impasugong

Barangay (s): Bontogon



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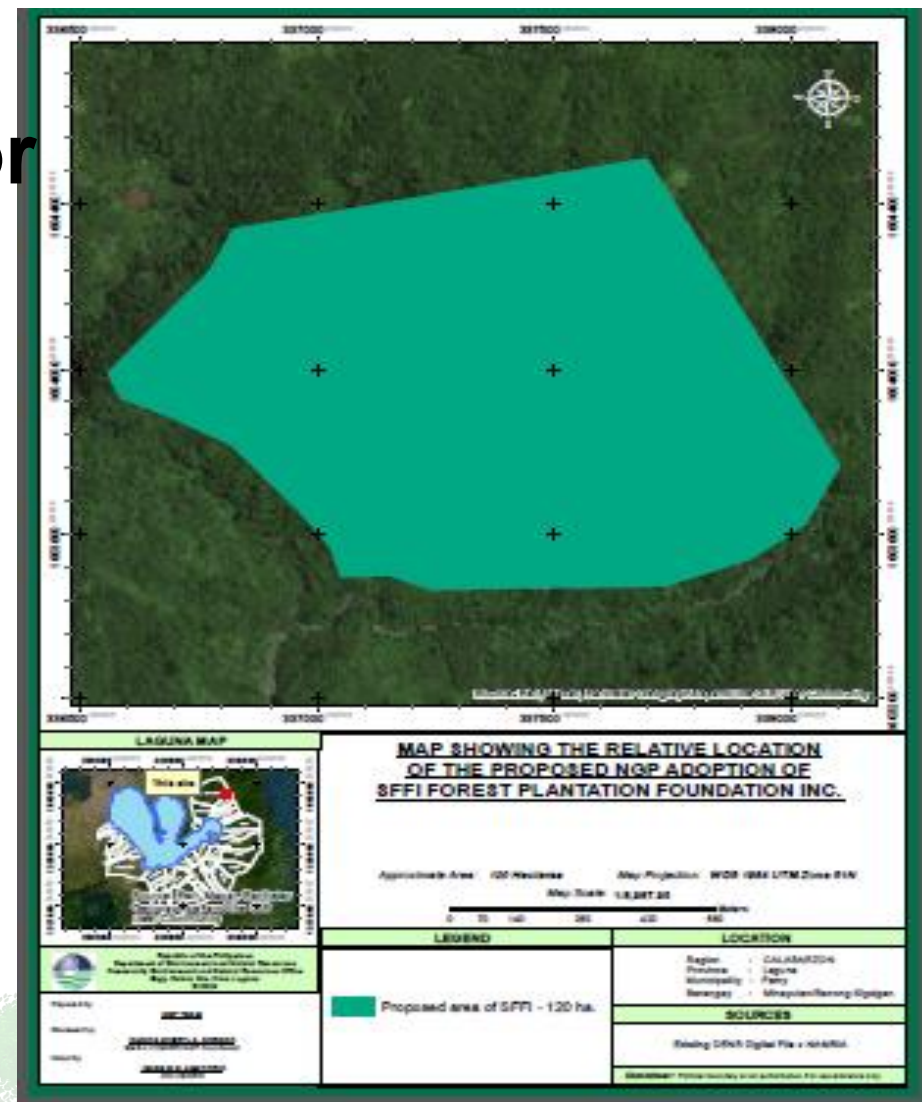
# SIFMA Area applied for

Approximate area 120 ha

Location: Province:  
Laguna

Municipality/City: Famy

Barangay (s):  
Minayutan/Bacong-  
Sigsigan



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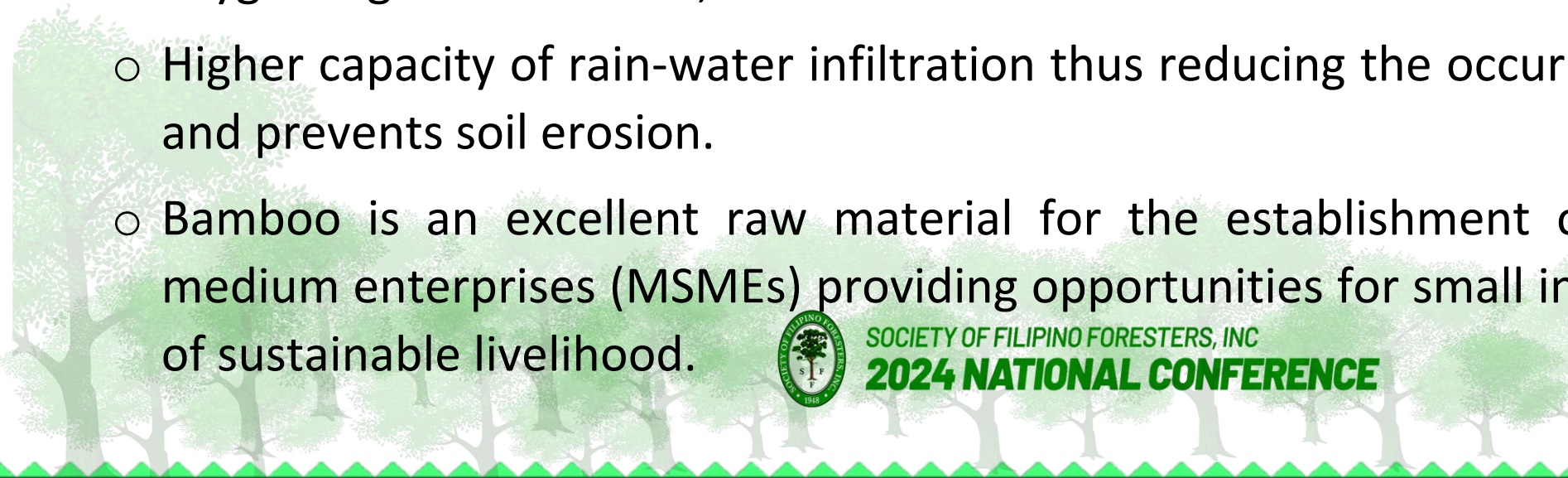
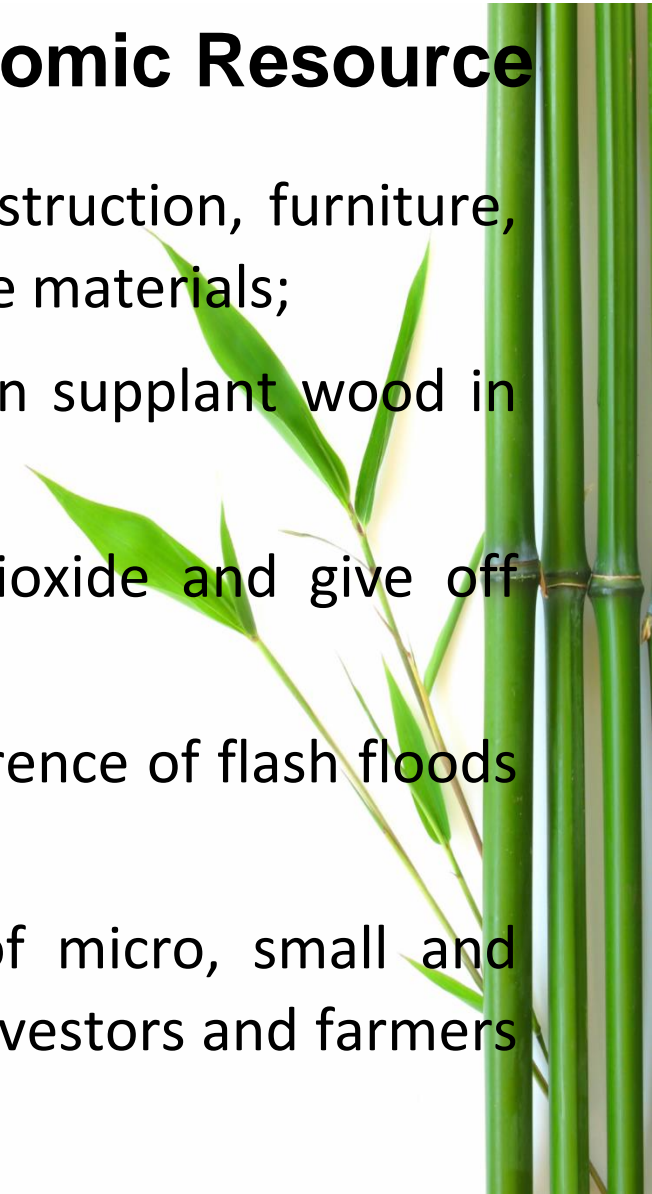


# Bamboo as Environmental, Social/Cultural and Economic Resource

- The decline in the wood resources forced industries in the construction, furniture, handcrafts, and other wood-based industries to look for substitute materials;
- Bamboo exhibits the physical and mechanical attributes that can supplant wood in various uses;
- Bamboo has high capacity to absorb and sequester carbon dioxide and give off oxygen higher than trees;
- Higher capacity of rain-water infiltration thus reducing the occurrence of flash floods and prevents soil erosion.
- Bamboo is an excellent raw material for the establishment of micro, small and medium enterprises (MSMEs) providing opportunities for small investors and farmers of sustainable livelihood.



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# Challenges in the Bamboo Industry

**The Philippine Bamboo Industry Development Roadmap identified challenges in the bamboo industry:**

- **Insufficiency of bamboo raw materials**
- Dearth of accurate and reliable information
- Low quality of bamboo products
- Slow generation and transfer of new and emerging bamboo technologies
- Unsustainable local and foreign markets
- Inaccessible financing
- Inadequate Incentives
- High cost of bamboo processing machineries
- Low skills on bamboo production and utilization
- Low utilization of bamboo residues and wastes
- Low utilization of bamboo in the construction industry
- Low opportunities for small hold bamboo farmers to benefit from their bamboo resources
- Non-supportive policies and non-alignment of policies to the attributes and characteristics of bamboo



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# Evaluation of site suitability

**Climate** – rainfall – (1,500 – 4,000 mm/annum, optimum is 2,000 mm)  
prolonged waterlogged conditions causes roots and rhizome tend to rot and gradually dries;  
temperature 18°C (64°F) to 38°C (100°F)

**Soil** – pH (5-6.5); , sandy loam to clay loam soils; , free-draining soil. avoid wet, boggy or dry conditions well-drained; soil nitrogen content is the most important factor affecting bamboo growth, soil nitrogen content is the most important factor affecting bamboo growth, kawayan tinik requires a combination of 80–160 kg N/ ha/yr and 30 kg P/ha/yr.

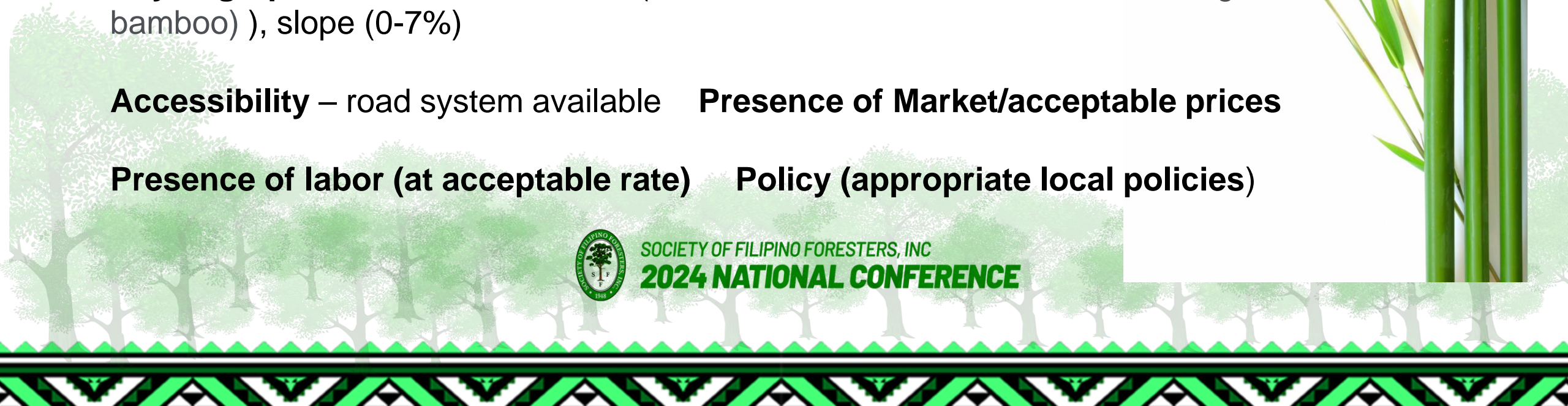
**Physiographic factors** – elevation, (0-500 masl for tinik and 650–900 m for giant bamboo) ), slope (0-7%)

**Accessibility** – road system available      **Presence of Market/acceptable prices**

**Presence of labor (at acceptable rate)**      **Policy (appropriate local policies)**



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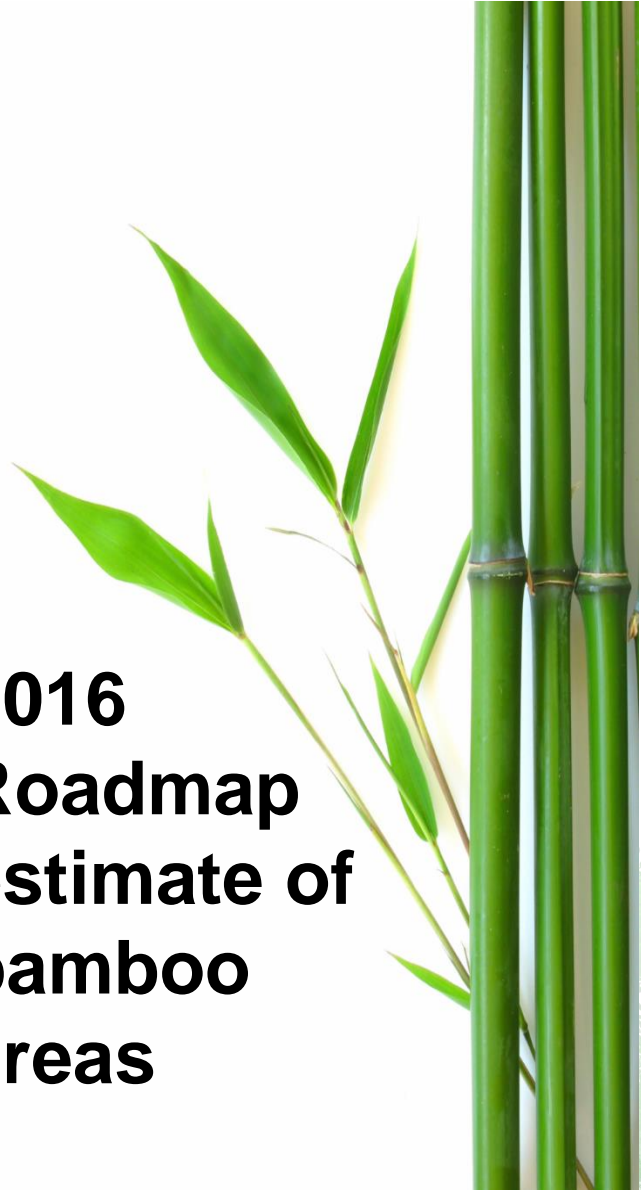
# 2016 Roadmap estimate of demand for poles

Industry Sector	Annual Demand for Poles <sup>1</sup>	Species
Furniture	9,000,000	K tinik, G. bamboo, bayog, bolo, buho
Handicrafts	7,000	K tinik, mixed species
Banana props, fish pens, fish cages	12,000,000	Laak, bolo, K tinik
Barbecue sticks, tooth picks, chop sticks	100,000	K tinik bulo, G. bamboo, butong
E-bamboo	600,000	K tinik, G. bamboo
Charcoal, briquettes, chemical products	71,000	Mixed species
Sub-total	21,778,000	
Anticipated demands		
Pulp & paper industry	35,000.000	K tinik
Biomass energy	52,000.000	Mixed species
Sub-total	87,000.000	
Grand total	108,778,000	



Year	Source of Information	Area (ha)
2008	F. Virtucio	48,403
2010	FAO Forest Resources Assessment	188,000
2012	FDC (Dolom et al)	15,857
2013	ERDB (Lantin et al)	10,065
Recorded Bamboo Plantation		
2024	CSFirst Green AIDI	1,500

**2016  
Roadmap  
estimate of  
bamboo  
areas**



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# KAWAYAN TINIK PLANTING MATERIAL S

Investment Cost for 100 ha. K. tinik Plantation	
I. Production of 22,500 Planting Materials	Pesos
1. Capital expenses	
a. Tools & eqpt	3,500
b. Water facility	200,000
d. Nursery shed	16,600
e. Barracks	150,000
2. Materials	
a. Branch cuttings	230,000
b. Potting medium (sand, coco coir, rice hull)	95,000
c. Potting root hormone and fertilizer	12,300
d. Fertilizer for 7 months	270
e. Potting bags	30,600
3. Labor	
a. Potting bed preparation	3,600
b. Potting of propagules	60,000
b. Maintenance of propagules (fertilization, watering, etc for 7 mos.)	112,000
TOTAL for Production of propagules	913,870
Production cost per planting material	40.62



Investment Cost for 100 ha. K. tinik Plantation	
II. Plantation Establishment	Pesos
1. Capital expenses	
a. Watch towers 4 units)	1,200,000
b. Roads (3 km)	4,500,000
c. Bunkhouses (3 units)	300,000
Sub-total	6,000,000
2. Boundary delineation & Mapping	22,600
3. Soil analysis, Flora and fauna survey	74,000
4. Plantation planning and lay-outing	30,000
5. Brushing, staking, hole digging	484,400
6. Out-planting, hauling	237,200
Sub-total Planning activities	848,200
7. Maintenance and monitoring (6 years)	5,760,000
Total for Plantation establishment	12,608,200
III. TOTAL Investment (Planting Materials and Plantation	13,522,070



Investment Cost for 100 ha. Giant Bamboo Plantation	
I. Production of 11,000 Planting Materials	Pesos
1. Capital expenses	
a. Tools & eqpt	13,100
b. Water facility	200,000
d. Nursery shed	12,200
e. Barracks	150,000
2. Materials	
a. Branch cuttings	55,000
b. Potting medium (sand, coco coir, rice hull)	45,600
c. Potting root hormone and fertilizer	2,090
d. Fertilizer for 7 months	150
e. Potting bags	14,960
3. Labor	
a. Potting bed preparation	800
b. Potting of propagules	28,000
b. Maintenance of propagules (fertilization, watering, etc for 7 mos.)	112,000
TOTAL for Production of propagules	633,900
Production cost per planting material	57.63





II. Plantation Establishment (Giant Bamboo)	Pesos
1. Capital expenses	
a. Watch towers 4 units)	1,200,000
b. Roads (3 km)	4,500,000
c. Bunkhouses (3 units)	300,000
Sub-total	6,000,000
2. Boundary delineation & Mapping	22,600
3. Soil analysis, Flora and fauna survey	74,000
4. Plantation planning and lay-outing	30,000
5. Brushing, staking, hole digging	252,000
6. Out-planting	121,000
Sub-total Planning activities	499,600
7. Maintenance and monitoring (6 years)	5,760,000
Total for Plantation establishment	12,259,600
III. TOTAL Investment (Planting materials and plantation)	12,893,500

100 ha  
GIANT  
BAMBOO  
PLANTATION



# Kawayan tinik

## Production starting with 5-year-old culms

Year	Poles harvested	Cost of harvesting/ pole (P10/pole, increasing)	Selling price/pole	Total gross income
5	100,000	1,000,000	P120/pole	12,000,000
6	100,000	1,000,000	P120/pole	12,000,000
7	120,000	1,200,000	P120/pole	14,400,000
8	120,000	1,200,000	P120/pole	14,400,000
9	120,000	1,200,000	P120/pole	14,400,000
10	140,000	1,400,000	P150/pole	21,000,000



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# Giant Bamboo

## Production starting with 5-year-old culms

Year	Poles harvested	Cost of harvesting/ pole (P10/pole, increasing)	Selling price/pole	Total gross income
5	50,000	500,000	P200/pole	10,000,000
6	50,000	500,000	P200/pole	10,000,000
7	60,000	600,000	P200/pole	12,000.000
8	60,000	600,000	P200/pole	12,000.000
9	60,000	600,000	P200/pole	12,000.000
10	70,000	700,000	P250/pole	17,500,000



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## Cash Flow and Financial Analysis (Kawayan Tinik)

Kawayan Tinik	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-10
	-		-				
Netcashflow	7,762,070	- 1,152,000	1,152,000	- 1,152,000	- 1,152,000	4,248,000	6,048,000
Cumulative net cashflow		- 8,914,070	-10,066,070	-11,218,070	-12,370,070	- 8,122,070	-
							2,074,070
IRR	56%						
NPV	6,290,064						



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# Cash Flow and Financial Analysis Giant Bamboo



Giant Bamboo	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-10
Net cashflow	- 7,133,500	- 1,152,000	-1,152,000	-1,152,000	-1,152,000	5,098,000	5,098,000
cumulative netcashflow		- 8,285,500	- 9,437,500	-10,589,500	-11,741,500	- 6,643,500	- 1,545,500
IRR	53%						
NPV	5,013,890						



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# THANK YOU



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