

Project Profile On Desiccated Coconut Powder



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Introduction

India is the third largest coconut producing country in the world. As per the survey reports conducted by coconut development board in 2013-14 the annual production of coconut in Kerala is 5798.04 million nuts and the state has become the 3rd largest coconut producing state in the country. In Kerala about 60% of the coconuts are used for the manufacturing of oil and the rest for the preparation of food. Copra and coconut oil are the two major products of the coconut processing industry. Nearly 60% of the total production of nuts is utilized for food uses and the rest goes in for oil extraction. In spite of the fact that Kerala has the necessary raw material to launch new product lines, minimum efforts has been taken place for producing more value added products like coconut chips. Coconut vinegar, desiccated coconut powdered has taken place in the application of modern technology for full utilization of various coconut products such as desiccated coconut, coconut cream powder, partially defatted coconut gratings, bottled coconut water, etc., Desiccated coconut is widely used in the preparation of sweets, confectionery, curry preparation etc. At present about 4000 tones of desiccated coconut is produced annually. The main concentration of units producing desiccated coconut is in Kerala, Tamil Nadu, Andhra Pradesh, Karnataka, Orissa and Maharashtra. Desiccated coconut is not only a value added

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product but it being a labor intensive industry will also generate a large number of employment opportunities.

Market Potential

Being a mass consumption item, desiccated coconut has a good market. At present about 4000 tones of desiccated coconut is manufactured annually and used mainly by confectionery and biscuit industry. In Kerala coconut is the major ingredient used in the preparation of Breakfast lunch and Dinner. In the preparation of curries coconut paste is usually added. Instead of that desiccated coconut powder may be added. Desiccated coconut may find good market in areas where coconuts are not produced particularly in Northern India. Now-a-days food habits of our people are changing very fast and a number of food items are being introduced every day where desiccated coconut may also find use. So there is a good scope for new small scale units to come up in this line of manufacture.

Basis and Presumptions

The Project Profile is based on the following presumptions:

- (i) Working hours/shift : 8 hrs
- (ii) No. of shift/day : 1
- iii) Working days : 300
- iv) Labor charges : As per State Government's Minimum Wages Act.
- v) Rate of interest : 15%
- vi) Value of machinery and equipments : Taken on the basis of a particular supplier
- vii) Value of raw material : As per local market Packing material/others rate (on whole sale rate)
- viii) Land : owned
- ix) Building Construction charge : @Rs. 2000 per sqft
- x) Break-even Point Calculated on full capacity utilization basis
- (xi) Pay-back period 7 years

Implementation Schedule

The project implementation schedule

- (i) Project preparation 0-1 month
- (ii) Site selection, acquisition of 1-2 months land and land development
- (iii) Sanction of loan 1-3 months
- (iv) Construction of building 3-4 months (v) Sanction of electric power, water 4-5 months vi) Procurement of Machinery 5-6 months and Equipments
- (vii) Electrification & installation 6-7 months
- (viii) Recruitment of staff and labour 7-8 months
- (ix) Trial run 8-10 months
- (x) Commercial production 10-11 months

The project could yield result by the end of the 12th month.

Government Policy

Being a food processing unit it will be eligible to get 25-to30% subsidy on the total fixed capital investment under ESS Scheme and 15-35% subsidy on the total project cost under PMEGP Scheme.

Technical Aspects

Process of Manufacture First step in the manufacture of desiccated coconut is the selection of coconuts. The quality of desiccated coconut depends upon the quality of coconuts used. Fully matured coconuts of about 12 months are used for the preparation of desiccated coconut. Fully matured nuts are stored with the husk for about one month so that the water inside the kernels is absorbed. This also facilitates coconut kernels to get separated from shell walls. The coconuts are dehusked and their shells are removed. The brown portion of nuts called tasta is removed by scrapping it off. About 10-15% of the kernel goes as paring by this process. These parings can be pressed out after drying to get oil which can be used for soap making. Deshelled coconuts are broken into pieces, washed properly and disintegrated into powders of various grades. The powder is then dried in a drier by spreading it out uniformly in trays. The temperature in the drying chamber is maintained at about 180O F and the powder is stirred occasionally during the drying process to ensure uniform drying. Great care should be taken during drying. When powder is dried, it is cooled and passed through a vibratory screen having different sizes (12, 14 and 16 mesh). The segregated material is packed in oil proof, moisture proof polythene lined plywood boxes of 25 kgs. It may also be packed in polybags of 250 gms, 500 gms for retail sale. During the process of manufacturing desiccated coconut, a number of byproducts such as coconut shell, parings, and husks are obtained which may be converted into various items of great importance. It has been worked out that 100 kgs of desiccated coconut is obtained from 1000 coconuts.

Quality Control and Standards

The unit should obtain licence under the Food Safety and Standards Authority of India.

Pollution Control

The main effluent produced in the process of desiccated coconut is the after wash water having dissolved solids and coconut oil. The level of dissolved solids and oil is not significant and the effluent water could be safely used for irrigation purpose or drained out after trapping solids and oils. The water having detergent used for cleaning equipments should be disposed off separately. Proper disposal facility should be made available for dumping refuse and perishable spoiled products and a separate pit constructed for this purpose. Proper hygiene and sanitation will ensure environment free of pollution. However, a no objection certificate is required to be obtained from State Pollution Control Board and care should be taken to control pollution Energy Conservation Electrical energy is the main energy source in the process of desiccated coconut manufacturing. Efforts should be made to keep power load at the minimum at a time. Capacitors should be fitted for motors to keep power factor to its maximum.

Improved designs of tube light with electronic choke should be fitted for lighting purposes for getting efficient light with less electric energy consumption. Factory shed should be constructed in such a way that natural light could be utilized, optimum temp. should be maintained in the drying chamber to get desired product with less energy. Proper maintenance of electrical equipments and machinery will further ensure energy conservation. Proper monitoring should be done in the operation of machinery and equipment particularly drier and when not required, it should be switched off.

The financial aspects are detailed below.

| FINANCIAL ASPECTS | | |
|--------------------------|------------------------------------|---------------|
| A | FIXED CAPITAL | |
| i) | Land and Building | |
| Sl.No | Particulars | Amount(in Rs) |
| 1 | Land | Owned |
| 2 | Building 2000sqft @Rs.2000per Sqft | 400000 |
| 3 | Over Head Tank | 40000 |
| | Total | 440000 |

| | | |
|------------|---|---------------|
| ii) | Machinery and Equipments | |
| Sl.NO | Particulars | Amount(in Rs) |
| 1 | Cabinet type hot air drier with blower, motor and other accessories | 185000 |
| 2 | Disintegrator 12" size with 10HP motor and accessories | 105000 |
| 3 | Vibratory sifting machine fitted with GI wire mesh and 2 Hp motor | 50000 |
| 4 | Aluminium Trays 10 nos | 15000 |
| 5 | Platform weighing Balance | 10000 |
| 6 | Polythene sealing machine 2 nos | 5000 |
| 7 | Other misc items like scrapping knives, trolleys etc | 10000 |
| 8 | working tables | 20000 |
| 9 | Lab testing equipments | 20000 |
| 10 | Electrification and installation | 50000 |
| 11 | Essential Office furniture | 25000 |
| | Total | 495000 |

| | | | |
|-------------|---------------------------------------|--|---------------|
| iii) | pre Operative Expenses | | 25000 |
| | TOTAL FIXED CAPITAL (i+ii+iii) | | 960000 |

| | | | |
|-----------|--------------------------------------|--|------------------|
| B | WORKING CAPITAL | | (For one month) |
| i) | RAW MATERIALS | | |
| 1 | coconut with husk 75000nos 2 Rs 10 | | 750000 |
| 2 | Polythene bags 75 kg @ Rs120 per bag | | 9000 |

| | | | |
|---|---|--|--------|
| 3 | Plywood Boxes of 25kg capacity 300nos @ Rs.100 per box | | 30000 |
| 4 | Labels, gums and other packing aids L.S | | 10000 |
| | Total | | 799000 |

| | | | |
|------|---------------------------|-------------------------------|--------|
| ii) | SALARIES AND WAGES | | |
| I | 1 | Manager cum Food technologist | 20000 |
| | 2 | sales man | 10000 |
| | 3 | Skilled workers-2 | 30000 |
| | 4 | Helpers 10 nos | 50000 |
| | | Total | 110000 |
| iii) | utilities | | |
| | 1 | Electricity charges | 4000 |
| | 2 | water | 300 |
| | 3 | Firewood | 7000 |
| | | Total | 11300 |

| | | | |
|-----|----------------------------|---|---------------|
| iv) | Other Contingencies | | |
| | 1 | Printing postage, telephone | 400 |
| | 2 | Repair and maintenance | 1000 |
| | 3 | Transportation | 5000 |
| | 4 | Advertisement and publicity | 5000 |
| | 5 | Insurance | 1000 |
| | 6 | Misc | 1300 |
| | | Total | 13700 |
| | | Total working capital(i+ii+iii+iv) | 934000 |

| | | | |
|---|---------------------------------|------------------------|----------------|
| C | TOTAL CAPITAL INVESTMENT | | |
| | a) | Fixed Capital | 960000 |
| | b) | working Capital | 934000 |
| | Total | | 1894000 |

| | | | |
|---|----------------|----------------------|----------------|
| D | Source of Fund | | |
| | a | Term loan | 720000 |
| | b | working Capital Loan | 700500 |
| | c | Own fund | 473500 |
| | Total | | 1894000 |

E **Total loan required** **1420500**

| | | | |
|---|---|--|---------------|
| | The Capacity utilization in this project has been worked out to be 60% in the 1st year 70% in the 2nd year | | |
| F | cost of production | | |
| 1 | Total recurring expenditure | | 934000 |
| 2 | Depreciation on Building and tank @5% | | 1833 |
| 3 | Depreciation on machinery and equipments @10% | | 2917 |
| 4 | Depreciation on hand tools@15% | | 438 |
| 5 | Depreciation on Office equipments@20% | | 1000 |
| 6 | Interest on loan(15%) | | 17756 |
| | Total production cost | | 957944 |
| | Say | | 958000 |

| | | | |
|---|---|--|----------------|
| G | Turnover (per month) in Rs | | |
| 1 | Desiccated Coconut 7.5 Tone @ Rs.130000 per ton) | | 975000 |
| 2 | Coconut shell 2 MT @35000per mt | | 70000 |
| 3 | Coconut husk 75000 nos @ 40ps) | | 30000 |
| | TOTAL | | 1075000 |

Net profit per month 117000

Annual profit **1404000**

(Before tax)

Net profit Ratio on sales 11%

The above net profit is sufficient for the repayment of loan amount of Rs. 1420500 @ Rs. 16920 per month with interest and also to meet the monthly living expenses of the promoter and his family. The project is found to be technically feasible, economically viable and eligible for being financed. BEP and viable and eligible for being financed. BEP and repayment schedule are shown below

| | | | |
|---|------------------|------------|--|
| K | BREAK EVEN POINT | | |
| | I) | FIXED COST | |

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| | | | |
|--|-------|--|---------------|
| | a) | Depreciation | 6188 |
| | b) | Interest | 17756 |
| | c) | 40% of salary and wages | 44000 |
| | d) | 40% Of other expenses | 5480 |
| | Total | | 73424 |
| | 2) | Net profit | 117000 |
| | | | |
| | BEP | $\frac{\text{FIXED COST} \times 100}{\text{FIXED COST} + \text{NET PROFIT}}$ | 38.56% |

| REPAYMENT SCHEDULE | | | | | |
|---|-----------------|------------------|----------|--------|-----------------|
| Basis; Interest rate 15%, period of repayment 7yrs | | | | | |
| Year | Opening Balance | Amount repayable | | | Closing Balance |
| | | principal | Interest | Total | |
| 1st | 1420500 | 202930 | 213825 | 416755 | 1217570 |
| 2nd | 1217570 | 202930 | 182636 | 385566 | 1014640 |
| 3rd | 1014640 | 202930 | 152196 | 355126 | 811710 |
| 4th | 811710 | 202930 | 121757 | 324687 | 608780 |
| 5th | 608780 | 202930 | 91317 | 294247 | 405850 |
| 6th | 405850 | 202930 | 60878 | 263808 | 202920 |
| 7th | 202920 | 202920 | 30438 | 233358 | 0 |

LIST OF MACHINERY SUPPLIERS

- 1) M/s. Avery India Ltd. Falnir Road Cross, Mangalore - 1.
- 2) M/s. Ganapathi Bhandarkar and Company Azizuddin Road, Mangalore - 1.
- 3) Premier Engg. Products, 3rd floor, C.R.C. Building, M.G. Road, Cochin - 682 011. (Dryer) Heat Flow Engineers, Plot 305, Netaji Nagar, Perungadi, Madras - 600 096. (Dryer)

Source:- Udyami Mitra/Sidbi