



# PM Formalisation of Micro Food Processing Enterprises Scheme

## DETAILED PROJECT REPORT FOR MORINGA LEAF POWDER



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3.1.	Limitations of the Model DPR	17
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## 1. The Project at a Glance

1. Name of the proposed project	:	Fruits and Vegetables Dehydration 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	:	250 MT/annum (70, 80 & 90% capacity utilization in the 2 <sup>nd</sup> , 3 <sup>rd</sup> and 4 <sup>th</sup> years' onwards respectively)
11. Raw materials	:	Seasonal fruits and vegetables
12. Major product outputs	:	Dehydrated fruits and vegetables
13. Total project cost	:	Rs. 30 Lakhs
• Land development, building & civil construction	:	Rs. 2.00 Lakhs (only for expansion of existing built-up area)
• Machinery and equipments	:	Rs. 18 Lakhs
• Utilities (Power & water facilities)	:	Rs. 2 Lakhs
• Miscellaneous fixed assets	:	Rs. 1 Lakh
• Pre-operative expenses	:	Rs. 0.32Lakhs
• Contingencies	:	Rs. 2.00 Lakhs
• Working capital margin	:	Rs. 4.68Lakhs
14. Working capital requirement		
• 2 <sup>nd</sup> year		Rs. 14.04Lakhs
• 3 <sup>rd</sup> year		Rs. 16.04Lakhs
• 4 <sup>th</sup> year		Rs. 18.05Lakhs
15. Means of Finance		
• Subsidy grant by MoFPI (max 10 lakhs)	:	Rs. 10.00 Lakhs
• Promoter's contribution (min 20%)	:	Rs. 6.00 Lakhs
• Term loan (45%)	:	Rs. 14.00 Lakhs
16. Debt-equity ratio	:	2.33:1
17. Profit after Depreciation, Interest & Tax		
• 2 <sup>nd</sup> year	:	Rs. 8.54 Lakhs
• 3 <sup>rd</sup> year	:	Rs. 11.59 Lakhs
• 4 <sup>th</sup> year	:	Rs. 14.65 Lakhs
18. Average DSCR	:	4.79
19. Benefit-Cost Ratio	:	1.22
20. Term loan repayment	:	7 Years with 1 year grace period
21. Payback period for investment	:	4 Years

## **2. About of the Project**

### **2.1. Dehydration of Fruits and Vegetables**

India is known as the second largest fruits and vegetables producer in the world followed by China. India accounts for about 15 per cent of the world's vegetable production. In the production of many fruits and vegetables, India is either first or second. However, fruits and vegetables being perishable in nature, get wasted to the tune of 20-30 per cent in the whole supply chain due to poor post harvest management. On the other hand, only 2 per cent of fruits and vegetables are processed in to value added products and the rest is consumed as fresh. Therefore, processing of fruits and vegetables offers immense scope for wastage minimization and value addition; thus can generate significant income and employment in Indian agrarian economy.

Fruits and vegetables are seasonal as well as perishable in nature. Dehydration of seasonal fruits and vegetables are good bet for long term storage even upto 5 years or beyond if hermitically sealed and can be made available to the consumers during off season. There is immense scope of market for certain popular and high value dehydrated seasonal fruits and vegetables.

Seasonal vegetable such as carrots, okra, drum stick, bitter guard, green peas, cauliflower, cabbage, spinach, onion, sweet potato, mushroom, french bean and others; fruits such as slices of date plum, pineapple, kiwi, plum, persimmon, jackfruit, apricots, nuts, peach, mango, strawberry etc can be well preserved and made available at good prices during off season through proven dehydration technology. Therefore, small to medium scale integrated dehydration unit for fruits and vegetable can be established in potential clusters across India.

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

A sustainable business unit must ensure maximum capacity utilization and thus requires an operation of minimum 280-300 days per year to get reasonable profit. Therefore, ensuring uninterrupted raw materials supply requires maintenance of adequate raw material inventory. The processor must have linkage with producers preferably FPCs through contract to get adequate quantity which otherwise gets spoiled during glut season.

### **2.3. Technology**

IIFPT has all the advanced technical know on dehydration of specific fruits, vegetables with respect to specific parameters' for getting good quality standards. These technologies are available through consultancy.

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

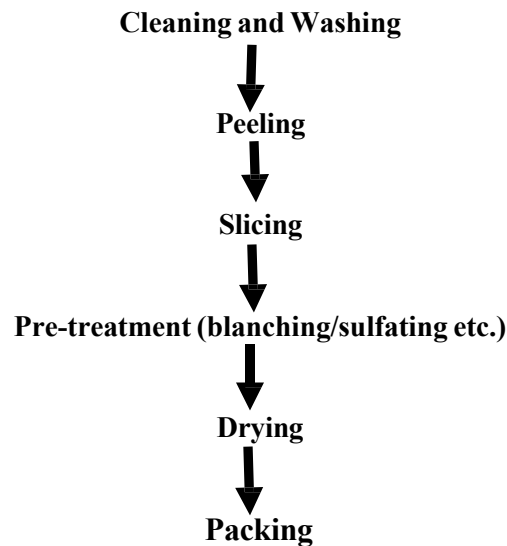
Seasonal vegetables are part and parcel of household diet across India and fruits consumption is also picking up due to increasing income and health consciousness. Therefore, demand for fruits and vegetables are prevalent across length and breadth of the country throughout the year. However, due to specific climatic requirements availability/supply of most of these crops is seasonal. Price fluctuations between on and off season further makes it more complicated for both producers and consumers as producers get extremely low price during production season and consumers pay accessibly high price during off season. Therefore, preservation through dehydration technique can play an important role in bringing the demand and supply gap narrower and make win-win situation for both producers and consumers.

### **2.5. Marketing Strategy**

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

### **2.6. Manufacturing Process**

Dehydration is one of the easiest processing and preservation techniques of agricultural commodities. Dehydration basically removes moistures through heat. The traditional drying process involves sun drying; however, it leads to inferior product quality. Therefore, mechanical drying through electricity/solar power offers better quality and price realization. Though different fruits and vegetables require different temperature; the optimum temperature is 140° F or 52° C as higher temperatures may 'case harden'. The product is usually dried up to 15 per cent moisture level. The general process flow chart for dehydrated fruits and vegetables is given below:



## 2.7. Basic Project Assumptions

Capacity of Dehydration Unit	: 250MT/annum.
Working hours per day	: 8-10 hrs.
Working days per year	: 300 days.
Interest on capital investment	: 8.5% on term loan and 10 % on working capital loan.
Repayment period	: Seven years with oneyear grace period is considered.
Utilization of capacity	: 1 <sup>st</sup> year implementation, 70% in 2 <sup>nd</sup> year, 80% in 3 <sup>rd</sup> year and 90% in 4 <sup>th</sup> year onwards.
Capacity utilization for fruits	: 50%
Capacity utilization for vegetables	: 50%
Average prices of raw material	: Rs. 15/Kg for vegetables and for fruits Rs. 30/Kg.
Average sale prices of dried products:	Dried vegetables Rs. 120/Kg and dried fruits Rs. 200/Kg.
Average recovery rate	: 25%.for dried fruits and vegetables on weight basis

## 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.

i. Land 10000 Sq ft	Assumed land already developed and has 7000 sq m built in area. So additional 1000 sq ft can be built in @ Rs. 200/sq ft
ii. Built-up processing area 6000 sq ft	
iii. Storage area 2000 sq ft	
	Rs. 2.00 Lakhs
<b>Total</b>	<b>Rs. 2.00 Lakhs</b>

## 2.8.B. Machinery & Equipment: Rs. 18 Lakhs

### Option – I

Sl.	Descriptions	Power required	Area required (Sq.ft)	Qty	Amount (Rs. in lakhs)
1.	<b>Drum Washer</b> Capacity 25 kg/hr Washes Interior and Exterior Surfaces, Solvent, Caustic, Sanitizer, and Water washing	2 HP	25	1	3.00
2.	<b>Abrasive Peeling Machine</b> Capacity 25 kg / hr abrasive peeling machine has been furnished with a scraping set, provided with a very durable carborundum layer	2 HP	16	1	1.00
3.	<b>Vegetable slicer</b> Capacity 100 kg/hr Belt Cutting cum Dicing Machine delivered with SS Guide. SS Finish fitted with a Conveyor Belt for Slicing application controlled by Inverter and has Cast Alloy Feeder for Dicing inbuilt in the machine.	2 HP	25	1	2.00
4.	<b>Blancher</b> Capacity 100 kg/hr	3 HP	25	1	5.00
5.	<b>Convective Tray dryer</b> Capacity 100 kg	8 HP	50	2	2.000
6.	<b>Form, Fill and Sealing machine</b> Capacity: 50-250 gms packets Packaging: Bag or non polythenes Products: Millets flour, Pastha, and extruded products Augur type/cup type Speed: 10-12 pouches/min Product type: Fine and coarse Operation system: Fully automation/semi automatic Inbuilt Operation : Bag forming Filling, sealing, cutting and packing With speed adjustable Speed Three side seal(vertical and horizontal )	2 HP	25	1	5.00
	<b>Total</b>				<b>18.00</b>

**Option – II**

Sl.	Descriptions	Power required	Area required (Sq.ft)	Qty	Amount (Rs. in lakhs)
1.	<b>Drum Washer</b> Capacity 25 kg/hr Washes Interior and Exterior Surfaces, Solvent, Caustic, Sanitizer, and Water washing	2 HP	25	1	3.00
2.	<b>Abrasive Peeling Machine</b> Capacity 25 kg / hr abrasive peeling machine has been furnished with a scraping set, provided with a very durable carborundum layer	2 HP	16	1	1.00
3.	<b>Vegetable slicer</b> Capacity 100 kg/hr Belt Cutting cum Dicing Machine delivered with SS Guide. SS Finish fitted with a Conveyor Belt for Slicing application controlled by Inverter and has Cast Alloy Feeder for Dicing inbuilt in the machine.	2 HP	25	1	2.00
4.	<b>Blancher</b> Capacity 100 kg/hr	3 HP	25	1	5.00
5.	<b>Hybrid solar Dryer</b> Capacity 100 kg	-	200	1	5.00
6.	<b>Band Sealer</b> Capacity: 100-300 pkts /hr Options/Features PID controller is provided to keep the temperature constant which ensures perfect sealing even for on thin aluminum pouches. Speed of the conveyor should be varied depends up on the sealing type	0.5 HP	5	1	0.50
7.	<b>Tray sealer</b> Capacity 100 kg/hr	0.5 HP		1	0.50
8.	<b>Impulse sealer</b> Capacity 100 kg/hr	1 HP		1	1.00
	<b>Total</b>				<b>18.00</b>



### Option – III

Sl.	Descriptions	Power required	Area required (Sq.ft)	Qty	Amount (Rs. in lakhs)
1.	<b>Abrasive Peeling Machine</b> Capacity 25 kg / hr abrasive peeling machine has been furnished with a scraping set, provided with a very durable carborundum layer	2 HP	16	1	1.00
2.	<b>Vegetable slicer</b> Capacity 100 kg/hr Belt Cutting cum Dicing Machine delivered with SS Guide. SS Finish fitted with a Conveyor Belt for Slicing application controlled by Inverter and has Cast Alloy Feeder for Dicing inbuilt in the machine.	2 HP	25	1	2.00
3.	<b>Blancher</b> Capacity 100 kg/hr	3 HP	25	1	5.00
4.	<b>Hybrid solar Dryer</b> Capacity 100 kg	-	200	1	5.00
5.	<b>Form, Fill and Sealing machine</b> Capacity: 50-250 gms packets Packaging: Bag or non polythenes Products: Millets flour, Pastha, and extruded products Augur type/cup type Speed: 10-12 pouches/min Product type: Fine and coarse Operation system: Fully automation/semi automatic Inbuilt Operation : Bag forming Filling, sealing, cutting and packing With speed adjustable Speed Three side seal(vertical and horizontal )	2 HP	25	1	5.00
	<b>Total</b>				<b>18.00</b>

### 2.8.C. Utilities and Fittings

i.	Power	Rs. 2.00 Lakhs
ii.	Water	

#### 2.8.D. Other Fixed Assets

i. Furniture and Fixtures	Rs. 1 Lakh
ii. Plastic trays capacity	
iii. Electrical fittings	

#### 2.8.E. Pre-operative Expenses

Legal expenses, start-up expenses, establishment cost, consultancy fee, trial runs, & others	Rs.32000
<b>Total Pre-operative Expenses</b>	<b>Rs.32000</b>

#### 2.8.F. Total Fixed Capital Investment (A+B+C+D+E): Rs. 23.32 Lakhs

#### 2.9. Working Capital Requirement

Working capital is critical input in fruits and vegetables dehydration unit as raw materials are seasonal and thus need to maintain high inventories.

<b>Working Capital Requirement (Rs. in Lakh)</b>				
<b>Particulars</b>	<b>Period</b>	<b>Year 2 (70%-175 MT)</b>	<b>Year 3(80%-200 MT)</b>	<b>Year 4(90%-225 MT)</b>
Raw material stock	7 days	0.91	1.04	1.17
Work in progress	30 days	5.91	6.75	7.60
Packing material	30 days	0.40	0.46	0.51
Finished goods' stock	15 days	3.50	4.00	4.50
Receivables	30 days	7.00	8.00	9.00
Working expenses	30 days	1.00	1.14	1.28
Total current assets		18.72	21.39	24.06
Trade creditors		0	0	0
Working capital gap		18.72	21.39	24.06
Margin money (25%)		4.68	5.35	6.01
Bank finance		14.04	16.04	18.05

## 2.10. Total Project Cost and Means of Finance

Particulars	Amount (Rs. in Lakhs)
i. Land and building	2.00
ii. Plant and machinery	18.00
iii. Utilities	2.00
iv. Other Fixed assets	1.00
v. Pre-operative expenses	0.32
vi. Contingencies	2.00
vii. Working capital margin	4.68
<b>Total project cost (i to vii)</b>	<b>30</b>
<b>Means of finance</b>	
i. Subsidy	10
ii. Promoter's contribution	6
iii. Term loan	14

## 2.11. Manpower (Monthly)

Particulars	No. & Wage	Total Salary (Rs.)
i. Manager (can be the owner )	1 @ Rs. 20000	20000
ii. Skilled worker	2 @ Rs. 10000	20000
iii. Semi skilled	2 @ Rs. 7500	15000
iv. Helper	1 @ Rs. 5000	5000
v. Sales man	1 @ Rs. 7500	7500
<b>Total</b>	<b>7 persons</b>	<b>67500</b>

Note: Manager, two skilled workers are permanent staffs only (Salary Rs. 40000/month). Others are casual staffs.

## 2.12. Financial Analysis

	Particulars	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year	6 <sup>th</sup> Year	7 <sup>th</sup> Year	8 <sup>th</sup> Year
<b>A</b>	<b>Total Installed Capacity</b>	250 MT/Year Raw Fruits & Vegetables							
	Capacity utilization (%)	Under const. (0%)	175 MT (70 %)	200 MT (80 %)	225 MT (90 %)	225 MT (90 %)	225 MT (90 %)	225 MT (90 %)	225 MT (90 %)
<b>B</b>	<b>Expenditure calculation (Rs. in Lakh)</b>								
	Raw vegetables (Av. Price @ Rs. 15/Kg )	0.00	13.12	15.00	16.87	16.87	16.87	16.87	16.87
	Raw fruits (Av. Price @ Rs. 30/Kg)	0.00	26.25	30.00	33.75	33.75	33.75	33.75	33.75
	Packaging materials	0.00	4.00	4.57	5.14	5.14	5.14	5.14	5.14
	Utilities (Electricity, Fuel)	0.00	3.50	4.00	4.50	4.50	4.50	4.50	4.50
	Salaries	4.05	8.10	8.10	8.10	8.10	8.10	8.10	8.10
	Repair & maintenance	0.50	0.50	0.57	0.64	0.64	0.64	0.64	0.64
	Insurance	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	Miscellaneous expenses	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
	<b>Total Expenditure</b>	<b>5.05</b>	<b>55.97</b>	<b>62.74</b>	<b>69.50</b>	<b>69.50</b>	<b>69.50</b>	<b>69.50</b>	<b>69.50</b>
<b>C</b>	<b>Sales Revenue (Rs. in Lakh)</b>	<b>0.00</b>	<b>70.00</b>	<b>80.00</b>	<b>90.00</b>	<b>90.00</b>	<b>90.00</b>	<b>90.00</b>	<b>90.00</b>
	Sale of dried vegetables (Av. Sale Price @ Rs. 120/Kg)	0.00	26.25	30.00	33.75	33.75	33.75	33.75	33.75
	Sale of dried fruits (Av. Sale Price @ Rs. 200/Kg)	0.00	43.75	50.00	56.25	56.25	56.25	56.25	56.25
<b>D</b>	<b>PBDIT (Total exp.-Total sales rev.) (Rs. in Lakh)/Cash Inflows</b>	<b>-5.05</b>	<b>14.03</b>	<b>17.26</b>	<b>20.50</b>	<b>20.50</b>	<b>20.50</b>	<b>20.50</b>	<b>20.50</b>
	Depreciation on building @ 5% per annum	0.10	0.09	0.09	0.09	0.08	0.07	0.07	0.07
	Depreciation on machinery @ 10% per annum	1.80	1.62	1.46	1.31	1.18	1.06	0.96	0.86
	Depreciation on other fixed assets @ 15% per annum	0.15	0.13	0.11	0.09	0.08	0.07	0.05	0.05
	Interest on term loan	1.19	1.19	1.02	0.85	0.68	0.51	0.34	0.17
	Interest on working capital	0.00	1.40	1.60	1.80	1.80	1.80	1.80	1.80
<b>E</b>	<b>Profit after depreciation and Interest (Rs. in Lakh)</b>	<b>-8.29</b>	<b>9.60</b>	<b>12.98</b>	<b>16.36</b>	<b>16.68</b>	<b>16.99</b>	<b>17.28</b>	<b>17.55</b>
<b>F</b>	<b>Tax (assumed 10%) (Rs. in Lakh)</b>	<b>0.00</b>	<b>0.96</b>	<b>1.30</b>	<b>1.64</b>	<b>1.67</b>	<b>1.70</b>	<b>1.73</b>	<b>1.76</b>
<b>G</b>	<b>Profit after depreciation, Interest &amp; Tax (Rs. in Lakh)</b>	<b>-8.29</b>	<b>8.64</b>	<b>11.68</b>	<b>14.72</b>	<b>15.01</b>	<b>15.29</b>	<b>15.55</b>	<b>15.79</b>

<b>H</b>	Surplus available for repayment (PBDIT-Interest on working capital-Tax) (Rs. in Lakh)	-5.05	11.67	14.36	17.06	17.03	17	16.97	16.94
<b>I</b>	Coverage available (Rs. in Lakh)	-5.05	11.67	14.36	17.06	17.03	17.00	16.97	16.94
<b>J</b>	Total Debt Outgo (Rs. in Lakh)	1.19	3.19	3.02	2.85	2.68	2.51	2.34	2.17
<b>K</b>	<b>Debt Service Coverage Ratio (DSCR)</b>	-4.24	3.66	4.75	5.99	6.35	6.77	7.25	7.81
	<b>Average DSCR</b>	4.79							
<b>L</b>	<b>Cash accruals (PBDIT- Interest-Tax) (Rs. in Lakh)</b>	-6.24	10.48	13.34	16.21	16.35	16.49	16.63	16.77
<b>M</b>	<b>Payback Period</b> (on Rs. 30 Lakhs initial investment)	<b>4 Years</b>							

### 2.13. Repayment Schedule

(Rs. in Lakh)

Year	Outstanding loan at start of yr.	Disbursement	Total outstanding Loan	Surplus for repayment	Interest payment	Repayment of principal	Total outgo	o/s Loan at the end of the yr.	Balance left
1	0	14	14	-5.05	1.19	0	1.19	14	-6.24
2	14		14	11.67	1.19	2	3.19	12	08.48
3	12		12	14.36	1.02	2	3.02	10	11.34
4	10		10	17.06	0.85	2	2.85	8	14.21
5	8		8	17.03	0.68	2	2.68	6	14.35
6	6		6	17.00	0.51	2	2.51	4	14.49
7	4		4	16.97	0.34	2	2.34	2	14.63
8	2		2	16.94	0.17	2	2.17	0	14.77

## 2.14. Assets' Depreciation (Down Value Method)

(Rs. in Lakh)								
Particulars	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year	6 <sup>th</sup> Year	7 <sup>th</sup> Year	8 <sup>th</sup> Year
Civil works	2.00	1.90	1.81	1.72	1.63	1.55	1.48	1.41
Depreciation	0.10	0.09	0.09	0.09	0.08	0.07	0.07	0.07
Depreciated value	1.90	1.81	1.72	1.63	1.55	1.48	1.41	1.34
Plant & Machinery	18.00	16.20	14.58	13.12	11.81	10.63	9.57	8.61
Depreciation	1.80	1.62	1.46	1.31	1.18	1.06	0.96	0.86
Depreciated value	16.20	14.58	13.12	11.81	10.63	9.57	8.61	7.75
Other Fixed Assets	1.00	0.85	0.72	0.61	0.52	0.44	0.37	0.32
Depreciation	0.15	0.13	0.11	0.09	0.08	0.07	0.05	0.05
Depreciated value	0.85	0.72	0.61	0.52	0.44	0.37	0.32	0.27
All Assets	21	18.95	17.11	15.45	13.96	12.62	11.42	10.34
Depreciation	2.05	1.84	1.66	1.49	1.34	1.2	1.08	0.98
Depreciated value	18.00	16.20	14.59	13.15	11.85	10.68	9.63	8.69

## 2.15. Financial Assessment of the Project

### Benefit Cost Ratio (BCR) and Net Present Worth (NPW)

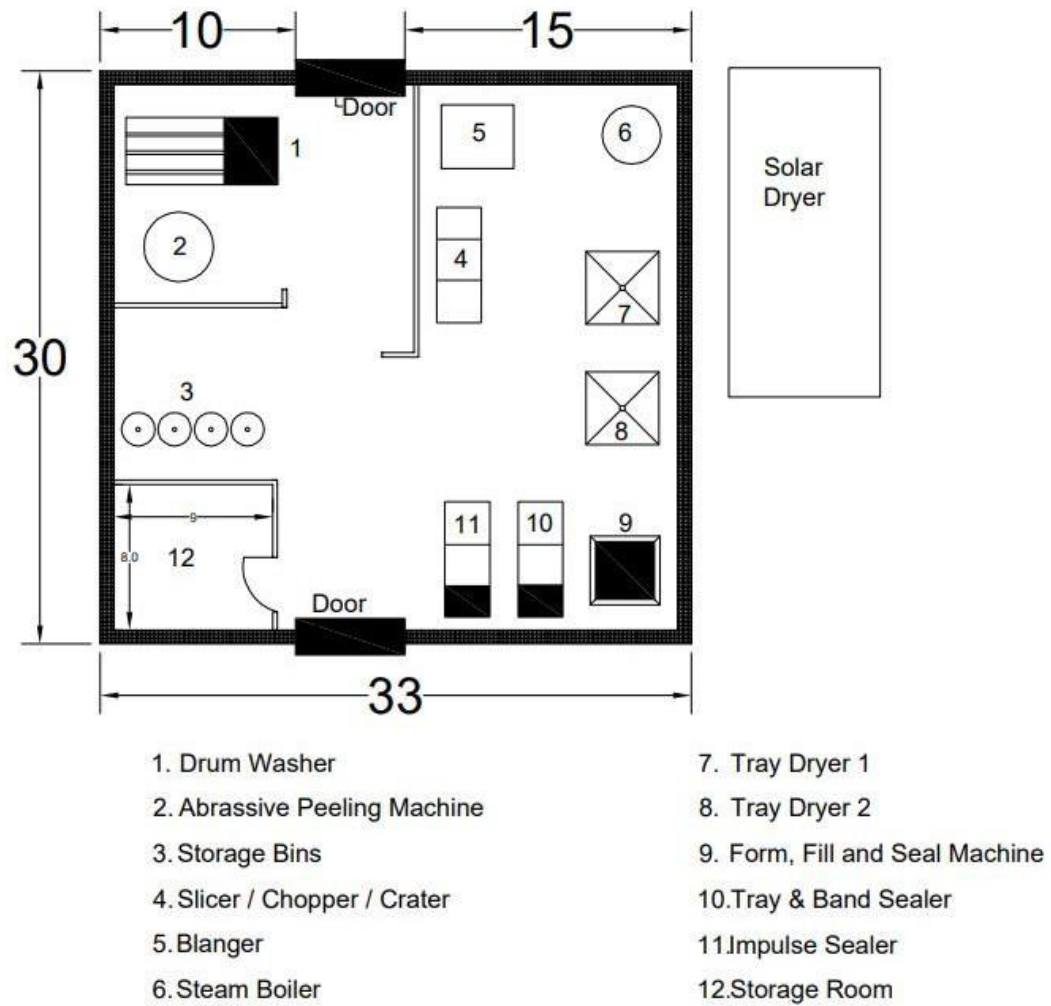
(Rs. in Lakh)									
Sl.	Particulars	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year	6 <sup>th</sup> Year	7 <sup>th</sup> Year	8 <sup>th</sup> Year
i.	Capital cost	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ii.	Recurring cost	5.05	55.97	62.74	69.50	69.50	69.50	69.50	69.50
iii.	Total cost	35.05	55.97	62.74	69.50	69.50	69.50	69.50	69.50
iv.	Benefit	0.00	70.00	80.00	90.00	90.00	90.00	90.00	90.00
v.	Total Depreciated value of all assets								8.69
vi.	Total benefits	0.00	70.00	80.00	90.00	90.00	90.00	90.00	98.69
	<b>Benefit-Cost Ratio (BCR): 1.21 (Profitable project)</b>								
	<b>Net Present Worth (NPW): 107.43</b>								

## Break-Even Analysis

Break Even analysis indicates costs-volume-profit relations in the short run. This is the level at which, the firm is in no loss no profit situation.

(Rs. in Lakh)									
Sl.	Particulars	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year	6 <sup>th</sup> Year	7 <sup>th</sup> Year	8 <sup>th</sup> Year
	Capacity utilization	Under const. (0%)	175 MT (70 %)	200 MT (80 %)	225 MT (90 %)	225 MT (90 %)	225 MT (90 %)	225 MT (90 %)	225 MT (90 %)
<b>A</b>	<b>Fixed Cost</b>								
	Permanent staff salaries	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80
	Depreciation on building @ 5% per annum	0.10	0.09	0.09	0.09	0.08	0.07	0.07	0.07
	Depreciation on machinery @ 10% per annum	1.80	1.62	1.46	1.31	1.18	1.06	0.96	0.86
	Depreciation on other fixed assets @ 15% per annum	0.15	0.13	0.11	0.09	0.08	0.07	0.05	0.05
	Interest on term loan	1.19	1.19	1.02	0.85	0.68	0.51	0.34	0.17
	Insurance	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	<b>Total Fixed Cost</b>	<b>8.14</b>	<b>7.93</b>	<b>7.58</b>	<b>7.24</b>	<b>6.92</b>	<b>6.61</b>	<b>6.32</b>	<b>6.05</b>
<b>B</b>	<b>Sales Revenue</b>	<b>0.00</b>	<b>70.00</b>	<b>80.00</b>	<b>90.00</b>	<b>90.00</b>	<b>90.00</b>	<b>90.00</b>	<b>90.00</b>
<b>C</b>	<b>Variable Cost</b>								
	Raw vegetables (Av. Price @ Rs. 15/Kg)	0.00	13.12	15.00	16.87	16.87	16.87	16.87	16.87
	Raw fruits (Av. Price @ Rs. 30/Kg)	0.00	26.25	30.00	33.75	33.75	33.75	33.75	33.75
	Packaging materials	0.00	4.00	4.57	5.14	5.14	5.14	5.14	5.14
	Casual staff salaries	0.00	3.30	3.30	3.30	3.30	3.30	3.30	3.30
	Utilities (Electricity, Fuel)	0.00	3.50	4.00	4.50	4.50	4.50	4.50	4.50
	Repair & maintenance	0.50	0.50	0.57	0.64	0.64	0.64	0.64	0.64
	Miscellaneous expenses	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
	Interest on working capital	0.00	1.40	1.60	1.80	1.80	1.80	1.80	1.80
	<b>Total Variable Cost</b>	<b>0.90</b>	<b>52.47</b>	<b>59.44</b>	<b>66.40</b>	<b>66.40</b>	<b>66.40</b>	<b>66.40</b>	<b>66.40</b>
<b>D</b>	<b>Break Even Point (BEP) as % of sale</b>	-	45.00	37.00	31.00	29.00	28.00	27.00	26.00
	<b>Break Even Point (BEP) in terms of sale value (Rs. in Lakhs)</b>	-	31.50	29.60	27.90	26.10	25.20	24.30	23.40

## 2.16. Plant Layout



All Dimensions are in Feet



## 2.17. Machinery Suppliers for Dehydration Unit

S. No.	Name of the Manufacturers	Name of the Machineries
1.	<b>M/s Industrial Fabricators</b> 2321, Lane Adj.BoB, GIDC, 3 <sup>rd</sup> Phase Vapi., Gujarat 396196. Mobile:+91 9998540492 response@dryersindia.com	Tray dryers, fluid bed dryers, industrial ovens, continuous dryers, SS/MS vessels and heavy duty structures
2.	<b>M/s Accelor Food Tech Pvt Ltd</b> 22, RVL Nagar, Uppilipalayam Post, Coimbatore - 641 015, Tamilnadu, India. Mobile: 9994411095	Blancher with washer, tray dryer, boiler, multi stage pulveriser, ribbon blender, double deck tunnel dryer, filling machine
3.	<b>M/s Pilotsmith (India) Pvt. Ltd.,</b> Kallettumkara P.O., Thrissur - 680 683 Tel.No.:+91- 4802881157	Drying and dehydration process plant
4.	<b>M/s ALFAGREEN</b> Coimbatore Tel.No.: 0422 2929447 Mobile: 094434 68527 Website : <a href="http://www.alfagreen.in">www.alfagreen.in</a>	Solar Tunnel Dryer
5.	<b>M/s Sun Best Solar</b> Address: 238/10 Nehruji Road, Valli Nagar Theni Allinagaram-625 531 Tel.No.: 04546 255 374	Solar dryers
6.	<b>M/s Energy Microwave Systems Pvt.Ltd.,</b> # 48/D-156/2, H.M.Udyamnagar, 4 <sup>th</sup> , 'N' Block, 3 <sup>rd</sup> Stage, Rajaji Nagar Bangalore-560 010	Continuous drying system
7.	<b>M/s Industrial Laboratory</b> PB.No:6063, No:38, 1 <sup>st</sup> Floor, 2 <sup>nd</sup> Street Anjugam, 5 No. Gam JaferKabent Chennai Mobile : +91- 9840836548	Tray Drier
8.	<b>M/s Lakshmi Card Clothing Manufacturing Company Pvt.Ltd</b> Coimbatore- 641 037 Tel.No.: 0422-2240205 Mobile: 98432-77350 Email: karuna@lakshmicardclothing.com Website: <a href="http://www.lakshmicardclothing.com">www.lakshmicardclothing.com</a>	Radio Frequency Dryer
9.	<b>M/s Sri Bramha Industries</b> ERS complex, Opposite to SIT Trichy-Thanjavur road, Ariyamangalam Trichy- 620010 Mobile: 9842471388, 9842471326, 9865699922 Email:bramhaindustries@gmail.com, <a href="mailto:ramhabhoy@gmail.com">ramhabhoy@gmail.com</a>	Steam Blancher, Boiler, SS double jacketed kettles, racks, storage bins, working table and utensils
10.	<b>M/s Fowler Westrup India (Pvt) Ltd.</b> Plot 249/250, Bommasandra Indl. Estate, 3rd Phase Bangalore - 562 158, Tel.No.	Cleaning/grading plant

	080-7832991, Fax : 080-7832990	
<b>11.</b>	<b>M/s Bansal Flour Mill Engineers</b> A/8, Rajasthani Udyog Nagar New Delhi-110 002, India. Tel.No. : 011-27426944, Fax : 011-27224819	Flour mill machinery, roller mills, plansifter, purifier, cleaning, sorting, pneumatic conveyors, erection, cleaning
<b>12.</b>	<b>M/s Ankon Engineering</b> 518/B, Devarachikkanahalli Road, Bilekahalli Bannerghatta Road, Bengaluru - 560076	Ribbon blender
<b>13.</b>	<b>M/s Ramtech Refrigeration Private Limited</b> 5 & 6, Sathish Nagar, Thirumudivakkam KANNIAMMAN KOIL STREET, Chennai – 600 044, Mobile : 08071804548	Blancher with washer, conveyors
<b>14.</b>	<b>M/s Pearl Packaging</b> 652/1, Sri CV Raman Industrial Estate, Near Rathinam College Eachanari (PO), Coimbatore – 641 021 Tel. No.: 0422 6529795 Mobile: +91-9994917322, 9443378322	Form fill sealing and packing unit
<b>15.</b>	<b>M/s Durapak</b> Old No.4, New No. 12, Norton First Street, Mandaivellipakkam, 1 <sup>st</sup> St, Krishnapuri, Raja Annamalai Puram, Chennai - 600 028 Tel.No.: +91 - 44 4303 3533	Band sealing machine
<b>16.</b>	<b>M/s ATMA TECHNOLOGIES</b> New No.97, South Sivan Koil Street, Land Mark (Behind Kamala Cinema), Near K.M.G Kalyana Mandapam Vadapalani, Chennai – 600 026. Tel.No.: +91-44-2372 8922 Mobile : +91-98401 13136 / +91-90030 26293 Fax : +91-44-2480 6230	Weighing machines

### **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.

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## Contact Us

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