Palakkad Coconut Producer Company Limited (PCPCL) – Proposal for setting up of Neera plant at Muthalamada, Palakkad, Kerala

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Executive Summary

Project	**Building new Neera plant at Palakkad**
Main product	**Packed Neera – 200/300/500/1000 ml packs**
By product	**Palm sugar, Palm Jaggery**
Target Market	**Domestic retail consumers, Government Institutions, Export market**
Capacity	**10,000 ltr per day Neera processing**
Project CAPEX	**INR 33,800,000 (Indian Rupees Three Crores Thirty Eight lakhs)**
Working Capital needs	**INR 21,000,000 (Indian Rupees Two Crores Ten Lakhs)**
Product Development Expenses for 1 year	**INR 7,000,000 (Indian Rupees Seventy Lakhs)**
Expected EBIDT	**~INR 1.2 cr per annum**

1 Introduction

Palakkad Coconut Producer Company Limited (PCPCL) is a company formed by coconut farmer federations of the district. Established in 26th June 2013, the company strives to encourage coconut farmers to move towards value added coconut products, thus supporting in the endeavor of realizing consistent and higher income for the farmers. Now PCPCL is operating 40000 nuts per day capacity modern coconut drier at Muthalamada, Palakkad.

With Neera proposed to be the game changer for coconut farmers, PCPCL intends to put up a Neera plant at Muthalamada in Palakkad. Kerala Govt had issued orders permitting tapping and sales of Neera product, further clarity of compliance and taxation are awaited.

2 Intended readership

This document is intended for officials of Kerala State Financial Corporation, CDB and other relevant Govt officials who would be stakeholders in the project approval and execution process.

3 Potential of Neera

Neera is the sweet, oyster white coloured sap tapped from the immature inflorescence of coconut. It is a sugar containing delicious health drink, a rich source of sugars, minerals and vitamins. It contains substantial amounts of iron, phosphorus and ascorbic acid. The high nutritive value of Neera makes it an excellent health drink. It is wholesome, cool and good for improving the general health. It can be given as a supplement for iron and vitamin deficiency. Clinical studies indicate medical applications for asthma, tuberculosis, bronchial suffocation and piles. It is believed to facilitate clear urination and prevent jaundice. Neera contains high amount of glutamic acid which is the amino acid used by the body to build proteins. It is high in inositol which is beneficial for the treatment of eye abnormalities, eczema etc. The most significant characteristic of the product is **its low Glycemic Index (GI is 35),** an indicator of the extent of sugar absorbed into the blood.

Palm Jaggery, by product proposed to be extracted from Neera, possess high medicinal properties and is widely used for Ayurvedic preparations. Palm sugar, with its low GI, is expected to cater to the needs of diabetic patients.

4 SWOT analysis – Neera Production & Marketing

Strengths	Weakness
➢ Market hype ➢ Support from Govt.	➢ Unavailability of successful Neera production and marketing models ➢ Ambiguity in regulatory compliance needs ➢ Lack of funding support for farmer federations
Opportunities	**Threats**
➢ Health benefits of Neera ➢ Market shift towards natural food products ➢ Consistent & attractive income for farmers ➢ Potential contributor to GSDP	➢ Food safety ➢ Opposition from Toddy industry ➢ Threat from soft drinks majors ➢ Fund dry out

5 Neera Business model

A typical palm can be tapped for 6 months per year. Average yield is expected to be in the range of 2-4 ltr per day. The proposed plant @ Palakkad is planned for a capacity of 10000 ltr per day. Considering 2.5 ltr per day of average yield, 4000 palms are estimated to be tapped at a given point. Rs 500 per palm (yielding 2.5 ltr per day) per month are proposed as remuneration for the farmer as the basic payment along with a share in the profits.

To begin with, PCPCL would employ tappers and manage tapping from palms. This is to ensure consistent supply of Neera for production. Quantity and quality of Neera tapped from each household would be measured and payment to the farmers will be made accordingly. Going forward, the model of paying farmers based on supply of Neera based on the quality parameters (alcohol content, water content etc.) would have to be looked into. This would shift the responsibility of tapping to the hands of farmers.

The plant would be operated & managed by industry professionals. Considering 75% conversion of Neera to final product, plant output is pegged at 7500 ltr per day. 300 ml paper pouches are planned for the moment, 500 ml and 1 ltr packs can be looked into in future. 300 ml pouch is proposed to be priced at Rs 25 (MRP). By products like Palm sugar and Jaggery are planned to be produced from the waste pulp. These could be packed in 100, 250, 500, 1000 gram sachets.

6 Product R&D

The proposed plant is based on the technology developed by Defense Food Research Laboratories (DFRL). A plant using this technology is already put up at Mangalore, Karnataka. In order to ensure market sustainability, it is imperative that multiple product variants are introduced in the market at periodic intervals. Options of fruit flavours, Nutrient stimulus & Carbonation exist for Neera. Value products like syrups, jams ice creams etc. are feasible. A full-fledged laboratory to cater to product quality testing and R&D is proposed along with the plant facility.

7 Neera production

Tapped Neera would be filtered for removing foreign particles, further chilled and stored at refrigerated conditions. Centrifuging process is followed to separate water, pollens and other residues from Neera. Pasteurisation (the process of heating at higher temperatures and immediate cooling) removes bacterial presence and ensures longer shelf life. Bio preservatives would be added. The packed Neera can assure a shelf life of 3-4 months in room temperature and over an year in refrigerated conditions.

8 Go To Market (GTM) models

Exclusive kiosks for selling Neera, Palm sugar, Palm Jaggery and other coconut value added products like tender Coconut water, Coconut oil etc. are proposed to be set up at various points like bus stops, railway stations, stadiums, parks, convention centers etc.

Govt and semi Govt agencies are expected to be one of the major target market. Being a natural product aiding to the farm economy, it's expected that all Govt and semi Govt events use Neera as a standard drink. Further meetings, rallies and other functions conducted by political parties and NGOs can be a major consumption point. Given the reservations that these Organisations have towards MNC products, Neera holds promise to become the viable alternate.

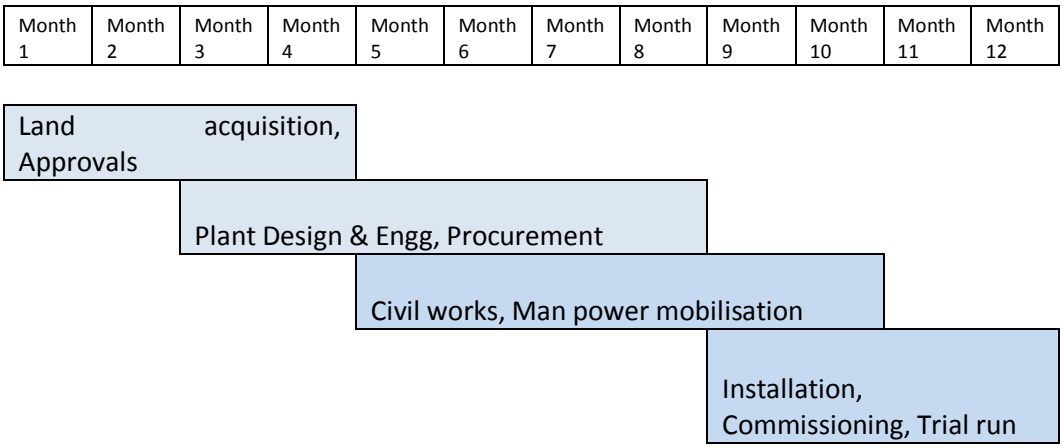
NGO and Self Help groups like Kudumbashree could be brought in for direct consumer sales of Neera and by products. Refrigerated vehicles (in line with ice cream vehicles) can be used.

Direct sales through retail outlets via distribution agencies are not preferred in the long run given the domination of few companies in the market place and the coercive strategies that they are notorious for.

9 Proposed Plant @ Palakkad

Neera processing capacity	-	10000 ltr per day
Expected Neera production	-	7500 ltr per day
By products	-	Palm sugar, Palm Jaggery
No. of lines	-	2 centrifuge lines with common pasteurization and packaging
Major sub units	-	Laboratory, Effluent treatment plant, Generator, Cold store

10 Project Time lines



11 Cost components

The indicative cost estimates for the project is provided below. Detailed break ups of major items are covered in the appendices.

All cost items are in Indian Rupees

Item	Details	CAPEX	Product Development	OPEX	TOTAL
New Neera plant		33,800,000			**33,800,000**
Branding, Advertising & Marketing (for 1 year)	Package design, Media, Campaigns, Workshops, Exhibitions etc.		4,000,000		**4,000,000**
Research & Development (for 1 year)	New product variants, By products, Shelf life, Process changes etc.		3,000,000		**3,000,000**
Working capital needs	Considering 3 month expenses as cash deficit			21,000,000	**21,000,000**
GRAND TOTAL		**33,800,000**	**7,000,000**	**21,000,000**	**61,800,000**

3 month operational expenses are been considered as working capital considering collection period of 60-70 days.

Annexure 1 - Capital cost for building new plant

Sr No	Item	Specifications	Quantity	Unit	Unit cost	Total cost	Remarks
1	Civil works	Concrete structure, Plant, Packaging unit, Laboratory, Cold store, Effluent treatment	5000	sq ft	1,000	5,000,000	Two production lines
2	Cold storage	30000 ltr, 4-10 deg	1	No.s	1,500,000	1,500,000	For storage of tapped Neera
3	Filter	Micro filter	2	No.s	200,000	400,000	For filtering freshly tapped Neera
4	Storage tanks for fresh tapped Neera	5000 ltr	2	No.s	200,000	400,000	
5	Quick chiller	2500 ltr, 4 deg	2	No.s	400,000	800,000	For chilling freshly tapped Neera
6	Centrifuges	500 lph, 10-12000 rpm	3	No.s	800,000	2,400,000	
7	Interim storage tank	10000 ltr	2	No.s	300,000	600,000	Storage after centrifuges
8	In line Pasteurisation unit	1000 lph, 150 deg	1	No.s	2,000,000	2,000,000	For pasteurising filtered Neera
9	Packing Machine	5000 packets per hour, 250/500 ml, Pouch packets with cap	1	No.s	4,000,000	4,000,000	Considering 30-40,000 packets per day
10	Secondary packing machine	300 cartons per hour, 12/24 pouch cartons	1	No.s	1,000,000	1,000,000	
11	Palm sugar production unit	2000 ltr	1	No.s	1,000,000	1,000,000	By product
12	Palm Jaggery production unit	2000 ltr	1	No.s	1,000,000	1,000,000	By product
13	Measurement instruments	Water/Alcohol content	20	Lot	10,000	200,000	For measuring tapped Neera quantity and quality
14	Refrigerated Vehicle	1-2,000 ltr capacity, 4-10 deg	2	No.s	500,000	1,000,000	
15	Refrigerated boxes	10-20 ltr range	200	No.s	5,000	1000000	For house hold collection
16	Laboratory Equipment	Miniature plant, Test equipment	1	lot	2,000,000	2000000	
17	Pumps, Piping, Valves	Centrifuge parallel operation, Automated packaging, Storage tank to centrifuge	1	1No	1,000,000	1,000,000	
18	Diesel Generator	250 KVA	1	No.s	2,000,000	2,000,000	Power back up

Sr No	Item	Specifications	Quantity	Unit	Unit cost	Total cost	Remarks
19	Effluent treatment plant	2000 lpd	1	No.s	2,000,000	2,000,000	
20	Installation, Labour		1	Lot	1,000,000	1,000,000	
21	Design Consulting services	Plant architecture, Detailed Engg	1	Lot	1,500,000	1,500,000	
22	Project supervision, Administration		1	Lot	1,000,000	1,000,000	
23	Miscellaneous		1	Lot	1,000,000	1,000,000	
	TOTAL					**33,800,000**	

Land cost not included

Annexure 2 – Plant operational expenses per month

Sr No	Working capital cost components	Quantity	Unit	Unit cost	Total cost	Remarks
1	Wages for tappers	160	No.	12000	1,920,000	
2	Wages to operators & Technicians	15	No.	15000	225,000	
3	Wages to Manager	3	No.	30000	90,000	
4	Wages to plant head	1	No.	75000	75,000	
5	Wages for Lab technicians	3	No.	20000	60,000	
6	Lease amount to farmers for palms	4000	No.	500	2,000,000	Considering tapping of 4000 palms @ 2.5 ltrs per palm per day
7	Packing material	625000	No.	2.5	1,562,500	Considering 25000 packets per day and 25 productive days
8	Preservatives & Nutrients	625000	No.	0.5	312,500	
9	Power and fuel	1	Lot	200000	200,000	
10	Transporting charge of raw material /month	1	Lot	200000	200,000	
11	Water bill	1	Lot	100000	100,000	
12	Maintenance & Repair	1	Lot	150000	150,000	
13	Sales & Marketing	1	Lot	300000	300,000	
14	Factory overheads	1	Lot	344750	344,750	Considered as 5% of Total expenses
15	Administrative expenses	1	Lot	344750	344,750	Considered as 5% of Total expenses
16	Miscellaneous expenses	1	Lot	344750	344,750	Considered as 5% of Total expenses
	Total				**8,229,250**	

Monthly cash outflow expected **7,000,000**

Working Capital needs @ 3 months cash outflow **21,000,000**

Annexure 3 – Profit & Loss (P&L) Statement

Parameter	Quantity	Unit
Plant capacity	10000	lpd
Conversion of Neera to final product	75%	
Production	7500	lpd
Expected by product conversion	25%	
By product production	625	lpd
Expected sales (as % of production)	90%	
Expected rejection	10%	
Sales cost & taxes	30%	
Depreciation	12%	
Debt	50,000,000	IRS
Interest rate	10%	

Product	Productive working days per month	Daily production (packets per day)	Quantity per packet	Price in Rs	Revenue per day
Neera	25	22500	300 ml	25	506,250
By product	25	563	1 kg	400	22,500

Monthly P&L

Sales revenue per month from Neera	12,656,250
Sales revenue per month for by product	562,500
Total sales revenue per month	13,218,750
Sales cost & taxes	3,965,625
Sales realisation per month	9,253,125
Monthly expenses	8,229,250
EBIDT per month	**1,023,875**
Depreciation	338,000
Interest	416,667
PBT per month	**269,208**