Establishing coconut neera unit –Project Report

Neera

The vascular sap collected from immature unopened coconut inflorescence is popularly known as “Neera” in fresh form. It is a sugar containing juice and is a delicious health drink and a rich source of sugars, minerals and vitamins. It is sweet and oyster white in colour and translucent. It is tapped from the coconut inflorescence and is filtered, pasteurized, and bio preservatives added to preserve the product. Treated Neera can be preserved in cans upto two months at room temperature. It can also be packed in tetra packs or glass bottles. Tapping can be done for six months in an year.

Uses of Neera :

Neera is popular as a delicious health drink. It is good for digestion, facilitates clear urination and prevents jaundice. The nutrient-rich "sap" has low Glycemic Index (GI of only 35) and hence diabetic-friendly since very low amounts of the sugar is absorbed into the blood. It is an abundant source of minerals, 17 amino acids, vitamin C, broad-spectrum B vitamins, and has a nearly neutral pH. Coconut crystals can be made out of this pure, low glycemic natural sap. While most brown sugar is boiled at temperatures up to 221 degrees F with the end product containing 93% sucrose, sap crystals contain only 0.5% glucose, 1.5% fructose, 16% sucrose and 82% inulin - a prebiotic that promotes digestive health. It can be used as an ideal sweetener. Neera fetches much better returns compared to copra.

Coconut Development Board has developed the technology for neera processing. Interested entrepreneurs can adopt the technology and establish neera units. A brief of the project summary is given below.

Project Summary

The proposed unit is for. the production of 10000 litres of coconut neera per day.The total capital investment cost of the project is Rs.348.25 lakhs, the details of which are given below:

CAPITAL INVESTMENT COST OF THE PROJECT

	(Rs. in lakhs)
Land (on lease)	-50 cents -
Building -14000 sq ft	100.00
Plant and Machinery	170.00
Electrification & Installation	10.00
Lab Equipments	5.00
Technical know-how	1.00
Furniture and Office equipments	5.00
Preliminary & Pre-operative expenses	10.00
Working Capital Margin	47.25
Total	348.25 lakhs

MODE OF FINANCING

a) Equity by Promoters	Rs. 70.25 lakhs
b) Long Term Loan from financial institutions	Rs. 278.00 lakhs
Total	Rs.348.25 lakhs

Capital investment cost of the project

Projected working results of the project throws light on its viability. Sales realization from third year onwards when the plant capacity attains 60%, is Rs.22.5 crores. Gross profit during the 5th year of operation is Rs.344.21 lakhs and net profit, Rs.192.59 lakhs. Gross profit on sales is 13.11% and net profit on sales is 7.34 %. Pay back period for the project is 5 years. Internal rate of return for the project is 29 % and return on capital employed during the 5th year of the project is 42.61 %.The Project breaks even at 26%. Debt service coverage ratio during the first five years averages to 2.01.

The Project

This project proposal envisages the establishment of a coconut neera unit for the production of 10000 litres of coconut neera per day.

Assumptions

Cost to the farmer	-	Rs 50 per litre
Cost to the tapper	-	Rs 25 per litre
Transportation cost	-	Rs 0.50 per litre
Cost of Raw neera at site	-	Rs 75.5 per litre
Total working days	-	300 days
Yield of neera	-	1 litre per inflorescence per palm per day
No of Palms	-	5000 palms
No of inflorescence tapped at a time	-	2 nos

Assumptions

Land

The land requirement for the project would be about 40-50 cents

Building

In the first year of operation the unit works at 50% of its capacity, during third year 60% of its capacity and from fifth year onwards it attains a capacity of 70%. The unit will be working for 300 days in a year and duration of single shift is 8 hours.

Process Area	5000 sq ft
Storage Area	5000 sq ft
Utility Area	2500 sq ft
Laboratory	500 sq ft
Office Area	500 sq ft
Workers Amenity Area	500 sq ft
Total Area	14000 sq ft

Machinery

1.	Tapping Devices and other items	-	500 sets
2.	10 litre Collection vessels (Plastic cans)	-	10000 nos
3.	1000 litre Chillers to be provided at Collection Centres	-	10 nos
4.	500 litre specially designed insulated boxes for transporting neera from farm site to processing centre	-	20 nos
5.	2000 litre insulated storage tank	-	5 nos
6.	Refrigerator -420 litre	-	15 nos
7.	Industrial Centrifuge -10000 rpm	-	10 nos
8.	500 litre Mixing tank with stirrer	-	10 no
9.	Volumetric filling machine	-	3 nos
10.	Batch coding machine	-	2 nos
11.	Cap Sealing machine for PP bottle	-	5 nos
12	Open Bronze cooking Vessel 25 lt capacity	-	2 nos
13.	Wooden ladle and scraping devices	-	4 nos
14	Batch type Pasteurization unit 1000 litre capacity	-	3 nos
15	Refractometer	-	10 nos
16	Thermometer -0-200 deg C	-	10 nos
17	Ph meter	-	05 nos
	Total Cost	-	170 lakhs

Raw material requirement and cost of raw material

At the rate of 10000 litres per day, the annual requirement of raw material would be 30 lakh litres of freshly tapped coconut neera . The cost of raw material along with incidentals such as transportation, loading and unloading at the plant cite, taxes etc., would work out to Rs. 1386 lakhs at 70% capacity utilization stage. As far as possible raw material shall be procured from Coconut Producer Federations by making advance arrangements.

Manpower requirements for the project

Project Manager	-Rs 25000
Plant Supervisor-1 no	-Rs 15000
Analyst—1 no	-Rs 10000
Machine Operator-5 nos	-Rs 50000
Office Assistant-1 no	-Rs 10000
Sales Assistant-1 no	-Rs 10000

Power and fuel:

Power and fuel

Total connected load will be 85 H.P. On this basis daily requirement of electrical energy will be 64 units per hour. At the rate of Rs.7 per unit and cost of fuel at Rs.12 lakh per year, annual expenditure on this item would be Rs.22 lakhs at 70% capacity utilization.

Water

Requirement of water for the unit would be around 40 kilo litres per day. At the rate of Rs.8 per kilo litre the expenditure on this item is estimated at Rs. 0.25 lakh per year at 70% capacity utilization.

Additives

Additive required is preservatives/anti fermenting agent/deodorizing agent and expenditure to be incurred on this account is Rs.26 lakhs at 70% capacity utilization.

Factory Overheads

Factory overheads include expenses on repairs and maintenance, stores and spares and plant sanitation. An annual provision of 1 % of cost of plant and machinery is made for this item and would be Rs. 4.0 lakhs at 70% capacity utilization.

Depreciation

Depreciation is calculated by straight line method. Rate of depreciation adopted is 10% for technical know-how and plant & machinery and 5% for other type of assets such as building, compound wall, roads and furniture, office equipments. Depreciation works out to Rs.22 lakhs.

Output, pricing of the end product and sales realisation

The recovery rate taken for coconut is@ 1.0 litre per inflorescence per palm per day. Packed coconut neera is priced at Rs.25 per 200 g pack.

On the above basis the output and sales realisation has been worked out and is presented below:

Output of products and Sales Realisation(5th year of operation)

Product	Quantity	Value(Rs.in lakhs)
Coconut Neera (kilo litres)	2100.00	2625
	Total	2100 lakhs

Sales Realisation during the fifth year when the plant works at 70% of its capacity is Rs.26.25 crores.

Sales expenses

Sales expenses is a major item involving expenditure on advertisement through the electronic and print media, promotional efforts to boost export of the product and to promote their brand of products in different markets within India and outside. Another item of expenditure relating to export sales is the expenses incurred towards container cost, freight and insurance. Sales promotion, sales expenses and export sales

would work to Rs.100 lakhs during the 5th year of the project when the project works at 70% of its capacity. It works out to around 5 % of the sales realisation.

Demand for the products and its marketing

Coconut neera already enjoys an excellent market potential in countries like Sri lanka, Myanmar, Thailand, Philippines and other pacific countries. Coconut neera, if introduced in India is bound to create a huge market potential as a health drink and as a base for manufacturing of value added coconut products like jaggery, concentrated syrup, sugar, honey etc which has wide export potential in USA, Europe and African countries

Working capital requirement

During the first year of operation when the plant works at 50% of its capacity, working capital requirement is Rs. 224 lakhs. Of this 25% amounting to Rs 56 lakhs is raised as margin money by the promoters and balance Rs.168 lakhs is met from short term borrowings. Rate of Interest applied for short term borrowings is 14.5%. Working capital requirement for the subsequent year is met from internal resources accrued in the project.

Long term loan

Project has to raise Rs 278 lakhs as Long Term Loan from financial institutions for meeting part of investment in fixed assets. This could be repaid in five annual installments of Rs.55.6 lakhs right from the 1st year of operation of the project. By the 5th year entire long term loan of Rs.278 lakhs can be completely repaid. Rate of Interest applied for long term loan is 12.5%.

In this project value addition obtained by fresh coconut sap to neera is quite significant. The product is bound to have a high market potential in the coming years. Sales Realisation from third year onwards when the plant capacity attains 60% is Rs.22.5 crores. Gross profit during the 5th year of operation is Rs.344.21 lakhs and the net profit is Rs.192.59 lakhs. Gross profit on sales is 13.11% and net profit on sales is 7.34 %. Pay back period for the project is 5 years. Internal rate of return for the project is 29% and return on capital employed during the 5th year of the project is 42.61 %. The Project breaks even at 26%. Debt service coverage ratio during the first five years averages to 2.01 All the above indicators support the viability of the project.