

Table 1. Cost and return analysis.

Item	Value	Total Value
Revenue		
40,000 potted bamboo @P15/pot		600,000
Production Cost		310,400
Materials 168,000		
Plastic bags (45,000 pcs @ P0.50/pc)	22,500	
Bamboo branches (45,000 pcs @ P2/pc)	90,000	
Organic fertilizer (90 bags @ P60/bag)	5,400	
Temporary nursery (construction materials such as lumber, nails, etc.)	25,000	
Bamboo poles for nursery bed (10 poles @P60/pole)	600	
Shading materials (sarlon cloth)	22,000	
Water system (hose, nozzles, etc.)	2,500	
Labor 124,200		
Soil collection, potting, piling, etc. @ P1.00/bag	45,000	
Maintenance (watering, weeding fertilizer application, etc.)	79,200	
Other Costs 18,200		
Water @ P200/mo	7,200	
Land rent @P2,000/yr	6,000	
Contingencies	10,000	
Net Income 289,600		
Revenue	600,000	
Less: Production and Other Costs	310,400	
Return on Investment 0.93		
Net Income		289,600
Production Cost		310,400

Source: NOMCARRD write-up, 2006.

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Propagation of Giant Bamboo by Branch Cutting



Introduction

Bamboo is a fast-growing and regenerating species. Shortly after planting, annual profits occur without negative environmental effects. It is an ideal non-timber forest product for sustainable development. Bamboo's physical properties are similar or superior to wood. It is probably the first housing material of our forefathers, even those living near the coastlines.

Giant bamboo (*Dendrocalamus asper*) is one of the most commercially important bamboo species in Northern Mindanao. It is the most useful bamboo species being favored for construction, fences, low cost housing and other domestic uses. It is one of the priority species for development having thick, strong and durable walls. It is also a major edible-shoot producing species.

In Northern Mindanao, it thrives in a wide range of elevations from low to 1,500 m altitude. Generally, it grows in any type of soil, but it is best suited in areas within the range of 500–1000 m above sea level with an average annual rainfall of not less than 2,000 mm. Heavy soil with good drainage is also preferable but it thrives best along waterways.

D. asper is a large, densely tufted, sympodial bamboo. Depending on the site quality, its diameter reaches 22 cm in diameter and 30 m in total height with culm internodes of 25–50 cm long. At the base, the culm wall reaches 4.0 cm thick but it tapers to 3.0 cm on the second internode from the ground, further tapers to 1.5 cm on the third internode. The



culm wall thickness is almost uniform from the breast height to 25th internode of about 1.0 cm. For older clumps, the branches of the culm can be found starting from mid-portion or on the 25th node upward. The lower part of a young culm is covered with velvety brown hairs.

Because of the increasing demand for bamboo raw materials by various industries, most of the bamboo stands are now depleted. Planting of bamboo had been promoted and the Department of Environment and Natural Resources (DENR) now considers it as one of the reforestation species that may substitute for timber in many forms.

Procedure

Sources and Collection of Branches

Branches are available throughout the year in existing stands of Giant bamboo. They can be found from about mid to top portion of the culm.

Culms or poles less than two years old do not have well-developed branches while branches of more than 6-year old culms have dry and old roots that make them not ideal for planting. Branches from 3–4 year old culms are the best planting stocks. At least 10 branches can be collected from one culm.

Carefully detach the branch with sharp bolo or handsaw. Each collected branch should have 2–3 nodes, live buds and roots. Observe proper care to preserve the live buds.



Potting and Care of Stocks in the Nursery

Pot the branches immediately after collection in 6" x 8" plastic bags using ordinary garden soil. It is best to mix soil with at least 10% organic fertilizer.

Place the potted stocks under the shade. Coconut fronds or cogon can be used as shading materials if sarlon cloth or other shading materials are not available. To lessen the cost of shading, place the potted stocks under the canopy of trees. Keep the stocks moist and prevent exposure to direct sunlight. Bamboos are sensitive to moisture stress especially during their early stage of growth. Water the potted stocks daily. After 7–10 days, potted stocks will start sprouting. Observe proper care of the stocks in the nursery. If possible, the nursery should be fenced to protect from stray animals.

Weed and fertilize when necessary. Generally, there are no diseases in the nursery. The high mortality is usually attributed to the quality of the planting material and to water stress.

Hardening of Stocks and Preparation for Sale

The potted stocks can be sold after 3–4 months or when they have well-developed roots and shoots. Harden the potted stocks before dispatch or selling by gradual exposure to direct sunlight and reduced watering.

