



# PM Formalisation of Micro Food Processing Enterprises Scheme

## DETAILED PROJECT REPORT FOR CANNED MUSHROOM



**AATMANIRBHAR BHARAT**

**National Institute of Food Technology, Entrepreneurship and  
Management (NIFTEM) - Thanjavur**

(an Institute of National Importance under Ministry of Food Processing Industries, Government of India)

Pudukkottai Road, Thanjavur – 613005

<https://niftem-t.ac.in/>

Ph : 04362-228155, Fax:04632-227971

## Index

| S No. | Topic                                                         | Page Number |
|-------|---------------------------------------------------------------|-------------|
| 1.    | The Project At a Glance                                       | 3           |
| 2.    | About the Project                                             | 4-18        |
|       | 2.1. Canned Mushroom Unit                                     | 4           |
|       | 2.2. Raw Material Requirements                                | 4           |
|       | 2.3. Technology                                               | 4           |
|       | 2.4. Market Demand and Supply                                 | 5           |
|       | 2.5. Marketing Strategy                                       | 5           |
|       | 2.6. Manufacturing Process                                    | 5-8         |
|       | 2.7. Basic Project Assumptions                                | 8           |
|       | 2.8. Fixed Capital Investment                                 | 9           |
|       | 2.8.A. Land & Building                                        | 9           |
|       | 2.8.B. Machinery & Equipment                                  | 9           |
|       | 2.8.C. Other Fixed Assets                                     | 9           |
|       | 2.8.D. Total Fixed Capital Investment                         | 9           |
|       | 2.9. Working Capital Requirement                              | 10          |
|       | 2.10. Total Project Cost and Means of Finance                 | 11          |
|       | 2.11. Manpower                                                | 11          |
|       | 2.12. Financial Analysis                                      | 12-14       |
|       | 2.13. Depreciation Schedule                                   | 15          |
|       | 2.14. Repayment Schedule                                      | 16          |
|       | 2.15. Financial Ratios                                        | 17          |
|       | 2.16. Break Even Point Analysis                               | 18          |
| 3.    | Limitations of the Model DPR and Guidelines for Entrepreneurs | 19-20       |
|       | 3.1. Limitations of the Model DPR                             | 19          |
|       | 3.2. Guidelines for the Entrepreneurs                         | 19-20       |

## 1. The Project at a Glance

|                                                   |   |                                                                                                                                     |
|---------------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------|
| 1. Name of the proposed project                   | : | Canned Mushroom Unit                                                                                                                |
| 2. Name of the entrepreneur/FPO/SHG/Cooperative   | : |                                                                                                                                     |
| 3. Nature of proposed project                     | : | Proprietorship/Company/Partnership                                                                                                  |
| 4. Registered office                              | : |                                                                                                                                     |
| 5. Project site/location                          | : |                                                                                                                                     |
| 6. Names of Partner (if partnership)              | : |                                                                                                                                     |
| 7. No of share holders (if company/FPC)           | : |                                                                                                                                     |
| 8. Technical advisor                              | : |                                                                                                                                     |
| 9. Marketing advisor/partners                     | : |                                                                                                                                     |
| 10. Proposed project capacity                     | : | Canned Mushroom: 180000 kg/annum<br>(50,55,60,65,&70% capacity utilization in 1 <sup>st</sup> to 5 <sup>th</sup> Year respectively) |
| 11. Raw materials                                 | : | Harvested Fresh Mushroom, Brine Solution & Packaging material (Cans)                                                                |
| 12. Major product outputs                         | : | Canned Mushrooms                                                                                                                    |
| 13. Total project cost                            | : | Rs. 31.8Lakh                                                                                                                        |
| • Land development, building & civil construction | : | Nil                                                                                                                                 |
| • Machinery and equipments                        | : | Rs. 25.5 Lakh                                                                                                                       |
| • Other Fixed Assets                              | : | Rs. 2 Lakh                                                                                                                          |
| • Working capital margin                          | : | Rs. 2.92 Lakh                                                                                                                       |
| • Contingencies                                   | : | Rs. 1.38 Lakh                                                                                                                       |
| 14. Working capital requirement                   |   | Rs. 8.76 Lakh                                                                                                                       |
| 15. Means of Finance                              |   |                                                                                                                                     |
| • Subsidy grant by MoFPI (max 10 lakh)            | : | Rs. 10.00 Lakh                                                                                                                      |
| • Promoter's contribution (min 20%)               | : | Rs. 9.42 Lakh                                                                                                                       |
| • Term loan (45%)                                 | : | Rs. 12.38 Lakh                                                                                                                      |
| 16. Debt-equity ratio                             | : | 1.06                                                                                                                                |
| 17. Profit after Depreciation, Interest & Tax     |   |                                                                                                                                     |
| • 1 <sup>st</sup> year                            | : | 1.47 Lakh                                                                                                                           |
| • 2 <sup>nd</sup> year                            | : | 2.91 Lakh                                                                                                                           |
| • 3 <sup>rd</sup> year                            | : | 4.62 Lakh                                                                                                                           |
| • 4 <sup>th</sup> year                            | : | 6.53 Lakh                                                                                                                           |
| • 5 <sup>th</sup> year                            | : | 8.7 Lakh                                                                                                                            |
| 18. Average DSCR                                  | : | 2.68                                                                                                                                |
| 19. Term loan repayment                           | : | 5 Years with 6 months grace period                                                                                                  |

## **2. About the Project**

### **2.1. Canned Mushroom**

Mushroom, a fungus fruit body, is considered a delicious food all over the world because of its taste aroma and structure. It is full of nutrients, low in calories, high in proteins, Vitamins, Minerals and a rich source of folic acid.

It is an alternate choice for weight conscious people and anaemic patients. It has 4.9% protein content which is more than cow milk, green vegetables such as beans, etc. Mushrooms are highly perishable commodity and should be marketed and consumed as soon as possible after harvest because of their high moisture content (90.92%). However, its shelf- life can be enhanced for a larger period by way of processing. Generally mushrooms are processed-frozen, dried and canned. The *Agricus bisporus* (White button) type of mushroom is suitable and preferred for commercial canning.

### **2.2. Raw Material Requirements**

Major raw materials that are used are as follows:

- Harvested Fresh Mushroom
- Brine Solutions
- Packaging Materials (Cans)

### **2.3. Technology**

IIFPT has all the advanced technical know on mushroom canning & packaging with respect to specific parameters' for getting good quality standards. These technologies are available through consultancy.

## **2.4. Market Demand and Supply**

The canned food market size was valued at \$91.4 billion in 2018, and is estimated to reach \$124.8 billion by 2026, registering a CAGR of 3.9% from 2019 to 2026. In 2018, the canned meat & seafood segment accounted for more than one third of the total canned food market share.

It has been estimated that the export market of canned mushrooms in the world trade is about US \$1000 million. The world trade of mushroom is expected to reach a staggering figure of US \$ 15 billion by next 5 years. At present, China, Taiwan and Indonesia are the main producers of mushroom products which also capture the major share of world market. Over 50% of the total world production of the mushroom is sold in fresh form, mainly in producers' domestic markets. The balance is processed i.e. dried, frozen, canned etc. The consumption of mushroom is going up at the rate of around 10% in international market. It has also been estimated that 50% of the mushrooms for processing are canned. The major importing countries are Germany, USA, Canada, Japan, Australia, etc. In India present production is around 30000 M.T.

## **2.5. Marketing Strategy**

The increasing urbanization and income offers huge scope for marketing of canned mushrooms. Urban organized platforms such as departmental stores, malls, super markets can be attractive platforms to sell well packaged canned mushrooms. Processors can also have tie-up with hotels, caterers and restaurants for supply.

## **2.6. Manufacturing Process**

White button mushrooms ( *agariusbisporus* ) are preferred over other types of mushrooms for canning. Commercially, mushrooms are canned in brine, The process involves the following steps:

- **PICKING** – Mushrooms are picked at button stage ( cap. Diameter 2-2.5 cm ) by gentle hand twisting. The soil and portion carrying any microbial flora is then cut off/removed with the help of a sharp edge stainless steel knife/blade. The stalk length should preferable be kept 0.5-1 cm. long.
- **SORTING AND GRADING** – Diseased, damaged / bruised, shriveled and browned mushrooms are discarded and only the healthy white and tight buttons are selected and separated into two grades i.e. cap. Diameter up to 2.5 cm with compact head as A and cap. Diameter beyond 2.5 cm as B grade.
- **WASHING** – Graded mushrooms are thoroughly washed 3-4 times in cold running water to remove adhering dirt, soil etc. without damaging or rubbing them excessively.
- **BLANCHING** – To inhibit enzymatic activity, blanching is necessary. It also inactivates micro-organisms and removes the air from the raw materials to achieve a satisfactory and uniform pack. Mushrooms are blanched in boiling water for 203 minutes followed by immediate cooling in cold water. However, to reduce leaching losses, steam blanching is preferred because the leaching losses in boiling water had been estimated to be about 30 %.
- **FILLING OF CANS**– Mushrooms are commercially packed in two can sizes i.e. A-1 tall can A-2.5 A-1 tall cans are preferred by retailers while A-2.5 cans are liked by hoteliers, exporters and other establishments. The blanched mushrooms are filled into cans with declared drain weight i.e. 440 gms in A-2.5 can.
- **BRINING**- After filling the cans with mushrooms strained hot brine solution of 2 % common salt, 1 % sugar and 0.05% citric acid is added upto the brim of the can. Brining adds flavor to the product, reduces processing time and enhances the shelf life of canned mushrooms.
- **EXHAUSTING**- After brining cans are exhausted to remove any entrapped air and other accumulated gases from the product to ensure a longer shelf life.

Cans filled with brine solution are fed to the exhaust box for a specified period of time depending upon the length of exhaust tunnel and size of container. The shorter the tunnel, the longer will be the exhausting can also be performed by placing the filled cans in boiling water till temperature of the centre of can reaches 85 – 90c for 1-2 mts.

➤ **SEAMING / CAN CLOSING-** Immediately after exhausting, cans are sealed with the help of a double seamer to get hermetically sealed container. Sealed cans are then placed in upside down position to sterilize the closed lids.

➤ **PROCESSING / STERILIZATION-** Processing also designated as sterilization, is an indispensable unit operation in canning. This is accomplished by processing the hermetically sealed cans at a pressure of 15 lbs psi for a specified period of time depending upon the size of can and altitude of processing place. However, for areas like shimla, processing time for A-2.5 size cans is recommended to be 45 minutes.

➤ **COOLING-** Cooling of cans is done immediately after sterilization in cold running water to room temperature in order to give an abrupt shock to the micro-organisms to get rid of their adverse activities.

➤ **LABELLING AND STORAGE-** The cooled cans are stored in a cool dry place and smeared with grease to remove any adhering moisture from the can body to avoid rusting. Cans are kept at ambient temperature for 8-10 days to check any swell, leakage, puffing and other disorders before labeling.

Before the cans are exposed for sale, proper labeling is done to meet statutory requirements of fruit products order, 1955 Prevention of Food Adulteration Act, 1954 and packed commodities (Regulation) Act 1975.

## Flow Chart



### 2.7. Basic Project Assumptions

Capacity of Canned Mushroom Unit: Canned Mushroom 180000 Kg/annum

Canned Mushroom is packed in can of 1 Kg. Therefore number of cans per annum is 1.8 Lakh

Working hours per day : 8-10 hrs.

Working days per year : 300 days.

Interest on capital investment : 11% on term loan and working capital loan.

Repayment period : Five years with six months grace period is considered.

Utilization of capacity : 50% 1<sup>st</sup> year, 55% in 2<sup>nd</sup> year, 60% in 3<sup>rd</sup> year, 65% in 4<sup>th</sup> year & 70% 5<sup>th</sup> year onwards

Average prices of raw material : Rs. 90/Can

Average sale price : Can of 1 Kg Rs 130 (Canned Mushroom)

## 2.8. Fixed Capital Investment

### 2.8.A. Land & Building

The DPR is for FME scheme to upgrade/formalize existing micro enterprises which already has land & built-up area. However, they can invest to expand the built-up area as required.

### 2.8.B. Machinery & Equipment: Rs. 25.5 Lakh

| Description                       | Rate   | Unit | Amount         |
|-----------------------------------|--------|------|----------------|
| Boiler                            | 540000 | 1    | 540000         |
| Vegetable & Fruit washing machine | 486000 | 1    | 486000         |
| Can Sterilizer                    | 108000 | 1    | 108000         |
| Can Seamer                        | 225000 | 1    | 225000         |
| Can Washing machine               | 45000  | 1    | 45000          |
| Can Filling machine               | 120000 | 1    | 150000         |
| Blanching machine                 | 450000 | 1    | 450000         |
| Mushroom grading machine          | 50000  | 1    | 50000          |
| Canned Food Exhausting machine    | 108000 | 1    | 108000         |
| <b>Total Amount</b>               |        |      | <b>2162000</b> |
| <b>GST @18%</b>                   |        |      | <b>389160</b>  |
| <b>Net Amount</b>                 |        |      | <b>2551160</b> |
| <b>Net Amount (Round off)</b>     |        |      | <b>2550000</b> |

### 2.8.C. Other Fixed Assets:

|                            |            |
|----------------------------|------------|
| i. Furniture and Fixtures  | Rs. 2 Lakh |
| ii. Plastic trays capacity |            |
| iii. Electrical fittings   |            |

### 2.8.D. Total Fixed Capital Investment (A+B+C): Rs. 27.5 Lakh

## 2.9. Working Capital Requirement

Working capital is critical input in Canned Mushroom processing & packaging unit.

| <b>COMPUTATION OF CLOSING STOCK &amp; WORKING CAPITAL</b> |             |              |              |              |              |
|-----------------------------------------------------------|-------------|--------------|--------------|--------------|--------------|
|                                                           |             |              |              |              |              |
| <b>PARTICULARS</b>                                        | <b>I</b>    | <b>II</b>    | <b>III</b>   | <b>IV</b>    | <b>V</b>     |
|                                                           |             |              |              |              |              |
| <b><u>Finished Goods</u></b>                              |             |              |              |              |              |
| (15 Days requirement)                                     | 5.85        | 6.78         | 7.78         | 8.83         | 10.02        |
| <b><u>Raw Material</u></b>                                |             |              |              |              |              |
| (15 Days requirement)                                     | 4.05        | 4.70         | 5.40         | 6.14         | 6.93         |
|                                                           |             |              |              |              |              |
|                                                           |             |              |              |              |              |
| <b>Closing Stock</b>                                      | <b>9.90</b> | <b>11.48</b> | <b>13.18</b> | <b>14.98</b> | <b>16.95</b> |

| <b>COMPUTATION OF WORKING CAPITAL REQUIREMENT</b> |               |                    |               |
|---------------------------------------------------|---------------|--------------------|---------------|
|                                                   |               |                    |               |
| <b>Particulars</b>                                | <b>Amount</b> | <b>Margin(25%)</b> | <b>Net</b>    |
|                                                   |               |                    | <b>Amount</b> |
| Stock in Hand                                     | 9.90          |                    |               |
| Less:                                             |               |                    |               |
| Sundry Creditors                                  | 3.78          |                    |               |
| <b>Paid Stock</b>                                 | <b>6.12</b>   | <b>1.53</b>        | <b>4.59</b>   |
|                                                   |               |                    |               |
| Sundry Debtors                                    | 5.56          | 1.39               | 4.17          |
| <b>Working Capital Requirement</b>                |               |                    | <b>8.76</b>   |
|                                                   |               |                    |               |
| <b>Margin</b>                                     |               |                    | <b>2.92</b>   |
|                                                   |               |                    |               |
| <b>MPBF</b>                                       |               |                    | <b>8.76</b>   |
| <b>Working Capital Demand</b>                     |               |                    | <b>8.76</b>   |

## 2.10. Total Project Cost and Means of Finance

| Particulars                             | Amount (Rs. in Lakh) |
|-----------------------------------------|----------------------|
| i. Land and building                    | Nil                  |
| ii. Plant and machinery                 | 25.5                 |
| iii. Other Fixed assets                 | 2.00                 |
| iv. Working capital margin              | 2.92                 |
| v. Contingencies                        | 1.38                 |
| <b>Total project cost (i to v)</b>      | <b>31.8</b>          |
| <b>Means of finance</b>                 |                      |
| i. Subsidy                              | 10.00                |
| ii. Promoter's contribution             | 9.42                 |
| iii. Term loan                          | 12.38                |
| <b>Total Means of Finance(i to iii)</b> | <b>31.8</b>          |

## 2.11. Manpower:

| <b>BREAK UP OF LABOUR</b>                      |  |           |           |           |
|------------------------------------------------|--|-----------|-----------|-----------|
|                                                |  |           |           |           |
| Particulars                                    |  | Wages     | No of     | Total     |
|                                                |  | Per Month | Employees | Salary    |
|                                                |  |           |           | -         |
| Machine Operator                               |  | 13,000.00 | 2         | 26,000.00 |
| Skilled/Unskilled Worker                       |  | 11,000.00 | 3         | 33,000.00 |
| Helper                                         |  | 8,000.00  | 2         | 16,000.00 |
|                                                |  |           |           | -         |
|                                                |  |           |           | 75,000.00 |
| Add: 10% Fringe Benefit                        |  |           |           | 7,500.00  |
| Total Labour Cost Per Month                    |  |           |           | 82,500.00 |
| Total Labour Cost for the year ( In Rs. Lakhs) |  |           | 7         | 9.90      |

| <b>BREAK UP OF SALARY</b>                 |  |           |           |           |
|-------------------------------------------|--|-----------|-----------|-----------|
|                                           |  |           |           |           |
| Particulars                               |  | Salary    | No of     | Total     |
|                                           |  | Per Month | Employees | Salary    |
| Accountant cum store keeper               |  | 18,000.00 | 1         | 18,000.00 |
| Sales                                     |  | 15,000.00 | 2         | 30,000.00 |
| Total Salary Per Month                    |  |           |           | 48,000.00 |
| Add: 5% Fringe Benefit                    |  |           |           | 2,400.00  |
| Total Salary for the month                |  |           |           | 50,400.00 |
|                                           |  |           |           |           |
| Total Salary for the year ( In Rs. Lakhs) |  |           | 3         | 6.05      |

## 2.12. Financial Analysis:

| <b>PROJECTED BALANCE SHEET</b>    |              |              |              |              |              |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|
|                                   |              |              |              |              |              |
| PARTICULARS                       | I            | II           | III          | IV           | V            |
|                                   |              |              |              |              |              |
|                                   |              |              |              |              |              |
| <b><u>SOURCES OF FUND</u></b>     |              |              |              |              |              |
| <b><u>Capital Account</u></b>     |              |              |              |              |              |
| Opening Balance                   | -            | 20.39        | 22.69        | 25.31        | 26.84        |
| Add: Additions                    | 9.42         | -            | -            | -            | -            |
| Add: Net Profit                   | 1.47         | 2.91         | 4.62         | 6.53         | 8.70         |
| Less: Drawings                    | 0.50         | 0.60         | 2.00         | 5.00         | 7.00         |
| Subsidy/Grant                     | 10.00        | -            | -            | -            | -            |
| <b>Closing Balance</b>            | <b>20.39</b> | <b>22.69</b> | <b>25.31</b> | <b>26.84</b> | <b>28.54</b> |
| CC Limit                          | 8.76         | 8.76         | 8.76         | 8.76         | 8.76         |
| Term Loan                         | 11.00        | 8.25         | 5.50         | 2.75         | -            |
| Sundry Creditors                  | 3.78         | 4.39         | 5.04         | 5.73         | 6.47         |
| <b>TOTAL :</b>                    | <b>43.93</b> | <b>44.09</b> | <b>44.61</b> | <b>44.08</b> | <b>43.77</b> |
|                                   |              |              |              |              |              |
|                                   |              |              |              |              |              |
|                                   |              |              |              |              |              |
| <b><u>APPLICATION OF FUND</u></b> |              |              |              |              |              |
|                                   |              |              |              |              |              |
| <b>Fixed Assets ( Gross)</b>      | <b>27.50</b> | <b>27.50</b> | <b>27.50</b> | <b>27.50</b> | <b>27.50</b> |
| Gross Dep.                        | 2.22         | 4.92         | 8.02         | 11.54        | 15.53        |
| Net Fixed Assets                  | 25.28        | 22.58        | 19.48        | 15.96        | 11.97        |
|                                   |              |              |              |              |              |
| <b>Current Assets</b>             |              |              |              |              |              |
| Sundry Debtors                    | 5.56         | 6.75         | 7.74         | 8.80         | 9.98         |
| Stock in Hand                     | 9.90         | 11.48        | 13.18        | 14.98        | 16.95        |
| Cash and Bank                     | 3.19         | 3.28         | 4.21         | 4.34         | 4.87         |
|                                   |              |              |              |              |              |
| <b>TOTAL :</b>                    | <b>43.93</b> | <b>44.09</b> | <b>44.61</b> | <b>44.08</b> | <b>43.77</b> |

| <b>PROJECTED PROFITABILITY STATEMENT</b> |               |               |               |               |               |
|------------------------------------------|---------------|---------------|---------------|---------------|---------------|
|                                          |               |               |               |               |               |
| PARTICULARS                              | I             | II            | III           | IV            | V             |
|                                          |               |               |               |               |               |
| <b><u>A) SALES</u></b>                   |               |               |               |               |               |
| Gross Sale                               | 111.15        | 135.01        | 154.87        | 175.99        | 199.62        |
|                                          |               |               |               |               |               |
| <b>Total (A)</b>                         | <b>111.15</b> | <b>135.01</b> | <b>154.87</b> | <b>175.99</b> | <b>199.62</b> |
|                                          |               |               |               |               |               |
| <b>B) COST OF SALES</b>                  |               |               |               |               |               |
|                                          |               |               |               |               |               |
| Raw Material Consumed                    | 81.00         | 94.05         | 108.00        | 122.85        | 138.60        |
| Electricity Expenses                     | 3.36          | 3.69          | 4.03          | 4.36          | 4.70          |
| Repair & Maintenance                     | 4.45          | 5.40          | 6.97          | 8.10          | 9.38          |
| Labour & Wages                           | 9.90          | 10.40         | 10.91         | 11.46         | 12.61         |
| Packing cost & other overhead            | 2.22          | 2.70          | 3.10          | 3.52          | 3.99          |
| <b>Cost of Production</b>                | <b>100.93</b> | <b>116.24</b> | <b>133.01</b> | <b>150.29</b> | <b>169.28</b> |
|                                          |               |               |               |               |               |
| <b>Add: Opening Stock /WIP</b>           | <b>-</b>      | <b>5.85</b>   | <b>6.78</b>   | <b>7.78</b>   | <b>8.83</b>   |
| <b>Less: Closing Stock /WIP</b>          | <b>5.85</b>   | <b>6.78</b>   | <b>7.78</b>   | <b>8.83</b>   | <b>10.02</b>  |
|                                          |               |               |               |               |               |
| Cost of Sales (B)                        | 95.08         | 115.31        | 132.02        | 149.23        | 168.10        |
|                                          |               |               |               |               |               |
| <b>C) GROSS PROFIT (A-B)</b>             | <b>16.07</b>  | <b>19.71</b>  | <b>22.86</b>  | <b>26.76</b>  | <b>31.53</b>  |
|                                          | <b>14.46%</b> | <b>14.60%</b> | <b>14.76%</b> | <b>15.20%</b> | <b>15.79%</b> |
| D) Bank Interest (Term Loan )            | 1.34          | 1.10          | 0.79          | 0.49          | 0.19          |
| ii) Interest On Working Capital          | 0.96          | 0.96          | 0.96          | 0.96          | 0.96          |
| E) Salary to Staff                       | 6.05          | 7.26          | 8.71          | 10.45         | 12.02         |
| F) Selling & Adm Expenses Exp.           | 2.22          | 4.05          | 4.34          | 5.10          | 5.99          |
| G) Depreciations as per Schedule         | 4.03          | 3.43          | 2.93          | 2.49          | 2.13          |
| <b>TOTAL (D+E+F+G)</b>                   | <b>14.60</b>  | <b>16.80</b>  | <b>17.73</b>  | <b>19.50</b>  | <b>21.29</b>  |
|                                          |               |               |               |               |               |
| H) NET PROFIT                            | 1.47          | 2.91          | 5.13          | 7.25          | 10.24         |
|                                          | <b>1.3%</b>   | <b>2.2%</b>   | <b>3.3%</b>   | <b>4.1%</b>   | <b>5.1%</b>   |
| I) Taxation                              | -             | -             | 0.51          | 0.73          | 1.54          |
|                                          |               |               |               |               |               |
| J) PROFIT (After Tax)                    | 1.47          | 2.91          | 4.62          | 6.53          | 8.70          |

| <b><u>PROJECTED CASH FLOW STATEMENT</u></b> |              |             |             |              |              |
|---------------------------------------------|--------------|-------------|-------------|--------------|--------------|
|                                             |              |             |             |              |              |
| <b>PARTICULARS</b>                          | <b>I</b>     | <b>II</b>   | <b>III</b>  | <b>IV</b>    | <b>V</b>     |
|                                             |              |             |             |              |              |
|                                             |              |             |             |              |              |
| <b><u>SOURCES OF FUND</u></b>               |              |             |             |              |              |
| Own Contribution                            | 9.42         | -           |             |              |              |
| Reserve & Surplus                           | 1.47         | 2.91        | 5.13        | 7.25         | 10.24        |
| Depriciation & Exp. W/off                   | 2.22         | 2.70        | 3.10        | 3.52         | 3.99         |
| Increase In Cash Credit                     | 8.76         | -           | -           | -            | -            |
| Increase In Term Loan                       | 12.38        | -           | -           | -            | -            |
| Increase in Creditors                       | 3.78         | 0.61        | 0.65        | 0.69         | 0.74         |
| Subsidy/Grant                               | 10.00        | -           | -           | -            | -            |
|                                             |              |             |             |              |              |
| <b>TOTAL :</b>                              | <b>48.02</b> | <b>6.22</b> | <b>8.88</b> | <b>11.47</b> | <b>14.97</b> |
|                                             |              |             |             |              |              |
|                                             |              |             |             |              |              |
| <b><u>APPLICATION OF FUND</u></b>           |              |             |             |              |              |
|                                             |              |             |             |              |              |
| Increase in Fixed Assets                    | 27.50        | -           | -           | -            | -            |
| Increase in Stock                           | 9.90         | 1.58        | 1.69        | 1.80         | 1.97         |
| Increase in Debtors                         | 5.56         | 1.19        | 0.99        | 1.06         | 1.18         |
| Repayment of Term Loan                      | 1.38         | 2.75        | 2.75        | 2.75         | 2.75         |
| Taxation                                    | -            | -           | 0.51        | 0.73         | 1.54         |
| Drawings                                    | 0.50         | 0.60        | 2.00        | 5.00         | 7.00         |
| <b>TOTAL :</b>                              | <b>44.83</b> | <b>6.13</b> | <b>7.95</b> | <b>11.33</b> | <b>14.44</b> |
|                                             |              |             |             |              |              |
| Opening Cash & Bank Balance                 | -            | 3.19        | 3.28        | 4.21         | 4.34         |
|                                             |              |             |             |              |              |
| Add : Surplus                               | 3.19         | 0.09        | 0.93        | 0.14         | 0.53         |
|                                             |              |             |             |              |              |
| Closing Cash & Bank Balance                 | <b>3.19</b>  | <b>3.28</b> | <b>4.21</b> | <b>4.34</b>  | <b>4.87</b>  |

### 2.13. Depreciation Schedule:

| <b>COMPUTATION OF DEPRECIATION</b> |        |                   |               |       |
|------------------------------------|--------|-------------------|---------------|-------|
|                                    |        |                   |               |       |
| Description                        | Land   | Plant & Machinery | Other Assets  | TOTAL |
|                                    |        |                   |               |       |
|                                    |        |                   |               |       |
| Rate of Depreciation               |        | <b>15.00%</b>     | <b>10.00%</b> |       |
| <b>Opening Balance</b>             | Leased | -                 | -             | -     |
| Addition                           | -      | 25.50             | 2.00          | 27.50 |
|                                    | -      | 25.50             | 2.00          | 27.50 |
|                                    |        | -                 | -             | -     |
| <b>TOTAL</b>                       |        | 25.50             | 2.00          | 27.50 |
| Less : Depreciation                | -      | 3.83              | 0.20          | 4.03  |
| WDV at end of Ist year             | -      | 21.68             | 1.80          | 23.48 |
| Additions During The Year          | -      | -                 | -             | -     |
|                                    | -      | 21.68             | 1.80          | 23.48 |
| Less : Depreciation                | -      | 3.25              | 0.18          | 3.43  |
| WDV at end of IIInd Year           | -      | 18.42             | 1.62          | 20.04 |
| Additions During The Year          | -      | -                 | -             | -     |
|                                    | -      | 18.42             | 1.62          | 20.04 |
| Less : Depreciation                | -      | 2.76              | 0.16          | 2.93  |
| WDV at end of IIIrd year           | -      | 15.66             | 1.46          | 17.12 |
| Additions During The Year          | -      | -                 | -             | -     |
|                                    | -      | 15.66             | 1.46          | 17.12 |
| Less : Depreciation                | -      | 2.35              | 0.15          | 2.49  |
| WDV at end of IV year              | -      | 13.31             | 1.31          | 14.62 |
| Additions During The Year          | -      | -                 | -             | -     |
|                                    | -      | 13.31             | 1.31          | 14.62 |
| Less : Depreciation                | -      | 2.00              | 0.13          | 2.13  |
| WDV at end of Vth year             | -      | 11.31             | 1.18          | 12.50 |

## 2.14. Repayment Schedule:

| <b>REPAYMENT SCHEDULE OF TERM LOAN</b> |                    |               |                 |              |                 | 11.0%            |                   |
|----------------------------------------|--------------------|---------------|-----------------|--------------|-----------------|------------------|-------------------|
| <b>Year</b>                            | <b>Particulars</b> | <b>Amount</b> | <b>Addition</b> | <b>Total</b> | <b>Interest</b> | <b>Repayment</b> | <b>CI Balance</b> |
| <b>I</b>                               | Opening Balance    |               |                 |              |                 |                  |                   |
|                                        | Ist Quarter        | -             | 12.38           | 12.38        | 0.34            | -                | 12.38             |
|                                        | Iind Quarter       | 12.38         | -               | 12.38        | 0.34            | -                | 12.38             |
|                                        | IIIRD Quarter      | 12.38         | -               | 12.38        | 0.34            | 0.69             | 11.69             |
|                                        | Ivth Quarter       | 11.69         | -               | 11.69        | 0.32            | 0.69             | 11.00             |
|                                        |                    |               |                 |              | 1.34            | 1.38             |                   |
| <b>II</b>                              | Opening Balance    |               |                 |              |                 |                  |                   |
|                                        | Ist Quarter        | 11.00         | -               | 11.00        | 0.30            | 0.69             | 10.31             |
|                                        | Iind Quarter       | 10.31         | -               | 10.31        | 0.28            | 0.69             | 9.63              |
|                                        | IIIRD Quarter      | 9.63          | -               | 9.63         | 0.26            | 0.69             | 8.94              |
|                                        | Ivth Quarter       | 8.94          |                 | 8.94         | 0.25            | 0.69             | 8.25              |
|                                        |                    |               |                 |              | 1.10            | 2.75             |                   |
| <b>III</b>                             | Opening Balance    |               |                 |              |                 |                  |                   |
|                                        | Ist Quarter        | 8.25          | -               | 8.25         | 0.23            | 0.69             | 7.56              |
|                                        | Iind Quarter       | 7.56          | -               | 7.56         | 0.21            | 0.69             | 6.88              |
|                                        | IIIRD Quarter      | 6.88          | -               | 6.88         | 0.19            | 0.69             | 6.19              |
|                                        | Ivth Quarter       | 6.19          |                 | 6.19         | 0.17            | 0.69             | 5.50              |
|                                        |                    |               |                 |              | 0.79            | 2.75             |                   |
| <b>IV</b>                              | Opening Balance    |               |                 |              |                 |                  |                   |
|                                        | Ist Quarter        | 5.50          | -               | 5.50         | 0.15            | 0.69             | 4.81              |
|                                        | Iind Quarter       | 4.81          | -               | 4.81         | 0.13            | 0.69             | 4.13              |
|                                        | IIIRD Quarter      | 4.13          | -               | 4.13         | 0.11            | 0.69             | 3.44              |
|                                        | Ivth Quarter       | 3.44          |                 | 3.44         | 0.09            | 0.69             | 2.75              |
|                                        |                    |               |                 |              | 0.49            | 2.75             |                   |
| <b>V</b>                               | Opening Balance    |               |                 |              |                 |                  |                   |
|                                        | Ist Quarter        | 2.75          | -               | 2.75         | 0.08            | 0.69             | 2.06              |
|                                        | Iind Quarter       | 2.06          | -               | 2.06         | 0.06            | 0.69             | 1.38              |
|                                        | IIIRD Quarter      | 1.38          | -               | 1.38         | 0.04            | 0.69             | 0.69              |
|                                        | Ivth Quarter       | 0.69          |                 | 0.69         | 0.02            | 0.69             | -                 |
|                                        |                    |               |                 |              | 0.19            | 2.75             |                   |

## 2.15. Financial Ratios:

| FINANCIAL RATIOS               |               |               |               |               |               |
|--------------------------------|---------------|---------------|---------------|---------------|---------------|
|                                | I             | II            | III           | IV            | V             |
| TURNOVER                       | 111.15        | 135.01        | 154.87        | 175.99        | 199.62        |
| GROSS PROFIT                   | 16.07         | 19.71         | 22.86         | 26.76         | 31.53         |
| <b>G.P. RATIO</b>              | <b>14.46%</b> | <b>14.60%</b> | <b>14.76%</b> | <b>15.20%</b> | <b>15.79%</b> |
| NET PROFIT                     | 1.47          | 2.91          | 5.13          | 7.25          | 10.24         |
| <b>N.P. RATIO</b>              | <b>1.3%</b>   | <b>2.2%</b>   | <b>3.3%</b>   | <b>4.1%</b>   | <b>5.1%</b>   |
| CURRENT ASSETS                 | 18.65         | 21.51         | 25.13         | 28.12         | 31.80         |
| CURRENT LIABILITIES            | 12.54         | 13.15         | 13.80         | 14.49         | 15.23         |
| <b>CURRENT RATIO</b>           | <b>1.49</b>   | <b>1.64</b>   | <b>1.82</b>   | <b>1.94</b>   | <b>2.09</b>   |
| TERM LOAN                      | 11.00         | 8.25          | 5.50          | 2.75          | -             |
| TOTAL NET WORTH                | 10.39         | 12.69         | 15.31         | 16.84         | 18.54         |
| <b>DEBT/EQUITY</b>             | <b>1.06</b>   | <b>0.65</b>   | <b>0.36</b>   | <b>0.16</b>   | <b>-</b>      |
| TOTAL NET WORTH                | 10.39         | 12.69         | 15.31         | 16.84         | 18.54         |
| TOTAL OUTSIDE LIABILITIES      | 23.54         | 21.40         | 19.30         | 17.24         | 15.23         |
| <b>TOL/TNW</b>                 | <b>2.27</b>   | <b>1.69</b>   | <b>1.26</b>   | <b>1.02</b>   | <b>0.82</b>   |
| PBDIT                          | 6.00          | 7.67          | 10.50         | 12.95         | 16.92         |
| INTEREST                       | 2.31          | 2.06          | 1.76          | 1.45          | 1.15          |
| <b>INTEREST COVERAGE RATIO</b> | <b>2.60</b>   | <b>3.72</b>   | <b>5.97</b>   | <b>8.90</b>   | <b>14.68</b>  |
| WDV                            | 25.28         | 22.58         | 19.48         | 15.96         | 11.97         |
| TERM LOAN                      | 11.00         | 8.25          | 5.50          | 2.75          | -             |
| <b>FACR</b>                    | <b>2.30</b>   | <b>2.74</b>   | <b>3.54</b>   | <b>5.80</b>   | <b>-</b>      |

## 2.16. Breakeven Point Analysis:

| BREAK EVEN POINT ANALYSIS                     |               |               |               |               |               |
|-----------------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Year                                          | I             | II            | III           | IV            | V             |
| <b>Net Sales &amp; Other Income</b>           | 111.15        | 135.01        | 154.87        | 175.99        | 199.62        |
| Less : Op. WIP Goods                          | -             | 5.85          | 6.78          | 7.78          | 8.83          |
| Add : Cl. WIP Goods                           | 5.85          | 6.78          | 7.78          | 8.83          | 10.02         |
| <b>Total Sales</b>                            | <b>117.00</b> | <b>135.95</b> | <b>155.87</b> | <b>177.05</b> | <b>200.81</b> |
| <b>Variable &amp; Semi Variable Exp.</b>      |               |               |               |               |               |
| Raw Material                                  | 81.00         | 94.05         | 108.00        | 122.85        | 138.60        |
| Electricity Exp/Coal Consumption at 85%       | 2.85          | 3.14          | 3.42          | 3.71          | 3.99          |
| Wages & Salary at 60%                         | 9.57          | 10.59         | 11.77         | 13.15         | 14.78         |
| Selling & administrative Expenses 80%         | 1.78          | 3.24          | 3.47          | 4.08          | 4.79          |
| ii) Interest On Working Capital               | 0.96          | 0.96          | 0.96          | 0.96          | 0.96          |
| Repair & Maintenance                          | 4.45          | 5.40          | 6.97          | 8.10          | 9.38          |
| Packing cost & other overhead                 | 2.22          | 2.70          | 3.10          | 3.52          | 3.99          |
| <b>Total Variable &amp; Semi Variable Exp</b> | <b>102.83</b> | <b>120.08</b> | <b>137.70</b> | <b>156.37</b> | <b>176.50</b> |
| <b>Contribution</b>                           | <b>14.17</b>  | <b>15.86</b>  | <b>18.17</b>  | <b>20.68</b>  | <b>24.31</b>  |
| <b>Fixed &amp; Semi Fixed Expenses</b>        |               |               |               |               |               |
| Electricity Exp/Coal Consumption at 15%       | 0.50          | 0.55          | 0.60          | 0.65          | 0.70          |
| Wages & Salary at 40%                         | 6.38          | 7.06          | 7.85          | 8.76          | 9.85          |
| Interest on Term Loan                         | 1.34          | 1.10          | 0.79          | 0.49          | 0.19          |
| Depreciation                                  | 4.03          | 3.43          | 2.93          | 2.49          | 2.13          |
| Selling & administrative Expenses 20%         | 0.44          | 0.81          | 0.87          | 1.02          | 1.20          |
| <b>Total Fixed Expenses</b>                   | <b>12.69</b>  | <b>12.95</b>  | <b>13.04</b>  | <b>13.43</b>  | <b>14.07</b>  |
| <b>Capacity Utilization</b>                   | <b>50%</b>    | <b>55%</b>    | <b>60%</b>    | <b>65%</b>    | <b>70%</b>    |
| <b>OPERATING PROFIT</b>                       | <b>1.47</b>   | <b>2.91</b>   | <b>5.13</b>   | <b>7.25</b>   | <b>10.24</b>  |
| <b>BREAK EVEN POINT</b>                       | <b>45%</b>    | <b>45%</b>    | <b>43%</b>    | <b>42%</b>    | <b>41%</b>    |
| <b>BREAK EVEN SALES</b>                       | <b>104.84</b> | <b>111.03</b> | <b>111.87</b> | <b>114.95</b> | <b>116.23</b> |

### **3. Limitations of the Model DPR and Guidelines for Entrepreneurs**

#### **3.1. Limitations of the Model DPR**

- i. This model DPR has provided only the basic standard components and methodology to be adopted by an entrepreneur while submitting a proposal under the Formalization of Micro Food Processing Enterprises Scheme of MoFPI.
- ii. This is a model DPR made to provide general methodological structure not for specific entrepreneur/crops/location. Therefore, information on the entrepreneur, forms and structure (proprietorship/partnership/cooperative/ FPC/joint stock company) of his business, details of proposed DPR, project location, raw material base/contract sourcing, entrepreneurs own SWOT analysis, detailed market research, rationale of the project for specific location, community advantage/benefit from the project, employment generation and many more detailed aspects not included.
- iii. The present DPR is based on certain assumptions on cost, prices, interest, capacity utilization, output recovery rate and so on. However, these assumptions in reality may vary across places, markets and situations; thus the resultant calculations will also change accordingly.
- iv. This particular DPR is made on three components of means of finance i.e. grant, owner's contribution and loan/debt as followed in many central sector schemes. However, if the DPR is for credit linked subsidy then the calculation may slightly change without changes in the general structure and methodology adopted in the DPR.

#### **3.2. Guidelines for the Entrepreneurs**

- i. The success of any prospective food processing project depends on how closer the assumptions made in the initial stage are with the reality of the targeted market/place/situation. Therefore, the entrepreneurs must do its homework as realistic as possible on the assumed parameters.
- ii. This model DPR must be made more comprehensive by the entrepreneur by including information on the entrepreneur, forms and structure (proprietorship/partnership/cooperative/ FPC/joint stock company) of entrepreneur's business, project location, raw material base/contract sourcing, entrepreneurs own SWOT analysis, detailed market research, comprehensive dehydrated product mix based on demand, rationale of the project for specific location, community advantage/benefit from the project, employment generation, production/availability of the raw materials/crops in the targeted area/clusters and many more relevant aspects for acceptance and approval of the competent authority.
- iii. The entrepreneur must be efficient in managing the strategic, financial, operational,

material and marketing aspects of a business. In spite of the assumed parameter being closely realistic, a project may become unsustainable if the entrepreneur does not possess the required efficiency in managing different aspects of the business and respond effectively in changing situations.

- iv. The machineries should be purchased after thorough market research and satisfactory demonstration.
- v. The entrepreneur must ensure uninterrupted quality raw materials' supply and maintain optimum inventory levels for uninterrupted operations management.
- vi. The entrepreneur must possess a strategic look to steer the business in upward trajectory.
- vii. The entrepreneur must maintain optimum (not more or less) inventory, current assets. Selecting optimum source of finance, not too high debt-equity ratio, proper capital budgeting and judicious utilization of surplus profit for expansion is must.
- viii. The entrepreneur must explore prospective markets through extensive research, find innovative marketing strategy, and maintain quality, adjust product mix to demand.
- ix. The entrepreneur must provide required documents on land, financial transaction, balance sheet, further project analysis as required by the competent authority for approval.
- x. The entrepreneur must be hopeful and remain positive in attitude.

.....



## Contact Us

### **National Institute of Food Technology, Entrepreneurship and Management (NIFTEM) - Thanjavur**

(an Institute of National Importance under Ministry of Food Processing Industries, Government of India)

Pudukkottai Road, Thanjavur – 613005, Tamil Nadu, India

Ph: 04362-228155, Fax: 04362-227971

Email: [director@iifpt.edu.in](mailto:director@iifpt.edu.in) Web: <https://niftem-t.ac.in/>

