



BAMBOO NURSERY

Introduction

A nursery is a part of agriculture where baby plants or saplings are grown, propagated and nurtured to be sold out to agricultural farms, gardens and forests. The high yielding variety seeds are sown in a nursery, under favorable conditions to let them grow into saplings so that they can be grown in a large scale in farms and forests. Any nursery must be equipped with the horticulture needs such as high-quality seeds, fertile soil as needed, fertilizers and pesticides, spares and tools, plant and machinery and others so as to operate efficiently. Therefore, to set up a nursery, a lot of factors need to be considered including the location as well as climatic conditions.

Bamboo is a fast growing woody grass which grows in the highland ranges and on mountains. It plays an important role in the protection of water and soil resources. Bamboo has been the prime material in most of the traditional crafts and handicrafts. It plays a very important role in the construction industry as well.

Bamboo Nursery is specialized in growing bamboo to a desired height. These bamboo are grown in germination beds. Sowing of seeds in germination bed should be done during September/ October. Only drill sowing to be done. The seedlings should be pricked out and transplanted in polythene bags, when they are about 7 cm in height, in germination beds. The best results are achieved if pricking out is completed before November end. Pricked out seedling should be watered and weeded regularly. About 2% urea solution may be spread on seedlings.

Market Potential

The global demand for bamboo has been considerably high in the past few decades due to the rapid growth in the construction industry. The Government has also launched a variety of schemes to facilitate the growth of the handicraft industry. Bamboo is widely used in the handicrafts industry and the popularity of hand-made goods has increased over the period. The soaring handicraft sector as well as the construction industry is expected to drive the growth of the demand for bamboo plants. North America has been the highest contributor to the bamboo market, followed by Europe and Asia. The key market players in this industry are Jiangxi Feiyu Industry Co. Ltd., Moso International B.V., Kerala State Bamboo Corporation Ltd., and Shanghai Tenbro Bamboo Textile Co. Ltd and others. The global bamboo market size is expected to reach USD 98.3 billion in 2018 and is expected to grow at a CAGR of 5.0% from 2020 to 2025.

Product Uses

- Fencing, Farming, Scaffolding and Construction
- Furniture
- Fabrics
- Biomass
- Paper And Pulp
- Bamboo Panels And Particle Boards
- Edible Bamboo Shoots
- Handicrafts

Assumptions

Model DPR has been prepared based on following assumptions:

- Land: 1 acre area has been taken for plantation, which is taken as own land. Area of land has been taken based on the level of operation.
- Division of area: Proposed area for nursery raising (i.e., the germination bed) is 9077.50 sq. ft. and for storing the raised seeds (i.e., the storage beds) is 27232.50 sq. ft.
- Power: Consumption of power is more or less negligible, so DG Set of 20 KVA is required.
- Land Development Cost: Land development cost includes the following-
 - a) Fertilizers and Pesticides
 - b) Boundary Bamboo Fencing (134 ft.* 268 ft.)
 - c) Cost of Developing Germination Bed and Storage Bed (40000 sq. ft.)
 - d) Tilling of Land by engaging motorised farm equipment on hire basis
- Civil works and Buildings: Civil works and Building cost include the following-
 - a) Office area/ chambers
 - b) Equipment storage area
 - c) Water Channels
 - d) Paths
 - e) Residential accommodation for Nursery Guard
 - f) Tent and straw cover/ shed
 - g) Water Connection for Nursery field
 - h) Water Storage Tank
- Preliminary and Preoperative period is taken as 6 months.
- Repayment of Term Loan and Interest thereon: The principal amount has been repaid half-yearly and the interest component has been paid quarterly.
- Working Capital: Working capital is in the form of KCC and interest on the same has been charged quarterly.

Cost of Project

Particulars	Amount (Rs. in lakhs)
Owned Land (1 acre)	0.00
Civil Works and Building	49.35
Land Development Cost (Annexure)	5.68
Miscellaneous Fixed Assets	1.35
DG Set	1.50
Escalation & Contingencies (2%)	1.16
Preliminary & Preoperative Expenses	7.45
Sub-total (A)	66.49
Working Capital Margin @25% of Total WC Requirement	1.25
Total Project Cost	67.74
Total Working Capital Requirement (Lump sum) (B)	5.00
MEANS OF FINANCE	
Total Funds Required (A+B)	71.49
<u>Loan Component-</u>	
TERM LOAN (60% of A)	39.90
WORKING CAPITAL (75% of B)	3.75
Total	43.65
Equity	27.85
Total	71.49

Detailed Cost Element

Sl. no.	Particulars	Amount (Rs. in Lakhs)
1	Fertilizers and Pesticides	0.10
2	Boundary Bamboo Fencing {(134 ft* 268 ft}@60}	0.48
3	Cost of Developing Germination Bed and Storage Bed (40000 sq. ft.)	4.80
4	Tilling of Land by engaging motorized farm equipment on hire basis	0.30
	Total	5.68

Contingencies and Escalations

It has been assumed at approximately 2% at cost.

Preliminary Expenses

Particulars	Amount (Rs. in Lakhs)
Incorporation Expenses	0.05
Project Report Preparation and Consultation	0.50
Legal Charges - Drafting for agreements, contracts, stamp paper, notary and affidavit cost	0.05
Other recurring expenses of revenue nature up to start of commercial production - Security Guard & Others salary	5.79
Interest Cost for period before commercial operations	1.06
Total	7.45

Salary

Designation	Manpower	Amount (Rs. in Lakhs)
Agricultural Technician	1	2.52
Skilled Workers	2	2.16
Workers (Contract Basis)	5	2.25
Security Guard	2	2.40

Profitability Statement

Particulars	Amount (Rs. in lakhs)				
	Year- 1	Year- 2	Year- 3	Year- 4	Year- 5
<u>A. INCOME</u>					
Production During the year	73500	77175	81034	85085	89340
Annual Turnover	34.55	37.00	38.85	40.79	42.83
Total income during the year	34.55	37.00	38.85	40.79	42.83
<u>B. OPERATING EXPENSES</u>					
Raw Material	1.15	1.27	1.39	1.53	1.68
Salary	9.33	9.52	9.71	9.90	10.10
Repair & Maintenance	0.69	0.74	0.78	0.82	0.86
Power & utilities	0.47	0.47	0.48	0.49	0.50
Depreciation and Amortization	3.71	3.71	3.71	3.54	3.54
Total Operating Expenses	15.35	15.71	16.07	16.28	16.68
Operating Profit (A-B)	19.20	21.29	22.78	24.51	26.15
<u>C. FINANCIAL EXPENSES</u>					
Interest on loan	3.27	2.79	2.30	1.82	1.33
Interest on working capital loan	0.32	0.32	0.32	0.32	0.32
<u>D. OTHER EXPENSES</u>					
Administrative and general Expenses	0.69	0.74	0.78	0.82	0.86
Total Expenses	4.28	3.84	3.40	2.95	2.51
Profit Before Tax	14.92	17.44	19.38	21.56	23.64
Provision for Tax	3.73	4.36	4.84	5.39	5.91
Profit after Tax (PAT)	11.19	13.08	14.53	16.17	17.73
Dividend Declared	0.00	0.00	0.00	0.00	0.00
Retained Profit	11.19	13.08	14.53	16.17	17.73

Breakeven Point

Break Even Point (BEP)		Amount (Rs. In Lakhs)				
SL	Particulars	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5
A.	Net Sales	34.55	37.00	38.85	40.79	42.83
B.	Variable Cost					
	Raw Material	1.15	1.27	1.39	1.53	1.68
	Power and Utility	0.47	0.47	0.48	0.49	0.50
	Total Variable Cost	1.62	1.74	1.88	2.02	2.19
C.	Contribution (A-B)	32.93	35.26	36.97	38.77	40.64
D.	Fixed and Semi-Fixed Cost					
	Salary	9.33	9.52	9.71	9.90	10.10
	Repair & Maintenance	0.69	0.74	0.78	0.82	0.86
	Interest on term Loan	3.27	2.79	2.30	1.82	1.33
	Interest on WC Loan	0.32	0.32	0.32	0.32	0.32
	Depreciation & Amortization	3.71	3.71	3.71	3.54	3.54
	Total Fixed Cost	17.32	17.07	16.82	16.39	16.14
E.	Breakeven Point	53%	48%	45%	42%	40%
F.	Cash BEP	41%	38%	35%	33%	31%

Debt-Service Coverage Ratio

		Amount (Rs. In lakhs)				
SL	Particulars	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5
i	Profit	11.19	13.08	14.53	16.17	17.73
ii	Depreciation	3.71	3.71	3.71	3.54	3.54
iii	Interest	3.27	2.79	2.30	1.82	1.33
A	Total (i + ii + iii)	18.17	19.58	20.55	21.52	22.60
i	Interest	3.27	2.79	2.30	1.82	1.33
ii	Principal repayment	5.70	5.70	5.70	5.70	5.70
B	Total (i + ii)	8.97	8.48	8.00	7.52	7.03
	DSCR (A / B)	2.03	2.31	2.57	2.86	3.21

Interest on Term Loan and Principal Repayment

Refer Annexure I for Loan Repayment Schedule.

We have assumed the repayment tenure of term loan for a period of 5 years, Rate of interest being 8.5% p.a. with the moratorium period of 16 months.

Address of Vendors

Name of the Vendor	Address and Contact Number
Sri Sai Forestry	Chickballapur, Bengaluru, Karnataka Ph No.: 9036471686
Venus Agro Shed Net	Pardi, Valsad, Gujarat Ph No.: 98259 16593
Harison Generators Private Limited	Patiala, Punjab Ph No.: 18002740500

ANNEXURE - 1

Year	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Annually
I													
Principal													
Opening	39.90	39.90	39.90	39.90	39.90	39.90	37.05	37.05	37.05	37.05	37.05	37.05	
Repaid						2.85							5.70
Closing	39.90	39.90	39.90	39.90	39.90	37.05	37.05	37.05	37.05	37.05	37.05	34.20	
Interest			0.85			0.85			0.79			0.79	3.27
II													
Principal													
Opening	34.20	34.20	34.20	34.20	34.20	34.20	31.35	31.35	31.35	31.35	31.35	31.35	
Repaid						2.85							5.70
Closing	34.20	34.20	34.20	34.20	34.20	31.35	31.35	31.35	31.35	31.35	31.35	28.50	
Interest			0.73			0.73			0.67			0.67	2.79
III													
Principal													
Opening	28.50	28.50	28.50	28.50	28.50	28.50	25.65	25.65	25.65	25.65	25.65	25.65	
Repaid						2.85							5.70
Closing	28.50	28.50	28.50	28.50	28.50	25.65	25.65	25.65	25.65	25.65	25.65	22.80	
Interest			0.61			0.61			0.54			0.54	2.30
IV													
Principal													
Opening	22.80	22.80	22.80	22.80	22.80	22.80	19.95	19.95	19.95	19.95	19.95	19.95	
Repaid						2.85							5.70
Closing	22.80	22.80	22.80	22.80	22.80	19.95	19.95	19.95	19.95	19.95	19.95	17.10	
Interest			0.48			0.48			0.42			0.42	1.82
V													
Principal													
Opening	17.10	17.10	17.10	17.10	17.10	17.10	14.25	14.25	14.25	14.25	14.25	14.25	
Repaid						2.85							5.70
Closing	17.10	17.10	17.10	17.10	17.10	14.25	14.25	14.25	14.25	14.25	14.25	11.40	
Interest			0.36			0.36			0.30			0.30	1.33
VI													
Principal													
Opening	11.40	11.40	11.40	11.40	11.40	11.40	8.55	8.55	8.55	8.55	8.55	8.55	
Repaid						2.85							5.70
Closing	11.40	11.40	11.40	11.40	11.40	8.55	8.55	8.55	8.55	8.55	8.55	5.70	
Interest			0.24			0.24			0.18			0.18	0.85
VII													
Principal													
Opening	5.70	5.70	5.70	5.70	5.70	5.70	2.85	2.85	2.85	2.85	2.85	2.85	
Repaid						2.85							5.70
Closing	5.70	5.70	5.70	5.70	5.70	2.85	2.85	2.85	2.85	2.85	2.85	-0.00	
Interest			0.12			0.12			0.06			0.06	0.36