**PROJECT PROFILE FOR COIR PITH BRIQUETTE UNIT**

**PRODUCT : COIR PITH BRIQUETTE**

**PRODUCTION CAPACITY (P.A)**

**(100% CAPACITY) : 700 TONS**

**VALUE : RS.126 LAKHS**

**MONTH & YEAR OF PREPARATION : JUNE 2018**

**PREPARED BY : COIR BOARD, MINISTRY OF MSME,**

 **GOVT OF INDIA**

* **INTRODUCTION**

Eco friendly product is said to be replacing many traditional product as an effective soil bed under Green House conditions. Coir pith is a by-product of the coir fibre processing industry. The composition and properties of coir pith vary depending on maturity of coconut, method of extraction and disposal, period between extraction and use and environmental factors. In the process of extraction of coir fiber from husk generally about one third of it is obtained as fiber and two third of it is obtained as coir waste. Coir pith has got many enviable characteristics, making it a highly potential resource if used after proper composting. Coir pith has very high moisture retention capacity of 500- 600 per cent and can be as high as 1100 per cent of dry weight. It has high potassium content and low bulk density and particle density. High CEC, which varies from 38.9- 60 meq/100 g, enables it to retain large amounts of nutrients and the absorption complex has high contents of exchangeable K, Na, Ca and Mg. All these characteristics make it ideal for use as a mulch and soil amendment, especially for dry and sandy areas with low water retention. Industry sources say that, the plants yield potential record is significant when Coir Pith Briquettes are used as a Cultivation medium.

Coir Pith Briquettes exhibits following salient attributes

1. Water retention power
2. Eco friendly
3. Moisture retention
4. Dimensional accuracy
* **PROCESS OF MANUFACTURE**

 The coir dust is washed, heat treated, screened and graded before being processed into various coir pith briquettes. Coir Pith Briquettes are made by compressing Coir Pith. The coir pith briquettes are 100% natural organic growing medium which gives a higher volume if it is in a compressed form. The one liter block can be expanded up to 8 liters by adding 2 liters water. They are individually shrinking wrapped for export with or without labels as per the specification.

Coir Pith Briquettes are natural organic growing medium and extensively used in Nurseries, Home gardens, Green houses and other farming communities.

* **BASIS AND PRESUMTIONS**
* The Project profile is based on8 working hours in a day and 200 days in a year and the Break Even efficiency has been calculated at 70%, 75%, 80%, 90% and 100% capacity utilization.
* The rate of interest both for fixed asset and working capital have been taken as 12.5% p.a.
* **TECHNICAL ASPECTS**

Installed Production capacity per shift/machine : 63.5MT per shift

Number of machine : 1

Number of Shift per day : 1

Working days p.a : 200 days

Yield wastage : 85%

Capacity Utilization

-First year : 70%

-Second year : 75%

-Third year : 80%

-Fourth year : 90%

-Fifth year : 100%

Rate of Average Sales Realization : Rs. 18000/- per ton

Rate of Average cost of raw material : Rs. 6000/- per ton

Interest on term loan : 12.50%

Interest on working capital : 12.50%

**Manpower requirement**

 Supervisor : 1

 Skilled worker : 5

Semi/Unskilled worker : 15

Total HP required : 25 HP

***All the machineries and equipments mentioned in the Project profile are of indigenous make and are of medium price.***

* **FINANCIAL ASPECTS**

**i) Cost of Project**

  **Amount**

* Land : Lease/owned
* Work shed : Rs. 400000/-
* Machinery &Equipments : Rs.1605000/-
* Working Capital : Rs. 495000/-

 **-------------------- Total : Rs. 2500000/-**

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|  |  |  |  |
| --- | --- | --- | --- |
| **Sl.****No** | **Description of machines &equipments** | **Qty** | **Amount (Rs)** |
| 1 | Briquette 650 gm Briquette making machine | 1 | 1300000.00 |
| 2 | Screener 10 Feet 2 HP | 1 |  160000.00 |
| 3 | Other accessories including Well & Pump set 3 HP |  |  145000.00 |
| **Total** |  | **1605000.00** |

**ii) Means of Finance**

* Promoters Capital 5% : Rs. 125000/-
* Bank Term loan 95% : Rs.1905000/-
* WC Loan from Bank 95% : Rs. 470000/- --------------------

**Total : Rs.2500000/-**

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* **DETAILS OF THE PROFITABILITY OF THE PROJECT**

**Rs.in Lakhs**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Years** |  | **1** | **2** | **3** | **4** | **5** |
| Installed Production capacity/machine/shift | Tons | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
| Number of machines |  | 1 | 1 | 1 | 1 | 1 |
| Number of shift/day |  | 1 | 1 | 1 | 1 | 1 |
| Working days per annum |  | 200 | 200 | 200 | 200 | 200 |
| Installed production capacity per annum |  | 700 | 700 | 700 | 700 | 700 |
| Capacity utilization |  | 70% | 75% | 80% | 90% | 100% |
| Annual production quantity | Tons | 490 | 525 | 560 | 630 | 700 |
| **Annual Sales Realization** | Rs. 18000 | **88.20** | **94.50** | **100.80** | **113.40** | **126.00** |
| Cost of Production |
| Raw material requirement | Tons | 906.50 | 971.25 | 1036.00 | 1165.50 | 1295.00 |
| Cost of raw material | Rs.5000  | 54.39 | 58.28 | 62.16 | 69.93 | 77.70 |
| Power cost |  | 1.86 | 2.00 | 2.13 | 2.40 | 2.66 |
| Spares, Repairs & maintenance | 2% | 0.32 | 0.39 | 0.46 | 0.55 | 0.67 |
| Wages & salary |  | 19.21 | 20.58 | 21.95 | 24.70 | 27.44 |
| **Cost of Production** |  | **75.78** | **81.24** | **86.70** | **97.58** | **108.47** |
| **Gross Profit** |  | **12.42** | **13.26** | **14.1** | **15.82** | **17.53** |
| Administrative & Selling expenses |  | 1.76 | 1.89 | 2.02 | 2.27 | 2.52 |
| Interest on Term Loan |  | 1.99 | 2.11 | 1.76 | 0.62 | 0.27 |
| Interest on Working capital |  | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 |
| Depreciation of machinery |  | 1.61 | 1.61 | 1.61 | 1.61 | 1.61 |
| Depreciation of building |  | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| **Total** |  | **6.15** | **6.4** | **6.18** | **5.29** | **5.19** |
| **Net Profit** |  | **6.27** | **6.86** | **7.92** | **10.53** | **12.34** |

* **ESTIMATION OF BREAK EVEN POINT**

Rs in Lakhs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Particulars** | **1** | **2** | **3** | **4** | **5** |
|  | 70% | 75% | 80% | 90% | 100% |
| Break-even point | 50% | 48% | 44% | 33% | 30% |
| Break even Production | 243 | 253 | 245 | 210 | 207 |

* **DEBT SERVICE COVERAGE RATIO**

Rs in Lakhs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Particulars** | **1** | **2** | **3** | **4** | **5** |
|  | 70% | 75% | 80% | 90% | 100% |
| DSCR | 2.89 | 2.13 | 2.45 | 3.68 | 4.57 |
| Average DSCR | 3.15 |  |  |  |  |
| DSCR weighted average | 3.00 |  |  |  |  |

* **WORKING CAPITAL REQUIREMENTS**

Rs in Lakhs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Particulars** | **1** | **2** | **3** | **4** | **5** |
|  | 70% | 75% | 80% | 90% | 100% |
| Variable Cost | 75.78 | 81.24 | 86.70 | 97.58 | 108.47 |
| Fixed Cost | 6.15 | 6.4 | 6.18 | 5.29 | 5.19 |
| Working capital Gap | 4.95 | 5.32 | 5.69 | 6.42 | 7.15 |