

**Project Profiles**  
**FOOD**  
**Processing Industry**  
**Honey Processing, Papad,**  
**Soya Nuggets**



सत्यमेव जयते

Department of Food Processing Industries  
& Horticulture  
Govt. of West Bengal

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# মহঃ গোলাম রব্বানী

ভারপ্রাপ্ত মন্ত্রী  
খাদ্য প্রক্রিয়াকরণ শিল্প ও উদ্যানপালন দপ্তর, পশ্চিমবঙ্গ সরকার

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## Foreword

West Bengal has the natural advantage of fertile soil, adequate water, and varied climatic conditions to produce a wide variety of food commodities. Farmer communities, private companies and processors of food products can be benefitted immensely from a vibrant food processing sector in West Bengal.

Entrepreneurs interested in investing in the food processing sector need good bankable projects to start their ventures, but the preparation of DPRs for such projects are both time-consuming and expensive. Besides, there is unavailability of good consultants for the same. The Directorate of Food Processing Industries recognizing this as a gap that needs to be filled up, has come up with this set of 21 DPRs of potential projects.

The aim of this set of project profiles is to further develop the food processing sector in West Bengal that meets its aspirations to become a leading state in food processing sector. Our goal remains to minimize post-harvest losses, stimulating employment and building a thriving entrepreneurship ecosystem which would benefit the state's economy and improve the quality of life. It is intended through these project profile documents to create a transparent, time-bound, responsive and positively inclined ecosystem to encourage food processing ventures in the state.

It is expected that these project profiles will help prospective entrepreneurs in the matter of ready DPRs, which may be edited easily to accommodate projects of varying scales. This would also result in savings of time and resources for the entrepreneur.

My department is committed to being by the side of entrepreneurs. This set of publications has been developed after considerable inputs from across the state to take ahead the food processing sector in the state.

Mohammad Ghulam Rabbani



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# Model Project Report on **Honey Processing**

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# Honey Processing – Model Project Report

## Introduction

For ages, honey has been considered to be one of the miracle cures for many illnesses in Ayurveda, many of these claims, however, are yet to be scientifically proved. However, it is proved that honey has a good number of medical benefits because of which the same is used for various medicinal purposes.

In India the production of honey is comparatively low, and it is expected that the demand for the same is going to increase. The India honey market reached a value of about INR 17.29 billion in 2020. The market is further expected to grow at a CAGR of about 10% between 2021 and 2026 to reach a value of nearly INR 30.6 billion by 2026. Given this scenario undertaking honey processing and supplying it to the larger industrial units for their production requirements should be a gainful activity. In terms of overall production, China is the largest producer of honey in the world. India comes at the 7<sup>th</sup> position in terms of overall production. New Zealand has the highest per capita production of honey. The comparative status of production in various countries is given in Annexure 1.

The production of honey in India for the past 15 years up to 2015-16 is given in Annexure 2. Since then, there has been a substantial increase in honey production in India. As per the data from the National Bee Board, under the Department of Agriculture, the country's total honey production reported in 2017-2018 was 1.05 lakh metric tonnes (MTs), compared to the 35,000 metric tonnes in 2005-2006. Given the fact that India has a very low per capita consumption of honey (50 grams per year compared to the highest in Germany having 2kg per year), there is a lot of scope for development of beekeeping and honey processing in India. India as such is an exporter of honey. While north-eastern region and Maharashtra are the key areas for natural honey production, just four States viz., West Bengal, Uttar Pradesh, Punjab and Bihar contributed about 61% to the country's honey production in 2015-16. Based on potential of production the states categorized under "High Potential" are Punjab, WB, Bihar, Kerala, Karnataka, UP, TN & Uttarakhand.

## Promoters - Some specific requirements

While the details of the promoters will have to be obtained along with other information, it may be mentioned that some knowledge of beekeeping and honey processing is absolutely essential for the purpose of undertaking the activity. The same could be in the form of training and capacity building from various government institutions or other reputed institutions. The Proforma for promoter detail is given in Annexure -3.

## History of the company

And as such the project has been prepared as if a new set up is being made for the purpose of honey processing. However, the same could be part of another company. In case it is part of the existing company, details of the existing company have to be obtained/presented in the project report.

Proforma for company report is given in Annexure-4.

## Finished product and its utility

Honey is used for a host of purposes. However, the main drivers for demand of honey are as follows:

- Honey is a rich source of antioxidants and flavonoids which can reduce oxidative stress and inflammation in the body while protecting against heart diseases and cancer. Apart from this, honey also has antibacterial and antiseptic qualities that accelerate wound and burn healing by providing a moist environment and increasing the flow of nutrients to the affected area. Owing to these factors, the demand for honey has gained traction for home remedies.
- Honey is available in different flavors depending upon the flowers used by the bees to produce it. As a result, there is a diverse range of honey products currently available in India which find applications in the food and beverage, cosmetic and pharmaceutical industries.
- The Government has been supporting the production of honey in India by granting help in developing business through commercialization, R&D activities, innovation and exporting. These initiatives support the producers by advisory and mentoring services, organizing workshops and seminars, general and industry-specific training and providing subsidized products, such as business planning tools.
- Scientific validation of the medicinal utilization of honey and its growing value as a premium ingredient in nutraceuticals are also acting as strong market drivers.

## Market, Demand and Major Competitors

The market for honey can be classified into four areas viz., pharma industry, cosmetics industry, retail sale of honey and market for exports. In the year 2016, India exported 38000 MT of honey. However, export market is sensitive to quite a few things. Quality control and standardization of honey are essential for selling in the international market. For export to European Union (EU) and some other countries, it is mandatory to control the level of pesticides and insecticidal residue in the finished product. Further, some countries insist for a certificate validating the purchase of honey from the disease-free colony. Presently there is no disease surveillance system in place and honey collected by tribals is stored unscientifically and in an unhygienic manner which increases the propensity for contamination and deterioration and renders the product unfit for exports. In the export arena we have strong competition from countries like China. India is one of the major exporters of honey. Major destinations for export from India included USA, Saudi Arabia, UAE, Morocco, Bangladesh, Canada, etc. Internally within the country, the highest producer of honey is Punjab. Accordingly, the competition for the

state of West Bengal is from states like Punjab. The major competition at the national level comes from the established brands like Dabur and Patanjali. In addition, there are small scale producers selling honey under the local brands. The alternative is to either become a supplier to a big brand where market is assured but leads to single window dependency or to set up a local brand which would grow over a period. To avoid single window dependency, one may consider tie up with two bulk buyers rather than one simply to mitigate risk.

*Note: In addition, details of localized competition has to be mentioned while preparing the final DPR.*

## Raw Material Requirement

Honey collected from hives and/or frames, glass bottles and labels are the only raw material required for the unit. However, care needs to be taken as to where the material is being collected based on the purpose it is going to be used. Export oriented projects should have the collection preferably from areas where organic cultivation is followed. In general, if honey production is done away from roads and closer to forests, chances of getting good quality honey is higher. The area should have sufficient flowering plants to enable better collection.

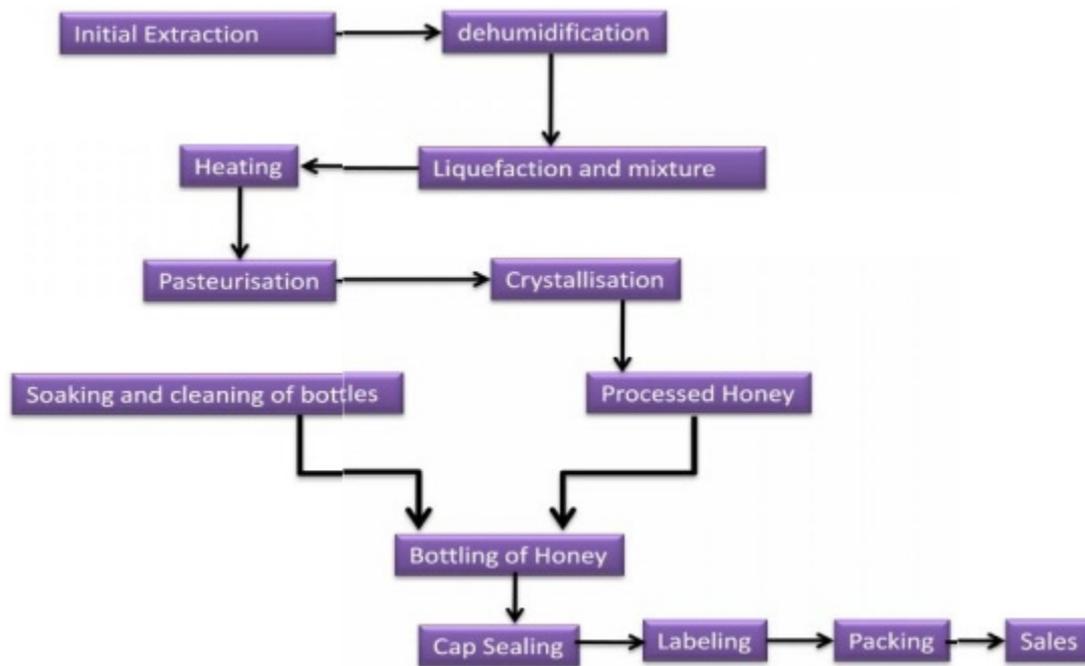
## Manufacturing Process

It may be stated that the extraction process followed may affect the quality of the honey negatively and hence tweaking of the process based on customer requirement is of paramount importance. For example, the collected honey should be preferably from the same locality wherein the bees are collecting the honey from the same kind of plant. This is more important wherein the flavor of the honey becomes an important criterion.

The general process which is followed is explained here.

- ✓ Honey collected from the beekeepers is fed into the plant.
- ✓ The wax, excess moisture and other impurities are then removed from the honey using centrifugal force in the honey processing plant. As there is a possibility of heating, the process has to be carried out in special rooms.
- ✓ Honey is then collected using gravitational force in tanks placed on the floor.
- ✓ It is also ensured that air bubbles created if any during the process are also removed before taking it to the next step.
- ✓ It is also essential that the bottles used as containers are cleaned by washing properly and dried thoroughly. Any kind of contamination would lead to reduction in shelf life of the produce.
- ✓ Processed honey should be immediately bottled in wide mouthed bottles and sealed with PP Caps. Bottles are then labeled and wiped dry. Bottles are then packed in larger cardboard boxes for dispatch. The flow chart for the simple process for honey processing is given in the diagram below:

## Flow Chart for Honey Processing



In general, the initial part of the job wherein honey is extracted from the hive and cleared of major part of the wax is done by the beekeepers. Partially processed honey is passed on to the Honey processing unit. These need to be processed within a short time to avoid wastage of raw material and hence the inventory has been kept at a low level. During the whole process honey should not be exposed to direct heating. Heating in honey is always done by using hot water.

## SWOT Analysis

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>➤ Honey is increasingly consumed as health food.</li> <li>➤ Honey is also used for its medicinal value</li> <li>➤ Well stored honey has unlimited shelf life</li> </ul>	<p><b>Weakness</b></p> <ul style="list-style-type: none"> <li>➤ Collection of Natural Honey can be a constraint and its because of this it is sold at a premium</li> <li>➤ Dependence would be more on reared honey.</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>➤ Use the net based channels for sale as shelf life is not an issue.</li> <li>➤ Tie up with bigger brands to sell your output like bigbasket could be helpful.</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>➤ Local as well as national competitors</li> <li>➤ Use of pesticides in the fields lead to hurting the bee population leading to supply problems in raw material</li> </ul>

## Financial Aspects of the Project

### Infrastructure Requirement

While infrastructure required relating to the project would be land and building, plant and machinery, power supply, water supply, and transportation, the basic requirements which is land and building as well as plant and machinery would depend on the capacity of the unit. Depending on the capacity all the basics would differ and would lead to change into the financial requirements of the project. The premises required would be somewhere between 3000square feet for setting up a unit with a capacity of 80kg per hour. Given this fact, it would be better to list out the assumptions made while designing the project. The same is given in Annexure 5. Changes in any of the assumption will have an impact on the project cost as well as income generated and, in the process, the overall viability of the project.

### Machineries and Equipment

The earlier practice used to have different equipment and the process was labour intensive. However, with technological innovations the whole process has been put through in a single machine which takes care of the processing part. The other two parts of the process is cleaning of bottles and Packaging. In a properly automated plant, we thus require three major sets of equipment and some smaller equipment for test checking as well as some weight checking on a sample basis. There will also be a requirement some good quality food grade containers. This is a comparatively small plant and effluent treatment which mainly is wastewater would need a comparatively small investment. The same has also been factored in by allocating Rs.2 lakh.

Processing Equipment cost				
Sl no.	Machine	Unit	Unit Cost	Amount in Rs.
1	Honey processing plant 20 HP	1	450000	450000
2	Bottle cleaning equipment 3 HP	1	300000	300000
3	Bottle filling, sealing, capping and labelling equipment 5 HP	1	800000	800000
4	Miscellaneous equipments	1	100000	100000
5	Testing equipment for sample check	1	60000	60000
6	Weighing machine for sample check	1	10000	10000
7	20 KVA genset	1	230000	230000
8	Effluent Treatment Plant	1	100000	100000
	<b>Total</b>			<b>2050000</b>
	Additional cost of installation, taxes, training etc. as percentage		30%	615000
	<b>Total Cost</b>			<b>2665000</b>

1. Prices quoted on Indiamart or companies are generally excluding GST, Transportation charges and installation charges as well as any other taxes applicable. Accordingly, an additional 30% has been taken on the ex-factory equipment cost.

2. Based on the searches on Indiamart, it is observed that there are a number of companies who provide one single unit for processing. Rather than taking the same in bits and pieces, it is better to go ahead with this kind of a comprehensive unit for honey processing. Similarly, for filling, sealing, capping and labelling, buying all from one vendor or buying a combined unit is suggested. The reasons for suggesting this are as follows:
  - a. There will not be any mismatch between equipment and automation would be smoother.
  - b. Single point of contact would not allow any blame game between vendors in case something goes wrong.
  - c. Power assessment would be better and line can be drawn accordingly
  - d. A single unit set up by any of these can be visited to get a clear overview.
  - e. Training would be much easier as it would from one agency
3. The packaging machine would depend on what volume we want to pack. For this model project the equipment price taken is of packaging of 0.5 kg and 1kg.

Miscellaneous fixed assets				
Sl. No.	Particulars	Units	Unit cost	Amount in Rs.
1	Electrical Connection	1	200000	200000
2	Chairs	6	2500	15000
3	Table	2	5000	10000
4	Computer	2	50000	100000
5	Printer	1	15000	15000
	<b>Total</b>			<b>340000</b>

### Land and Building:

A plot of approximately 4000sq.ft would be necessary for setting up a honey processing factory of this scale. The land should be free from any encumbrance and shall be mortgageable. The land should be classified as non-agriculture. Permission for non-agriculture use, wherever applicable, shall be obtained for the land. The land can also be taken on lease from the government in any of the food park or industrial areas. For the analysis here the land has been taken as own land. The same can be used as collateral security by the bank for financing

Land and Building	Area reqd	Rate/sqft in Rs.	Cost in Rs. Lakh
Land cost		Own land	0
Building cost @ 1430/-- per sq ft for 3000 sq ft.	3000	1430	4290000
<b>Total cost</b>			<b>4290000</b>
<b>Total Cost in Rs. Lakh</b>			<b>42.90</b>

The total bank loan component based on the assumptions made and unit costs taken. Own contribution has been taken at 40%. The summary of bank loan for equipment and building is as follows:

Project Cost excluding Land			<b>7295000</b>
Pre-operatives Expenses			<b>72950</b>
Total Project Cost excluding Land			<b>7367950</b>
Own Contribution			<b>2947180</b>
Estimated Bank loan			<b>4420770</b>
Own Contribution in Rs. Lakh			<b>29.47</b>
<b>Bank Loan in Rs. Lakh</b>			<b>44.21</b>

### Project Timeline

The project to start off production would need around one year for implementation to be completed. The breakup for the same is given in table below:

Activity	
Arrangement of finance	3 months
Building of premises/Acquisition of premises	6 months
Procurement of equipments	2 months
Recruitment of manpower	1 month
Training	1 month

As recruitment of manpower can be done along with procurement of equipment and the activity would not be part of the critical path, the total time taken would be 12 months for setting up the project and to reach a position to start production. Hence, one year moratorium has been taken. If “ready to move in” premises suitable for the project is acquired, then the timeline would come down by around 3 months. However, in this project it has been assumed that the unit will be set up in own land and costing has been done assuming the same.

### Price of finished goods:

The price of honey widely varies depending on quality and its market positioning. While we have taken a very conservative rate (Rs.308/kg), the present rates of established brands like Dabur Honey at the retail level for 1 kg is Rs.378/-. Saffola Pure honey comes at a cheaper rate of Rs.342/- per kg. Forest honey even are sold by some brands at Rs.1600/- per kg. For example, retail price of raw Adivasi honey from a brand called Praakritik is sold at Rs.860/- for 500 gm. Under such a market condition where positioning becomes that much important, the marketing of the same locally has to be done in a very planned manner. Based on the acceptance of the product production can be further increased. It is suggested that, as the product will be sold locally, one can make the customer feel the ownership of the same by positioning it as “Our Honey”. By highlighting its quality, the entrepreneur can consider pricing it even higher than the general dabur honey.

## Working Capital requirement

Working capital requirement has been assessed keeping in view the banking requirements. Own contribution has been taken at 25%. However, before calculating the working capital requirement it is necessary to find out the overall raw material requirement, production and details of stock based on the assumptions stated above from which working capital requirement is generated. In the following tables details of working capital requirement is assessed.

Raw Material requirement and honey production	
<b>Production computation</b>	
Item	
Machine capacity per hour (in Kg)	80
Total working hours	8
Machine capacity per day	640
working days per month	25
Working days per annum	300
Waste material and wastage at the time of processing	7.50%
<b>Raw material requirement</b>	<b>192000</b>
<b>Final output (after accounting for wastage)</b>	<b>177600</b>
Packaging size in Kg	0.5
No. of packages	355200

Honey Production for 5 years					
Production Period	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation	0%	65%	70%	75%	80%
Raw material requirement per day	0	416	448	480	512
Raw material required in Kg	0	124800	134400	144000	153600
Rate per Kg in Rs.	0	175	184	193	203
Cost of packaging material per kg	0	28	29.4	30.87	32.41
Total Cost of packaging	0	32.32	36.55	41.12	46.05
Total Cost in Rs. Lakh	0	250.72	283.85	319.04	357.86
<b>Calculation of Sales</b>					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Opening Stock	0	0	3848	4144	4440
Production	0	115440	124320	133200	142080
Closing Stock	0	3848	4144	4440	4736
Net Sales	0	111592	124024	132904	141784
Sales price per packet incl packaging	0	308	320	333	346
Net sales in Rs. Lakh	0	343.7	396.88	442.57	490.57

Working capital requirement has to be evaluated based on the aforementioned details. The same is given in the table below:

Working Capital Assessment					
Computation of value of closing stock and working capital requirement					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Finished goods inventory in kg	0	3848	4144	4440	4736
Price of finished good/kg in Rs. including packaging material	0	308	320	333	346
Total finished goods stock price	0	1185184	1326080	1478520	1638656
Raw material inventory in kg	0	6240	6720	7200	7680
Price of Raw Material/kg in Rs.	0	175	184	193	203
Packaging Material	0	28	29.4	30.87	32.41
Total Raw Material Stock Price	0	1266720	1434048	1611864	1807949
Total value of stock	0	2451904	2760128	3090384	3446605
Amount in Lakh	0	24.52	27.6	30.9	34.47
Less Creditors in lakh	0	13.49	15.18	17	18.96
Paid Stock in lakh	0	11.03	12.42	13.9	15.51
Add sundry debtors in lakh	0	9.81	11.04	12.36	13.79
<b>Total</b>	<b>0</b>	<b>20.84</b>	<b>23.46</b>	<b>26.26</b>	<b>29.3</b>
<b>Own contribution @ 25%</b>	<b>0</b>	<b>5.21</b>	<b>5.87</b>	<b>6.57</b>	<b>7.33</b>
<b>Working Capital requirement</b>	<b>0</b>	<b>15.63</b>	<b>17.59</b>	<b>19.69</b>	<b>21.97</b>
<b>Rounded off WC requirement from Bank in Lakh</b>	<b>0</b>	<b>15.63</b>	<b>17.59</b>	<b>19.69</b>	<b>21.97</b>

The project is expected to generate sufficient cash and working capital limit is pegged at the requirement of the second year, first year being the moratorium for setting up the factory.

### Other Expenses

There are other expenses which may be also termed as running cost. They are mainly salary, and electricity charges, packaging cost, maintenance charges, etc. The details of these expenses are given below:

Labour and Staff Salary/wages				
Particulars	Wages/ Salary per month	No. of employees	Total Salary per month	Annual Salary
Manager	30000	1	30000	360000
Accountant	25000	1	25000	300000
Helper	10000	1	10000	120000
Plant Operator	20000	1	20000	240000
Skilled labour	15000	3	45000	540000
Unskilled labour	10000	2	20000	240000
<b>Total Salary</b>			<b>150000</b>	<b>1800000</b>

<b>Salary expenses Projection</b>	1st year	2nd year	3rd year	4th year	5th year	6th year
<b>Annual Salary expenses</b>	0	1800000	1980000	2178000	2395800	2635380
<b>Salary expenses rounded off to lakhs</b>	<b>0</b>	<b>18</b>	<b>19.8</b>	<b>21.78</b>	<b>23.96</b>	<b>26.35</b>
<b>Electricity Charges</b>						
<b>Particulars</b>	1st year	2nd year	3rd year	4th year	5th year	
Capacity Utilisation	<b>0%</b>	<b>65%</b>	<b>70%</b>	<b>75%</b>	<b>80%</b>	
Consumption of power per day in units	0	130	140	150	160	
Rate per unit in Rs.	0	9.00	9.00	9.00	9.00	
Power bill per month in Rs.	0	29250	31500	33750	36000	
<b>Total power bill per year</b>	<b>0</b>	<b>351000</b>	<b>378000</b>	<b>405000</b>	<b>432000</b>	
Power bill in Rs. Lakh	0	3.51	3.78	4.05	4.32	
<b>Packaging Cost</b>						
<b>Particulars</b>	1st year	2nd year	3rd year	4th year	5th year	
Cost of Packaging per unit (kg)	0	28	29.4	30.87	32.41	
Total Production in kg	0	115440	124320	133200	142080	
<b>Packaging cost in Rs. Lakh</b>	<b>0.00</b>	<b>32.32</b>	<b>36.55</b>	<b>41.12</b>	<b>46.05</b>	
<b>Selling, transportation and administrative expenses</b>						
<b>Particulars</b>	1st year	2nd year	3rd year	4th year	5th year	
Sales and branding expenses per annum	0	1000000	1000000	1000000	1000000	
Admin Expenses	0	120000	120000	120000	120000	
Transportation charges	0	480000	480000	480000	480000	
<b>Total Expenditure on Sales, Admin &amp; Transportation</b>	<b>0</b>	<b>1600000</b>	<b>1600000</b>	<b>1600000</b>	<b>1600000</b>	

All these costs will be factored in later in the report while evaluating the financial benefits of the project

## Depreciation

The depreciation calculation is as follows:

<b>Depreciation Calculation</b>					
<b>Particulars</b>	1st year	2nd year	3rd year	4th year	5th year
Total value of equipments	0	3005000	2554250	2171112	1845445
<b>Depreciation</b>	<b>0</b>	<b>450750</b>	<b>383138</b>	<b>325667</b>	<b>276817</b>
Total Value of building	0	4290000	3861000	3474900	3127410
<b>Depreciation</b>	<b>0</b>	<b>429000</b>	<b>386100</b>	<b>347490</b>	<b>312741</b>
<b>Total Depreciation</b>	<b>0</b>	<b>879750</b>	<b>769238</b>	<b>673157</b>	<b>589558</b>
<b>Total Depreciation in Rs. Lakh</b>	<b>0</b>	<b>8.8</b>	<b>7.69</b>	<b>6.73</b>	<b>5.9</b>

## Repairs and maintenance

In case of new equipment including computers, generally they give a warranty for one year. Thus, the maintenance cost would be starting from the second year onwards. The same in general is given at a service charge of 15% per annum. In case there are any major spares to be replaced the cost of that has to be borne by the customers. Given these general terms, it can be taken at 20% of the fixed cost per annum. The same would then be as follows:

Cost of Maintenance	
Particulars	Amount
Total fixed cost of equipments	3005000
Maintenance cost in percentage	20%
Cost of Maintenance	601000
Maintenance cost in Rs. Lakh	6.01

## Cost of Project and Means of Finance

Based on the data presented above on cost of plant and machinery, working capital requirement, etc., the cost of the project and means of finance required can be summarized as follows:

Cost of The Project	
	(in Rs. Lakh)
Particulars	Amount
Land & Building	42.90
Plant & Machinery	26.65
Misc. Items and Pre-op Expenses	4.13
Total Term Loan requirement	73.68
Working Capital	20.84
Total	94.52
Means of Finance	
	(in Rs. Lakh)
Particulars	Amount
Own Contribution (Term Loan)	29.47
Term Loan from Bank	44.21
Working Capital loan	15.63
WC- Own Contribution	5.21
total	94.52

The detailed repayment schedule of the term loan is indicated in Annexure 4. It is assumed that the working capital limit given will be renewed every year for the next five years. Any increase in the working capital may not be necessary as the project should be able to generate sufficient profits and the internal accruals should

be able to take care of additional working capital requirements. The summary of interest payment for working capital and term loan and principal repayment is given in the table below:

Year-wise Interest on Bank Loan					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Interest on Term Loan in Rs.	0	477952	343002	208052	73102
Interest on Term Loan in Rs. Lakh	0.00	4.78	3.43	2.08	0.73
Interest on working Capital	0	1.72	1.72	1.72	1.72
Principal Repayment in Rs.	0	1226820	1226820	1226820	1226820
Principal Repayment in Rs. Lakh	0.00	12.27	12.27	12.27	12.27
Interest Capitalised in Rs.	486312	0.00	0.00	0.00	0.00
Balance outstanding - end of the year in Rs. Lakh	49.07	36.80	24.53	12.26	-0.01

## Financial Statements

The profitability of the project can be judged based on the financial statements generated based on the data presented above in the series of tables. Accordingly, the projected profit and loss account, balance sheet, and cash statement along with breakeven analysis is present in the tables below. During the moratorium period the interest is charged by the bank which has to be capitalized to ensure that the same is repaid over a period of time. Capitalisation thus leads to increase in the loan quantum at the end of the first year which can be seen in the balance sheet.

Projected P&L Statement					
(in Rs. Lakh)					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation%	0%	65%	70%	75%	80%
Gross Sale of Honey	0	343.7	396.88	442.57	490.57
<b>Total</b>	<b>0</b>	<b>343.7</b>	<b>396.88</b>	<b>442.57</b>	<b>490.57</b>
Cost of Production					
Raw Material Consumed	0	218.4	247.3	277.92	311.81
Electricity Charges	0	3.51	3.78	4.05	4.32
Depreciation	0	8.8	7.69	6.73	5.9
Salary and wages	0	18	19.8	21.78	23.96
Repair and Maintenance	0	6.01	6.01	6.01	6.01
Packaging	0	32.32	36.55	41.12	46.05
Selling & Admn Expenses	0.00	16.00	16.00	16.00	16.00
<b>Total Cost of Production</b>	<b>0</b>	<b>303.04</b>	<b>337.13</b>	<b>373.61</b>	<b>414.05</b>
<b>Profit before interest and taxes</b>	<b>0</b>	<b>40.66</b>	<b>59.75</b>	<b>68.96</b>	<b>76.52</b>

Interest on Term Loan	0.00	4.78	3.43	2.08	0.73
Interest on Working Capital	0	1.72	1.72	1.72	1.72
<b>Total Interest Payment</b>	<b>0.00</b>	<b>6.50</b>	<b>5.15</b>	<b>3.80</b>	<b>2.45</b>
Profit before Tax	0.00	34.16	54.60	65.16	74.07
Income Tax	0	8.54	13.65	16.29	18.52
<b>Net profit after tax</b>	<b>0.00</b>	<b>25.62</b>	<b>40.95</b>	<b>48.87</b>	<b>55.55</b>
<b>Term loan interest for first year capitalised to account for the moratorium</b>					

As may be observed, at 65% capacity utilization after considering all expenses, the unit is showing a healthy profit. The output price also has been kept at a rate much below the established brands indicating that the project has sufficient buffer to absorb small market shocks.

Projected Balance Sheet					
Rs. In Lakh					
Particulars	1st year	2nd year	3rd year	4th year	5th year
<b>Liabilities</b>					
Capital					
Opening Balance	0	29.47	60.3	101.25	150.12
Own Capital Contribution	29.47	5.21			
Retained Earnings	0.00	25.62	40.95	48.87	55.55
<b>Total-Closing Balance</b>	<b>29.47</b>	<b>60.3</b>	<b>101.25</b>	<b>150.12</b>	<b>205.67</b>
Term Loan	49.07	36.80	24.53	12.26	-0.01
Working Capital Limit	0	15.63	15.63	15.63	15.63
Sundry Creditors	0	13.49	15.18	17	18.96
<b>Total Liabilities</b>	<b>78.54</b>	<b>126.22</b>	<b>156.59</b>	<b>195.01</b>	<b>240.25</b>
<b>Assets</b>					
Fixed Assets	73.68	73.68	73.68	73.68	73.68
Gross Depreciation	0	8.8	16.49	24.18	31.87
<b>Net Fixed Assets</b>	<b>73.68</b>	<b>64.88</b>	<b>57.19</b>	<b>49.5</b>	<b>41.81</b>
Sundry Debtors	0	9.81	11.04	12.36	13.79
Stock in Hand	0	24.52	27.6	30.9	34.47
Interest Capitalised	4.86				
Cash and Bank Balance	0	27.01	60.76	102.25	150.18
<b>Total Assets</b>	<b>78.54</b>	<b>126.22</b>	<b>156.59</b>	<b>195.01</b>	<b>240.25</b>

The project is generating healthy profit from second year with the first year being moratorium as presented above in the projected P&L statement. The breakeven analysis indicates the level of operation at which the operations will breakeven and not have any loss. It becomes important to identify the fixed and the variable costs. Even within variable component there is always a part which is fixed. For example, even if the plant is

not running there will be lights and fans which will be used for administrative work, people will have to be paid salary for those days as well, etc. Accordingly, a portion of the variable expenses have been taken as fixed cost to arrive at the contribution and the total fixed cost. Total fixed cost divided by the contribution (fixed cost÷Contribution) gives us the breakeven point. In this case the breakeven capacity utilization in year 2 comes at 30% capacity utilisation.

Breakeven Point Analysis	
	Rs. In Lakh
<b>Total Sale (Sales - opening WIP + closing WIP)</b>	
Net Sales	343.70
Less: Opening Stock	0.00
Add: Closing Stock	11.85
<b>Total Production/Sales</b>	<b>355.55</b>
<b>Variable Expenses</b>	
Raw Material and Packaging	250.72
Interest on working Capital	1.72
Repair and Maintenance	1.50
Salary expenses	3.60
Sales & Admin Expenses	5.60
Energy - Electricity	3.16
<b>Total</b>	<b>266.30</b>
<b>Contribution in Rs. Lakh</b>	<b>89.25</b>
<b>Contribution per unit in Rs.</b>	<b>79.98</b>
<b>Fixed expenses</b>	
Interest on Term Loan	4.78
Repair and Maintenance	4.51
Salary expenses	14.40
Sales & Admin Expenses	10.40
Energy - Electricity	0.35
Depreciation	8.80
<b>Total</b>	<b>43.24</b>
Capacity utilisation	65%
<b>Operating Profit</b>	<b>46.01</b>
<b>Breakeven point in physical units</b>	<b>54062</b>
<b>Breakeven point in capacity utilisation (%)</b>	<b>30%</b>

Cash Flow Statement					
Rs. In Lakh					
Particulars	1st year	2nd year	3rd year	4th year	5th year
<b>Sources of Fund</b>					
Own margin	29.47	5.21			
Profit Before Interest and Tax	0.00	40.66	59.75	68.96	76.52
Depreciation	0	8.8	7.69	6.73	5.9
Working Capital accretion	0	15.63	0	0	0
Term Loan accretion	44.21	4.86	0	0	0
Creditors	0	13.49	1.69	1.82	1.96
<b>Total</b>	<b>73.68</b>	<b>88.65</b>	<b>69.13</b>	<b>77.51</b>	<b>84.38</b>
<b>Uses of Fund</b>					
Fixed Assets	73.68	0	0	0	0
Stock in Trade - Accretion	0	24.52	3.08	3.3	3.57
Debtors - Accretion	0	9.81	1.23	1.32	1.43
Repayment of term Loan	0.00	12.27	12.27	12.27	12.27
Interest on Term Loan	0.00	4.78	3.43	2.08	0.73
Interest on working capital	0.00	1.72	1.72	1.72	1.72
Income Tax	0	8.54	13.65	16.29	18.52
Accretion in Cash and bank balance	0	27.01	33.75	40.53	46.14
<b>Total</b>	<b>73.68</b>	<b>88.65</b>	<b>69.13</b>	<b>77.51</b>	<b>84.38</b>

The cash flow statement above indicates that chance of any problem with the cash is very little or so to say practically nil in the project. The project generates sufficient cash, and the entrepreneur can maintain a healthy cash balance for any eventuality or a rainy day. There are risks like equipment failure and the repair time required for the same, sudden problem with supply of raw material or shipment not arriving from producers, etc. Now these are unforeseen risk which always cannot be factored in. It is for these kinds of problems that a healthy cash balance is necessary for running a business. This project enables the entrepreneur to have that.

Calculation of DSCR					
Particulars	1st year	2nd year	3rd year	4th year	5th year
<b>Cash Accruals</b>					
Depreciation	0	8.8	7.69	6.73	5.9
Profit before interest and taxes	0	40.66	59.75	68.96	76.52
<b>Total</b>	<b>0</b>	<b>49.46</b>	<b>67.44</b>	<b>75.69</b>	<b>82.42</b>
<b>Repayments</b>					
Interest on Term Loan	0.00	4.78	3.43	2.08	0.73
Term Loan Instalments	0.00	12.27	12.27	12.27	12.27
<b>Total</b>	<b>0.00</b>	<b>17.05</b>	<b>15.70</b>	<b>14.35</b>	<b>13.00</b>
<b>Debt Service Coverage Ratio</b>	<b>0</b>	<b>2.9</b>	<b>4.3</b>	<b>5.27</b>	<b>6.34</b>

The debt service coverage ratio from second year is 2.9 and above indicating that the project should not have a problem in servicing the loan in the structure suggested which is a five-year loan including one year moratorium.

### IRR/NPV and BC Ratio

The calculation for internal rate of return (IRR) a, BC Ratio and net present value (NPV) is given below. The BC ratio is a healthy 1.14 considering a discount rate of 15%. The net present value of future benefits at a discount rate of 15% comes to Rs. 209.06 lakh. And the internal rate of return comes to 85% which essentially indicates that at 85% discount the net present value of benefits would be zero. This also acts as an indicator of the risk bearing capacity of the project.

BC Ratio, NPV and IRR								(Amt in Rs. Lakh)
Costs and revenue items	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year
<b>Fixed Costs</b>	73.6795							
<b>Variable costs</b>								
Raw material	0	250.72	283.85	319.04	357.86	398.99	444.18	466.05
Salary	0	18	19.8	21.78	23.96	26.35	28.99	31.89
Electricity	0	3.51	3.78	4.05	4.32	4.59	4.86	4.86
Maintenance	0	6.01	6.01	6.01	6.01	6.01	6.01	6.01
Sales and Admin exp	0	16	16	16	16	16	16	16
Packaging cost	0	32.32	36.55	41.12	46.05	51.37	57.11	59.97
<b>Total Costs</b>	<b>73.6795</b>	<b>294.24</b>	<b>329.44</b>	<b>366.88</b>	<b>408.15</b>	<b>451.94</b>	<b>500.04</b>	<b>524.81</b>
Rate of discount	15%							
Present value of costs	1470.79							
<b>Revenues</b>								
<b>Sale of finished goods</b>								
Cashew	0	343.7	396.88	442.57	490.57	542.39	596.69	621.78
<b>Total</b>	<b>0</b>	<b>343.7</b>	<b>396.88</b>	<b>442.57</b>	<b>490.57</b>	<b>542.39</b>	<b>596.69</b>	<b>621.78</b>
Rate of discount	15%							
Present value of benefits	1679.85							
<b>BC Ratio</b>	<b>1.14</b>							
<b>Net Benefits</b>	-73.6795	49.46	67.44	75.69	82.42	90.45	96.65	96.97
Rate of discount	15%							
<b>NPV</b>	<b>209.06</b>							
<b>IRR</b>	<b>85%</b>							

## Registration/Certification

There are four registrations necessary for MSMEs which are involved in food processing. A brief on the same is given below:

1. **GST:** GST registration in today's environment is a necessity for anyone doing a business. The entrepreneur must get himself registered for the same first. Many of the benefits given by central government is being linked to GST registration. Necessary system should be put in place to file the GST return from time to time as per the rules laid down by GoI. (<https://reg.gst.gov.in/registration/>)
2. **FSSAI:**The processing units should follow the Food Safety and Standard Authority of India (FSSAI) act 2006. FSSAI Act is applicable pan India for all food products. It prescribes minimum standards operating procedures, food safety norms, packaging & labeling norms. The new units need to take a license called FSSAI number from Food Safety and Standards Authority of India. The registration can be done at FSSAI website. (<https://fssai.gov.in/cms/registration.php>)
3. **UDYAM:** The entrepreneur may consider getting himself registered in UDYAM. (<https://udyamregistration.gov.in/Government-India/Ministry-MSME-registration.htm>)
4. **ISO:**ISO certification is a seal of approval from a third party body that a company runs to one of the international standards developed and published by the International Organization for Standardization (ISO). It is absolutely essential if one wants to venture into exports. Even for domestic sales this certification adds value. A person feels comfortable with ISO certification mentioned in the packaging along with FSSAI registration. Various agencies are there doing this job of certification. One such site available is <https://legalwaycertification.com/iso/>. There are many other such agencies who have been authorized to issue ISO certification.
5. **AGMARK:** AGMARK, or Agriculture Mark, is the certification mark to assure the quality of agricultural products in India. AGMARK acts as a third-party guarantee for the agricultural products that are produced and consumed in India. AS the target would be initially to create a foothold in the country, it would be necessary to obtain necessary certification

All three viz., GST registration, FSSAI registration and ISO certification has to be mentioned on the packaging. It is also important that these certifications are renewed as and when required. For example, ISO certification is valid for 1 year in many cases. If so, the certification needs to be renewed every year.

In addition to the ones stated above, it would be necessary to take fire and pollution clearances. It would also be advisable choose a brand name for the product and secure the name with trademark. Having a trademark is useful for bulk sale and is necessary for direct marketing which is proposed in the project.

### **FSSAI Advisory on Standards for Honey and Prohibition of Antibiotics**

There were some reports in the newspaper regarding permitted levels of antibiotics in honey. The following advisory was issued by Food Safety and Standards Authority to clarify the issues involved in September 2010. The details are given in Annexure 7.

FSSAI clearance and AGMARK is essential for marketing of processed food items. It thus becomes necessary that the latest guidelines issued by FSSAI and AGMARK are followed to ensure that necessary clearance can be obtained.



# Model Project Report on **Papad Making**

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# Papad Making

## Introduction

Papad is a simple snack food either eaten separately or with meals. State to state Papad is served along with meals also with different connotations. For example in Rajasthan serving of papad is an indicator of end of the meal. In Bengal it is served along with sweet chutney at the end of meal to soften the sweet taste the chutney leaves in your mouth. It is also served as a snack food all over the country. It can be served fried or roasted. A piece of papad is a part of the meal in every household and hence the demand of the product is not an issue. However, assessment of local competitors is necessary for going ahead with setting up the plant.

The common ingredients for papad making are comprising lentil, chickpeas, black gram, salt and oil which are all locally available across India. Thus the same should not be a problem

## Promoters - Some specific requirements

The details of the promoters will have to be obtained along with other information. The Proforma for promoter detail is given in Annexure – 1.

## History of the company

The project has been prepared as if a new set up is being made for the purpose of papad making. The same could be part of another company or a new company all together. The details of the existing company or the proposed company have to be obtained/presented in the project report. Proforma for company report is given in Annexure-2.

## Finished product and its utility

Papad is generally consumed along with meals or snack food. It is made out of lentil, chickpeas, black gram, or other pulses making it a good source of protein.

## Market, Demand and Major Competitors

There are papad manufacturers across the country. The most common of them is Lijjat Papad which dominates the market with nearly 60% of the market share. However, the market is widening and that essentially means there is room for other players as well. There are local players who cater to that region or locality. However, as it is a finished product, branding of the same even for local sales is absolutely essential. There are digital marketing channels like Big Basket which procure locally can also be tapped for sale of product.

**Note: In addition details of localized competition, has to be mentioned while preparing the final DPR based on where the unit is going to be set up.**

## Raw Material Requirement

The only raw material required are pulses, salt and oil. Papad can be of different variety like moong daal papad, urad daal papad, etc. It all depends on the local demand which one the producer would like to prepare. Papad can also have different flavours depending on the ingredients used. Papad could be plain or spicy which mainly is done using black pepper. Accordingly ingredients need to be added.

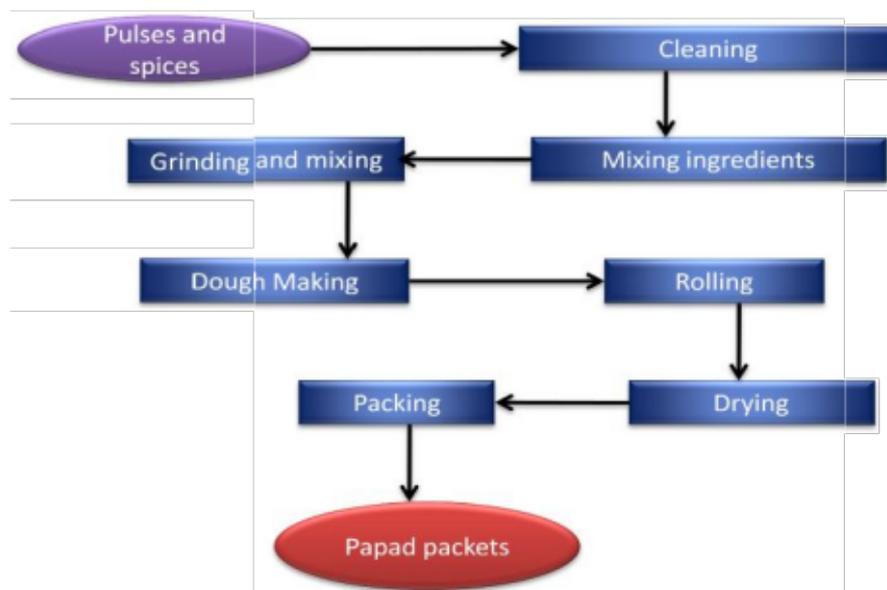
Adding flavours would mean ingredients for the same also would be required. However, the major component of input remains to be pulses and the same can be procured locally. Generally all the ingredients can be procured from the local wholesalers based on requirement.

## Manufacturing Process

The process of manufacture for papad is well-established. The general process which is followed is explained here.

- Raw materials should be received & stored in hygienic condition. The quality of the raw material should be checked carefully. Papad can be manufactured from different varieties of pulse flours or there could be a combination of pulse flours as well.
- The pulses are converted to powder using grinding machines.
- Adequate quantity of water is added in flour of Urad dal, common salt, spices and sodium bicarbonate and homogenous mixing is done to obtain dough. Its better to use Sigma mixer in order to ensure even mixing of material.
- The dough is then placed in papad making machine or papad press wherein it is pressed and circular papads are made as per the size of mould using automatic cutters.
- These papads are then dried using drying machine
- Lot of 25 or 50 papads is then packed in polythene bags Laminated flexible pouches which would weigh approximately 100200 grams each. For the project we have taken 200 gram packets

### Flow Chart for Papad Making



## SWOT Analysis

<b>Strengths</b> <ul style="list-style-type: none"><li>➤ One of the most popular snack food in India. Culturally, it is also consumed with the meal.</li></ul> Does not need very high level of technology to manage the unit	<b>Weakness</b> <ul style="list-style-type: none"><li>➤ It's an age old product and differentiating one units product from that of another will not be easy.</li></ul>
<b>Opportunities</b> <ul style="list-style-type: none"><li>➤ While there are products available target an area and making the product number 1 in that place itself would be enough to sustain the project at this scale given the consumption levels of papad.</li></ul>	<b>Threats</b> <ul style="list-style-type: none"><li>➤ Lijjat Papad dominates the market just the way Amul does in milk.</li></ul>

## Financial Aspects of the Project

### Infrastructure requirement

Any project preparation is based on a set of assumptions made which are close to the market reality. In this project the land used is assumed to be own land. The major component of a Papad processing unit is land, building, plant and machinery and civil works. List of all the assumptions made is given in Annexure 3. Raw material storage would be for about a month. Finished goods inventory would be for 15 days. The building would have a raw material storage room, one finished goods storage room, and the main processing room along with an office room and toilet. Space required would be of around 4000 sq ft. taking into account the future expansion plan.

### Land and its development

A plot of approximately 4500-5000 sq.ft would be necessary for setting up a papad making factory of this scale. The land should be free from any encumbrance and shall be mortgageable. The land should be classified as non-agriculture. Permission for non-agriculture use, wherever applicable, shall be obtained for the land.

### Size of the unit

The capacity has been restricted to 300 tonnes of pulses per annum. It would be better to restrict the size of operation at this level because of two reasons. The raw material will be sourced from the local wholesalers. In the first 2 years, the brand would have to establish itself in the locality. The capacity can be upgraded by ensuring additional land space if the borrower wants it that way. However, based on estimates this would be adequate to cater to the market surrounding the production area. Second reason is marketing of end product.

As one has to go in for direct marketing, it would be necessary to have a brand which needs to be established in quick time in the last phase of the first year and beginning of second year. And then the same will get settled in a year or two and earn a good name if quality is maintained. It is because of all this the maximum capacity utilisation has been kept at a very conservative level with a room for even doubling the production from third year if the demand comes up.

## Machineries and Equipment

Various machineries and equipments will be required for setting up the plant. The list of such equipment and number of such units required for setting up a Papad making unit along with Miscellaneous fixed assets for which investment has to be made is given below. This would have a maximum capacity 1200 kg or 1 tonne per day @ rate of 8 hours per day. For 300 days in a year this would mean 300 tonnes per annum. One 25 KVA genset should be sufficient to support an unit of this kind in cases of power failure. The waster would would generally have dirt and waste coming out of cleaning of equipment, there is not much which needs to be except waste water treatment. Cost of the same also has been factored in the project.

Processing Equipment cost				
Sl no.	Machine	Unit	Unit Cost	Amount in Rs.
1	Daal cleaner and grinder 3 HP	1	125000	125000
2	Sigma dough mixer 3 HP	1	100000	100000
3	Fully Automated Papad making machine 20 HP	1	2000000	2000000
4	Packing machine 3 HP	1	325000	325000
5	Other small equipments like bucket, steel containers, etc as a set and a testing lab	1	200000	200000
6	25 KVA genset	1	250000	250000
7	Effluent treatment Plant	1	200000	200000
	Total cost of equipment			2750000
	Addl charges for GST, transportation, etc		30%	825000
	Total cost of equipment incl GST, etc.			3575000

1. Prices quoted on Indiamart or companies are generally excluding GST, Transportation charges and installation charges as well as any other taxes applicable. Accordingly, an additional 30% has been taken on the ex-factory equipment cost.
2. Based on the searches on Indiamart, it is observed that there are companies supplying all the equipments giving a single window solution. It is suggested that it would be better for an entrepreneur to buy all equipments from a single vendor because the following reasons.
  - a. There will not be any mismatch between equipments and automation would be smoother.
  - b. Single point of contact would not allow any blame game between vendors in case something goes wrong.
  - c. Power assessment would be better and line can be drawn accordingly

- d. A single unit set up by any of these can be visited to get a clear overview.
- e. Training would be much easier as it would from one agency

The packaging machine would depend on what volume we want to pack. As we are targeting direct marketing in this case, packaging would be for say 100/200 grams to a maximum of 1 kg.

Miscellaneous fixed assets				
Sl. No.	Particulars	Units	Unit cost	Amount in Rs.
1	Electrical and water Connection	1	200000	200000
2	Chairs	11	2000	22000
3	Table	2	5000	10000
4	Computer	2	50000	100000
5	Printer	1	15000	15000
	<b>Total</b>			<b>347000</b>

Given the fact that the raw material would be procured from local wholesalers we need not stock raw material for more than a month. Only a room adjacent to the processing room would be made to store the raw material. No separate silos need to be created for this purpose. Similarly finished goods inventory would not be more than 15 days. The production would be managed accordingly. The finished goods will also be stored in a room adjacent to the production area. Two room of 750 sq ft each with racks should be sufficient for this purpose. A production area of 2000 sq ft and 500 sq ft for office room and toilet should be sufficient to set up an unit of this size. The project could be done on a 5000 sq ft plot. Land however has been taken at 0.5 acre to enable sufficient space for loading and unloading as well as keeping in mind future expansion. The total building cost is given in table below:

Land and Building			
Particulars	Area reqd	Rate/sqft in Rs.	Amount in Rs.
Land cost	Own land - 0.5		0
Building cost @ 1430/-- per sq ft	4000	1430	5720000
<b>Total cost</b>			<b>5720000</b>

The total bank loan component based on the assumptions made and unit costs taken would be as follows:

Project Summary			
Project Cost excluding land			9642000
Preoperative Expenses			96420
Total Project Cost excluding land			9738420
Own Contribution			3895368
Estimated Bank loan			5843052
Own Contribution in Rs. Lakh			<b>38.95</b>
<b>Bank Loan in Rs. Lakh</b>			<b>58.43</b>

In addition interest cost of the first year will be capitalized as the project would need a moratorium for 12 months. This would increase the outstanding at the end of the first year.

### Project Timeline

The project to start off production would need around one year for implementation to be completed. The breakup for the same is given in table below:

Activities	Projected time period
Arrangement of finance	3 months
Building of premises/Acquisition of premises	6 months
Procurement of equipments	2 months
Recruitment of manpower	1 month
Training	1 month

As recruitment of manpower can be done along with procurement of equipment and the activity would not be part of the critical path, the total time taken would be 12 months for setting up the project and to reach a position to start production. Hence, one year moratorium has been taken. If “ready to move in” premises suitable for the project is acquired, then the timeline would come down by around 3 months. However, in this project it has been assumed that the unit will be set up in own land and costing has been done assuming the same.

### Price of finished goods

It is observed that papad prices in the market for various brands are anywhere between Rs.57/- and Rs.75/- for a 200 gram pack. For the purpose of this project it has been taken at Rs.50/- per 200 gram pack because most of these which are high priced are flavoured papad which is done by adding a few spices. Given the market condition and the fact that the brand will be a new entrant, the price has been kept low which can then be increased when the brand gains popularity. Nevertheless, it doesn’t become a loss making proposition by lowering the price.

### Working Capital requirement

Working capital requirement has been assessed keeping in view the banking requirements. Own contribution has been taken at 25%. However, before calculating the working capital requirement it is necessary to find out the overall raw material requirement, production and details of stock based on the assumptions stated above from which working capital requirement is generated. In the following tables details of working capital requirement is assessed.

Capacity utilisation in the second year has been kept at a very modest level of 50% as the market linkages has to be set up and brand has to establish itself in the surrounding locality. Papad production in the first five years of the project is expected to be as follows:

Papad Production for 5 years					
Production Period	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation	0%	50%	55%	60%	65%
Raw material requirement per day	0	0.5	0.55	0.6	0.65
Raw material required in tonnes	0	150	165	180	195
Rate per tonne in Rs.	0	120500	129538	139253	149697
Cost of packaging material per 200 grams	0	2.5	2.69	2.89	3.11
Total Cost in Rs. Lakh	0	198.56	234.82	275.36	320.72
<b>Calculation of Sales</b>					
Particulars	1st year	2nd year	3rd year	4th year	5th year
<b>Production of Papad</b>					
Opening Stock	0	0	7.13	7.84	8.55
Production in tonnes	0	142.5	156.75	171	185.25
Closing Stock	0.00	7.13	7.84	8.55	9.26
Net Sales in tonnes	0	135.37	156.04	170.29	184.54
Sales price per packet of 200 gm incl packaging	0	50	53	56	59
<b>Sales value in Rs. Lakh</b>	<b>0.00</b>	<b>338.43</b>	<b>413.51</b>	<b>476.81</b>	<b>544.39</b>

Working capital requirement has to be evaluated based on the above mentioned details. The same is given in the table below:

Working Capital Assessment					
Computation of value of closing stock and working capital requirement					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Finished goods inventory in tonnes	0	7.13	7.84	8.55	9.26
Price of finished good/200 grams in Rs.					
including packaging material	0	50	53	56	59
Total finished goods stock price in Rs.	0	1782500	2077600	2394000	2731700
Raw material inventory in tonne	0	15	16.5	18	19.5
Price of Raw Material/tonne in Rs.	0	120500	129538	139253	149697
Packaging Material per 200 grams	0	2.5	2.69	2.89	3.11
Total Raw Material Stock Price	0	1985625	2181762	2558574	2979737
Total value of stock	0	3768125	4259362	4952574	5711437
Amount in Lakh	0	37.68	42.59	49.53	57.11
Less Creditors in lakh	0	9.42	10.65	12.38	14.28
Paid Stock in lakh	0	28.26	31.94	37.15	42.83
Add sundry debtors in lakh	0	5.65	6.39	7.43	8.57
<b>Total</b>	<b>0</b>	<b>33.91</b>	<b>38.33</b>	<b>44.58</b>	<b>51.4</b>
<b>Own contribution @ 25%</b>	<b>0</b>	<b>8.48</b>	<b>9.58</b>	<b>11.15</b>	<b>12.85</b>
<b>Working Capital requirement*</b>	<b>0</b>	<b>25.43</b>	<b>28.75</b>	<b>33.43</b>	<b>38.55</b>
* WC requirement has been taken based on the requirement of the second year as the first year would be treated as moratorium period for setting up the project.					

The project is expected to generate sufficient cash and working capital limit is pegged at the requirement of the second year, first year being the moratorium for setting up the factory.

### Other Expenses

There are other expenses which may be also termed as running cost. They are mainly salary, and electricity charges packaging cost, and admin n& marketing expenses. The details of these expenses are given below:

Labour and Staff Salary/wages				
Particulars	Wages/ Salary per month	No. of employees	Total Salary per month	Annual Salary
Manager	30000	1	30000	360000
Accountant	25000	1	25000	300000
Helper	10000	1	10000	120000
Plant Operator	20000	1	20000	240000
Skilled labour	15000	3	45000	540000
Unskilled labour	10000	4	40000	480000
<b>Total Salary</b>			<b>170000</b>	<b>2040000</b>

Projected Salary Expenses						
Salary expenses Projection	1st year	2nd year	3rd year	4th year	5th year	
<b>Annual Salary expenses</b>		0	2040000	2244000	2468400	2715240
<b>Salary expenses rounded off to lakhs</b>		0	20.4	22.44	24.68	27.15

Electricity Charges					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation	0%	50%	55%	60%	65%
Consumption of power per day in units	0	125	137.5	150	162.5
Rate per unit in Rs.	9.00	9.00	9.00	9.00	9.00
Power bill per month in Rs.	0	28125	30937.5	33750	36562.5
<b>Total power bill per year</b>	<b>0</b>	<b>337500</b>	<b>371250</b>	<b>405000</b>	<b>438750</b>
<b>Power bill in Rs. Lakh</b>	<b>0</b>	<b>3.375</b>	<b>3.7125</b>	<b>4.05</b>	<b>4.3875</b>

Packaging Cost					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Cost of Packaging per unit (200 grams)	0	2.5	2.69	2.89	3.11
Total Production in kg	0	142500	156750	171000	185250
<b>Packaging cost in Rs. Lakh</b>	<b>0.00</b>	<b>17.81</b>	<b>21.08</b>	<b>24.71</b>	<b>28.81</b>

Selling, transportation and administrative expenses					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Sales and branding expenses per annum	0	1000000	1000000	1000000	1000000
Admin Expenses	0	480000	480000	480000	480000
Transportation charges	0	480000	480000	480000	480000
<b>Total Expenditure on Sales, Admin &amp; Transportation</b>	<b>0</b>	<b>1960000</b>	<b>1960000</b>	<b>1960000</b>	<b>1960000</b>

All these costs will be factored in later in the report while evaluating the financial benefits of the project

## Depreciation

The depreciation calculation is as follows:

Depreciation Calculation					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Total value of equipments	0	3922000	3333700	2833645	2408598
Depreciation @15%	0	588300	500055	425047	361290
Value at the end of the year to be carried forward	0	3333700	2833645	2408598	2047308
Total Value of building	0	5720000	5148000	4633200	4169880
Depreciation of building@10%	0	572000	514800	463320	416988
Value at the end of the year to be carried forward	0	5148000	4633200	4169880	3752892
<b>Total depreciation</b>	<b>0</b>	<b>1160300</b>	<b>1014855</b>	<b>888367</b>	<b>778278</b>
Total depn in Rs. Lakh	0	11.6	10.15	8.88	7.78

## Repairs and maintenance

In case of new equipments including computers, generally they give a warranty for one year. Thus the maintenance cost would be starting from the second year onwards. The same in general is given at a service charge of 15% per annum. In case there are any major spares to be replaced the cost of that has to be borne by the customers. Given these general terms, it can be taken at 20% of the equipment cost per annum. The same would then be as follows:

Cost of Maintenance	
Particulars	Amount
Total fixed cost	3922000
Maintenance cost in percentage	20%
Cost of Maintenance	784400
Maintenance cost in Rs. Lakh	7.84

## Cost of Project and Means of Finance

Based on the data presented above on cost of plant and machinery, working capital requirement, etc., the cost of the project and means of finance required can be summarized as follows:

Cost of The Project	
(in Rs. Lakh)	
Particulars	Amount
Land & Building*	57.2
Plant & Machinery	35.75
Misc. Items & Pre-op Expenses	4.43
Working Capital	33.91
<b>Total</b>	<b>131.29</b>
*Land is assumed as own land and hence cost taken is 0	

Means of Finance	
	(in Rs. Lakh)
Particulars	Amount
Own Contribution	38.95
Term Loan from Bank	58.43
Working Capital Own contribution	8.48
Working Capital	25.43
total	131.29

The detailed repayment schedule of the term loan is indicated in Annexure 4. The interest for the first year is capitalized and loan outstanding accordingly increased in the end of the first year. It is assumed that the working capital limit given will be renewed every year for the next five years. Any increase in the working capital may not be necessary as the project should be able to generate sufficient profits and the internal accruals should be able to take care of additional working capital requirements. The summary of interest payment for working capital and term loan and principal repayment is given in the table below:

Year-wise Interest on Bank Loan					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Interest on Term Loan in Rs.*	0	631684	453325	274967	96608
Interest on Term Loan in Rs. Lakh	0.00	6.32	4.53	2.75	0.97
Interest on working Capital	0	2.8	2.8	2.8	2.8
Principal Repayment in Rs.	0	1621440	1621440	1621440	1621412
Principal Repayment in Rs. Lakh	0.00	16.21	16.21	16.21	16.21
Balance outstanding - end of the year	64.86	48.65	32.44	16.23	0.00
* Interest on term loan has been capitalised for 12 months leading to increase in the capital outlay. This has been done to account for the 12 month moratorium.					

## Financial Statements

The profitability of the project can be judged based on the financial statements generated based on the data presented above in the series of tables. Accordingly the projected Profit and loss account, Balance sheet, and cash flow statement along with breakeven analysis is presented in the tables below. During the moratorium period the interest is charged by the bank which has to be capitalized to ensure that the same is repaid over a period of time. Capitalisation thus leads to increase in the loan quantum at the end of the first year which can be seen in the balance sheet.

Projected P&L Statement					
					(in Rs. Lakh)
Particulars	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation%	0%	50%	55%	60%	65%
Gross Sale of Papad	0	338.43	413.51	476.81	544.39
<b>Total</b>	<b>0</b>	<b>338.43</b>	<b>413.51</b>	<b>476.81</b>	<b>544.39</b>
Cost of Production					
Raw Material Consumed	0	180.75	213.74	250.66	291.91
Electricity Charges	0	3.38	3.71	4.05	4.39
Depreciation	0	11.6	10.15	8.88	7.78
Salary and wages	0	20.4	22.44	24.68	27.15
Repair and Maintenance	0	7.84	7.84	7.84	7.84
Packaging	0	17.81	21.08	24.71	28.81
Selling & Admn Expenses	0	0.00	19.60	19.60	19.60
<b>Total Cost of Production</b>	<b>0</b>	<b>241.78</b>	<b>298.56</b>	<b>340.42</b>	<b>387.48</b>
<b>Profit before interest and taxes</b>	<b>0</b>	<b>96.65</b>	<b>114.95</b>	<b>136.39</b>	<b>156.91</b>
Interest on Term Loan*	0.00	6.32	4.53	2.75	0.97
Interest on Working Capital	0	2.8	2.8	2.8	2.8
<b>Total Interest Payment</b>	<b>0.00</b>	<b>9.12</b>	<b>7.33</b>	<b>5.55</b>	<b>3.77</b>
Profit before Tax	0.00	87.53	107.62	130.84	153.14
Income Tax	0	21.88	26.91	32.71	38.29
<b>Net profit after tax</b>	<b>0.00</b>	<b>65.65</b>	<b>80.71</b>	<b>98.13</b>	<b>114.85</b>
<b>Term loan interest for first year capitalised to account for the moratorium</b>					

As can be seen, the unit would be in profits after tax from second year onwards. The project has enough margin even at 50% capacity utilization.

Projected Balance Sheet					
					Rs. In Lakh
Particulars	1st year	2nd year	3rd year	4th year	5th year
<b>Liabilities</b>					
Capital					
Opening Balance	0	38.95	104.6	185.31	283.44
Own Capital Contribution	38.95	0.00			
Retained Earnings	0.00	65.65	80.71	98.13	114.85
<b>Total-Closing Balance</b>	<b>38.95</b>	<b>104.60</b>	<b>185.31</b>	<b>283.44</b>	<b>398.29</b>
Term Loan	64.86	48.65	32.44	16.23	0.00
Working Capital Limit	0.00	25.43	25.43	25.43	25.43

Projected Balance Sheet					
Sundry Creditors	0	9.42	10.65	12.38	14.28
<b>Total Liabilities</b>	<b>103.81</b>	<b>188.1</b>	<b>253.83</b>	<b>337.48</b>	<b>438</b>
<b>Assets</b>					
Fixed Assets	97.38	97.38	97.38	97.38	97.38
Gross Depreciation	0	11.6	21.75	30.63	38.41
<b>Net Fixed Assets</b>	<b>97.38</b>	<b>85.78</b>	<b>75.63</b>	<b>66.75</b>	<b>58.97</b>
Sundry Debtors	0	5.65	6.39	7.43	8.57
Stock in Hand	0	37.68	42.59	49.53	57.11
Interest capitalised	6.43	0	0	0	0
Cash and Bank Balance	0	58.99	129.22	213.77	313.35
<b>Total Assets</b>	<b>103.81</b>	<b>188.1</b>	<b>253.83</b>	<b>337.48</b>	<b>438</b>

The project is generating healthy profit from second year with the first year being moratorium as presented above. The breakeven analysis indicates the level of operation at which the operations will breakeven and not have any loss. It becomes important to identify the fixed and the variable costs. Even within variable component there is always a part which is fixed. For example, even if the plant is not running there will be lights and fans which will be used for administrative work, people will have to be paid salary for those days as well, etc. Accordingly, a portion of the variable expenses have been taken as fixed cost to arrive at the contribution and the total fixed cost. Total fixed cost divided by the contribution (fixed cost ÷ Contribution) gives us the breakeven point. In this case the breakeven capacity utilization in year 2 comes at 19% capacity utilisation.

Breakeven Point Analysis		
Rs. In Lakh		
Total Sale (Sales - opening WIP + closing WIP)	Year 1	Year 2
Net Sales	0.00	338.43
Less: Opening Stock	0.00	0.00
Add: Closing Stock	0.00	17.83
<b>Total Production/Sales</b>	<b>0.00</b>	<b>356.26</b>
<b>Variable Expenses</b>		
Raw Material and Packaging	0.00	198.56
Interest on working Capital	0.00	2.80
Repair and Maintenance	0.00	1.96
Salary expenses	0.00	2.04
Sales & Admin Expenses	0.00	2.94
Energy - Electricity	0.00	3.31
<b>Total</b>	<b>0.00</b>	<b>211.61</b>
<b>Contribution</b>	<b>0.00</b>	<b>144.65</b>
<b>Contribution per unit (per tonne)</b>	<b>NA</b>	<b>106855.29</b>

<b>Fixed expenses</b>		
Interest on Term Loan	0.00	6.32
Repair and Maintenance	0.00	5.88
Salary expenses	0.00	18.36
Sales & Admin Expenses	0.00	16.66
Energy - Electricity	0.00	0.06
Depreciation	0.00	11.60
<b>Total</b>	<b>0.00</b>	<b>58.88</b>
Capacity utilisation	0%	50%
<b>Operating Profit</b>	<b>0.00</b>	<b>85.77</b>
<b>Breakeven point in physical units</b>	<b>NA</b>	<b>55</b>
<b>Breakeven point in capacity utilisation (%)</b>	<b>NA</b>	<b>19%</b>

Cash Flow Statement				
				Rs. In Lakh
Particulars	1st year	2nd year	3rd year	4th year
<b>Sources of Fund</b>				
Own margin	38.95			
Profit Before Interest and Tax	0.00	96.65	114.95	136.39
Depreciation	0.00	11.60	10.15	8.88
Working Capital accretion	0.00	25.43	0.00	0.00
Term Loan accretion	58.43	6.43	0.00	0.00
Creditors	0.00	9.42	1.23	1.73
<b>Total</b>	<b>97.38</b>	<b>149.53</b>	<b>126.33</b>	<b>147.00</b>
<b>Uses of Fund</b>				
Fixed Assets	97.38	0.00	0.00	0.00
Stock in Trade - Accretion	0.00	37.68	4.91	6.94
Debtors - Accretion	0.00	5.65	0.74	1.04
Repayment of term Loan	0.00	16.21	16.21	16.21
Interest on Term Loan	0.00	6.32	4.53	2.75
Interest on working capital	0.00	2.80	2.80	2.80
Income Tax	0.00	21.88	26.91	32.71
Accretion in cash & bank balance	0.00	58.99	70.23	84.55
<b>Total</b>	<b>97.38</b>	<b>149.53</b>	<b>126.33</b>	<b>147.00</b>

The cash flow statement above indicates that chance of any problem with the cash is very little or so to say practically nil in the project. The project generates sufficient cash, and the entrepreneur can maintain a healthy cash balance for any eventuality or a rainy day. There are risks like equipment failure and the repair time required for the same, sudden problem with supply of raw material or shipment not arriving, etc. Now

these are unforeseen risk which always cannot be factored in. It is for these kinds of problems that a healthy cash balance is necessary for running a business. This project enables the entrepreneur to have that.

Calculation of DSCR					
Particulars	1st year	2nd year	3rd year	4th year	5th year
<b>Cash Accruals</b>					
Depreciation	0	11.6	10.15	8.88	7.78
Profit before interest and taxes	0	96.65	114.95	136.39	156.91
<b>Total</b>	<b>0</b>	<b>108.25</b>	<b>125.1</b>	<b>145.27</b>	<b>164.69</b>
<b>Repayments</b>					
Interest on Term Loan	0.00	6.32	4.53	2.75	0.97
Term Loan Instalments	0.00	16.21	16.21	16.21	16.21
<b>Total</b>	<b>0.00</b>	<b>22.53</b>	<b>20.74</b>	<b>18.96</b>	<b>17.18</b>
<b>Debt Service Coverage Ratio</b>	<b>NA</b>	<b>4.8</b>	<b>6.03</b>	<b>7.66</b>	<b>9.59</b>

The debt service coverage ratio from second year is 4.8 and above indicating that the project should not have any problem in servicing the loan in the structure suggested which is a five-year loan including one year moratorium.

### IRR/NPV and BC Ratio

The calculation for internal rate of return (IRR) a, BC Ratio and net present value (NPV) is given below. The BC ratio is a healthy 1.32 considering a discount rate of 15%. The net present value of future benefits at a discount rate of 15% comes to Rs. 453.40 lakh. And the internal rate of return comes to 115% which essentially indicates that at 115% discount rate the net present value of net benefits would be zero. This also acts as an indicator of the risk bearing capacity of the project.

BC Ratio, NPV and IRR								(Amt in Rs. Lakh)
Costs and revenue items	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year
<b>Fixed Costs</b>	97.3842							
<b>Variable costs</b>								
Raw material	0	198.56	234.82	275.36	320.72	371.26	427.6	490.32
Salary	0	20.4	22.44	24.68	27.15	29.87	32.85	36.14
Electricity	0	3.375	3.7125	4.05	4.3875	4.725	5.0625	5.4
Maintenance	0	7.84	7.84	7.84	7.84	7.84	7.84	7.84
Sales and Admin exp	0	19.6	19.6	19.6	19.6	19.6	19.6	19.6
<b>Total Costs</b>	<b>97.3842</b>	<b>249.775</b>	<b>288.413</b>	<b>331.53</b>	<b>379.698</b>	<b>433.295</b>	<b>492.953</b>	<b>559.3</b>
Rate of discount	15%							
Present value of costs	1396.99							
<b>Revenues</b>								
<b>Sale of finished goods</b>								
200 gram pack papad		338.43	413.51	476.81	544.39	616.22	692.38	772.79
<b>Total</b>	<b>0</b>	<b>338.43</b>	<b>413.51</b>	<b>476.81</b>	<b>544.39</b>	<b>616.22</b>	<b>692.38</b>	<b>772.79</b>

BC Ratio, NPV and IRR		(Amt in Rs. Lakh)						
Rate of discount	15%							
Present value of benefits	1850.39							
<b>BC Ratio</b>	1.32							
<b>Net Benefits</b>	-97.384	88.655	125.098	145.28	164.693	182.925	199.428	213.49
Rate of discount	15%							
<b>NPV</b>	453.40							
<b>IRR</b>	115%							

## Registration/Certification

There are four registrations necessary for MSMEs which are involved in food processing. A brief on the same is given below:

1. **GST:** GST registration in today's environment is a necessity for anyone doing a business. The entrepreneur must get himself registered for the same first. Many of the benefits given by central government is being linked to GST registration. Necessary system should be put in place to file the GST return from time to time as per the rules laid down by GoI.  
(<https://reg.gst.gov.in/registration/>)
2. **FSSAI:** The processing units should follow the Food Safety and Standard Authority of India (FSSAI) act 2006. FSSAI Act is applicable pan India for all food products. It prescribes minimum standards operating procedures, food safety norms, packaging & labeling norms. The new units need to take a license called FSSAI number from Food Safety and Standards Authority of India. The registration can be done at FSSAI website. (<https://fssai.gov.in/cms/registration.php>)
3. **UDYAM:** The entrepreneur may consider getting himself registered in UDYAM.  
(<https://udyamregistration.gov.in/Government-India/Ministry-MSME-registration.htm>).
4. **ISO:** ISO certification is a seal of approval from a third party body that a company runs to one of the international standards developed and published by the International Organization for Standardization (ISO). It is absolutely essential if one wants to venture into exports. Even for domestic sales this certification adds value. A person feels comfortable with ISO certification mentioned in the packaging along with FSSAI registration. Various agencies are there doing this job of certification. One such site available is <https://legalwaycertification.com/iso/>. There are many other such agencies who have been authorized to issue ISO certification.

All three viz., GST registration, FSSAI registration and ISO certification has to be mentioned on the packaging. It is also important that these certifications are renewed as and when required. For example, ISO certification is valid for 1 year in many cases. If so, the certification needs to be renewed every year. In addition to the ones stated above, it would be necessary to take fire and pollution clearances. It would also be advisable choose a brand name for the product and secure the name with trademark.





# Model Project Report on **Soya nuggets processing**

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# Processing of Soya nuggets

## Introduction

Soybean is a leguminous plant that originated in eastern Asia. The main product in the processing of soybean crops is soy vegetable oil used in the food and industrial applications, contributing to 25% of the global edible oil. Soya chunks or chunks are made of defatted soy flour, which is a by-product of soy oil extraction. Soya bean is a rich protein source and is the highest protein (approx. 50 %) of all vegetarian foods. Soya chunks or Nuggets of soya beans are generally referred to as vegetarian meat for its similar characteristics to original meat. It is mostly grown in Madhya Pradesh though also cultivated in states such as Chhattisgarh, Gujarat, and West Bengal in a large area.

## Promoters - Some specific requirements

The details of the promoters will have to be obtained along with other information. The Proforma for promoter detail is given in Annexure – 1.

## History of the company

The project has been prepared as if a new set up is being made for the purpose of cornflakes processing the same could be part of another company or a new company all together. The details of the existing company or the proposed company have to be obtained/presented in the project report. Format for company report is given in Annexure-2.

## Finished product and its utility

Due to its good nutritive values, and qualities, soy chunks or nuggets, and related food products became popular all over the world. It has the same protein content as meat, and also similar chewy in texture. They are also free from cholesterol.

## Market, Demand and Major Competitors

The market for soya nuggets is rising as a healthcare-conscious product. While new players of the market have begun to deliver soya chunks, older players have increased production capacity due to rising demand. In India, the soy nugget market is rising annually at a rate of between 25% and 30%, leading businesses to become more aggressive. In the household as well as in commercial food joints, hostels, hospitals, protective cuisines, and others, the demand for Soya Nuggets has increased due to its high content of proteins, cheap price, and taste as well as easy-to-cook nature. The global soybean market will increase from US\$146.23 Billion in 2017 to US\$215,746 Billion by 2025, at a CAGR of 5.0 percent over the period between 2017 and 2025. With

health-conscious foods in mind, soya foods like soya nuggets are an excellent alternative to milk, meat, and poultry-intensive diets. In 2019 the global soya food industry stood at US\$ 40.5 trillion. Soya is usually used in many recipes as an alternative to meat and is added to various vegan-friendly foods. The growing demand for plant-based foods confirms the soya market growth worldwide.

In India also soya product consumption is on the rise among people as it is a cheap source of protein and also easy to cook.

**Note: In addition details of localized competition, has to be mentioned while preparing the final DPR based on where the unit is going to be set up.**

## Raw Material Requirement

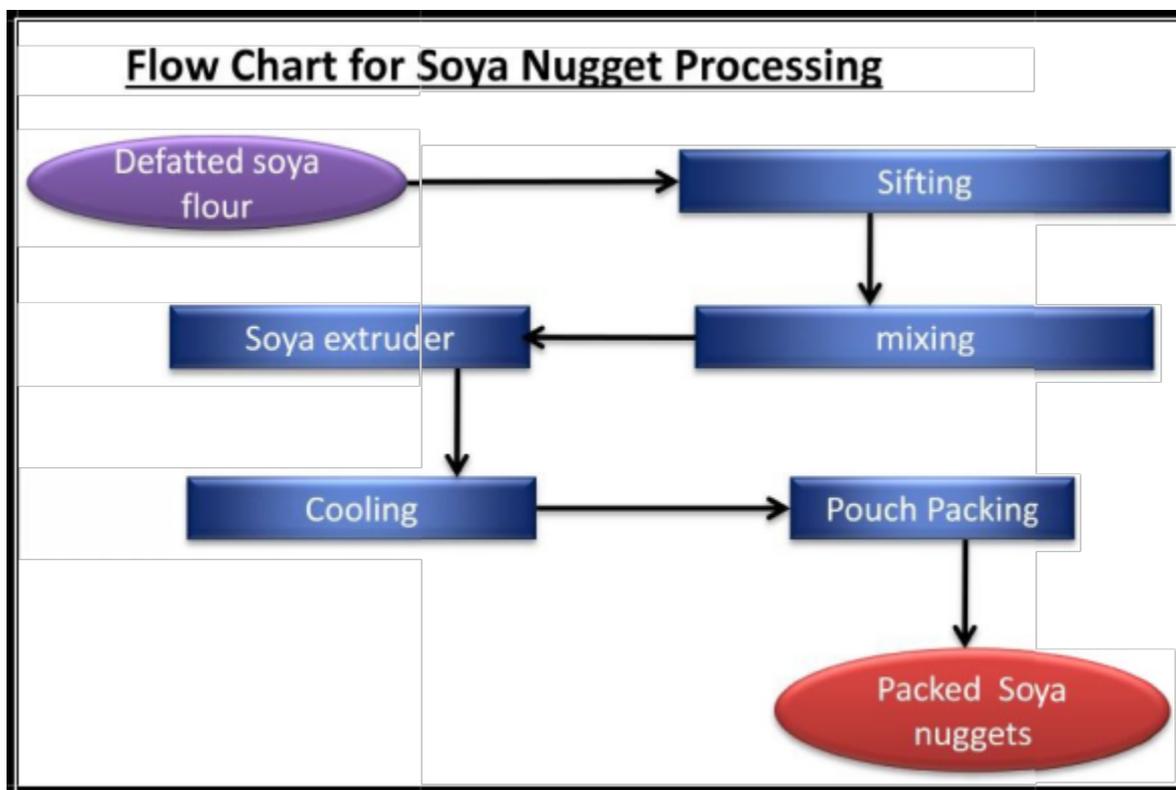
In many cases specially the large producers of soya nuggets, the plant is set up as an add on to the soya oil mill. The advantage is that procurement of soyabean will run both the units. Notable brands following this system are Ruchi and Fortune. It becomes a nice vertical integration wherein the byproduct of one unit becomes the raw material for another. Defatted soy flour is used for making chunks which essentially is a byproduct of the soya oil producing unit. hence, the sourcing of raw material has to be from the soya oil mills by having a regular tie up with them. The shelf life of soya flour is also a limitation. Defatted soya flour needs careful handling because of the bridging characteristics. Hence most of the small producers follow a policy of keeping shorter/smaller stocks to make available enough raw materials only for few batches. Tie up with a nearby soya oil mill would thus be very useful as daily requirements or may be requirement for two/three days only need to be stored as raw material. Moreover, the speculative character of the markets contributes to high fluctuations in procurement costs can be avoided by having such a tie up to ensure streamlined returns from the investment. If such an oil mill is not there nearby then we have no choice but to procure defatted Soya flour from the wholesalers wherein the same is available at a price of anywhere between Rs.50/- to Rs.100/- per kg.

For the purpose of this project the price of raw material is pegged at at Rs. 75/- per kg.

## Manufacturing Process

The process for manufacturing of soya nuggets is well-established. The general process which is followed is explained here.

- The soya flour is passed through a sifter to remove lumps/large particles, if any.
- The cleaned flour so obtained is put in a mixer
- From the flour mixer using a screw conveyor it goes to the extruder machine
- From there using a conveyor, the hot nuggets are lifted and sent into a dryer.
- The dried nuggets are then cooled
- Cooled nuggets are then packed in pouches. Using nitrogen flush pouch packing system increases the shelf life of the product.



## SWOT Analysis

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>➤ It's a very good source of plant protein</li> <li>➤ It is part of regular vegetarian diet</li> </ul>	<p><b>Weakness</b></p> <ul style="list-style-type: none"> <li>➤ Supply of raw material on a regular basis and at a stable price could become a weakness with popularity of the product increasing</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>➤ Nuggetes are being sold today in two different forms viz., large chunks small pieces which makes it look like mince meat. Company can look into diversification.</li> <li>➤ Backward integration could be thought of by having a soya oil plant, the by product of which is soya flour</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>➤ Local as well as national competitors</li> <li>➤ Highly automated plants can become a threat in the long run. To overcome this, technology upgradation is a must from time to time.</li> </ul>

## Financial Aspects of the Project

### Infrastructure required

Any project preparation is based on a set of assumptions made which are close to the market reality. In this project the land used is assumed to be own land. The major component of a soya nugget processing unit is land, building, plant and machinery and civil works. List of all the assumptions made is given in Annexure 3. Raw material storage would be for about a week. Finished goods inventory would be for 15 days. The building would have a raw material storage room, one finished goods storage room, and the main processing room along with an office room and toilet. Space required would be of around 6000 sq. ft.

### Land and its development

A plot of approximately 6000 sq.ft would be necessary for setting up a soya nuggets processing factory of this scale along with storage godown. In addition space for DG set, effluent plant also would be necessary. An area of 0.5 acre should be sufficient to take care of all the aspects and leave the scope for future expansion/backward integration. The land should be free from any encumbrance and shall be mortgageable. The land should be classified as non-agriculture. Permission for non-agriculture use, wherever applicable, shall be obtained for the land.

### Size of the unit

The capacity has been kept at 2.4 tonnes of soya flour per day. It would be better to restrict the size of operation at this level because of two reasons. The raw material will be sourced from the local wholesalers. In the first 2 years, the brand would have to establish itself in the locality. Based on estimates this would be adequate to cater to the market surrounding the production area. Second reason is marketing of end product. As one has to go in for direct marketing, it would be necessary to have a brand which needs to be established in quick time in the last phase of the first year and beginning of second year. And then the same will get settled in a year or two and earn a good name if quality is maintained. It is because of all this the maximum capacity utilisation also has been kept at a very conservative level with a room for even increasing production by 25% from third year if the demand comes up.

### Machineries and Equipment

Various machineries and equipments will be required for setting up the plant. The list of such equipment and number of such units required for setting up a Soya nuggets processing plant along with Miscellaneous fixed assets for which investment has to be made is given below. This would have a maximum capacity 300 kg per hour @ rate of 8 hours per day. For 300 days in a year this would mean 720 tonnes of soya flour per annum at 100% capacity utilisation. In order to ensure regular functioning of the plant backup power support in the form of a 50 KVA genset has been taken into consideration to avoid any interruption which could lead to wastage of the work in progress. In addition to this waste water effluent treatment would also be necessary due to the water being discharged after cleaning of equipments, etc. As it would be having mostly organic wastes which

are biodegradable, an effluent treatment plant with this factor in mind should be set up necessary financial allocation has also been taken into account for the same.

Processing Equipment cost				
Sl no.	Machine	Unit	Unit Cost	Amount in Rs.
1	SS Feed Screw Conveyor 3 HP	1	100000	100000
2	U-Mixer MOC SS304 1.5 mtr(L), 1.2 mtr(W) , 1.2mtr(H) 1 ton/hr 10 HP	1	200000	200000
3	SS Feed Screw Conveyor 3 HP	1	100000	100000
4	Bridge Tank	1	250000	250000
5	SS Feed Screw Conveyor 3 HP	1	100000	100000
6	Pre Conditioner Screw Conveyor structure 7.5 HP	1	200000	200000
7	Extruder 10 HP	1	1790000	1790000
8	Cutter Blade 5 HP	1	100000	100000
9	Belt Conveyor 2 HP	2	100000	200000
10	Dryer 5 HP	1	1760000	1760000
11	Condensing Unit 2 HP	1	450000	450000
12	Soya Nugget Grading System 3 HP	1	200000	200000
13	Hammer Mill with MS structure 2HP motor to make usable flour from wasted raw material. 2 HP	1	50000	50000
14	Granule Machine fitted with 20 HP Main Motor 50 HP	1	550000	550000
15	Steam Boiler capacity 300Kg/Hr with pressure 2Kg/cm2 with 2HP motor. 2 HP	1	250000	250000
16	Electrical Control Panel for all the equipment 1 HP	1	800000	800000
17	Packing machine 2 HP	1	450000	450000
18	Other small equipments like bucket, steel containers, etc as 1 set and testing lab	1	200000	200000
19	65 KVA DG set	1	650000	650000
20	Effluent treatment Plant	1	700000	700000
	Total			9100000
	Addl Cost for transportation, GST, Installation and training as a percentage of the equipment cost		30%	2730000
	Total cost incl GST, etc.			<b>11830000</b>

1. Prices quoted by Atharv Engineering, Indore and those displayed in Indiamart or other companies are generally excluding GST, Transportation charges, installation charges, travel cost and training as well as any other taxes applicable. Accordingly, an additional 30% has been taken on the ex-factory equipment cost.
2. Based on the searches on Indiamart, it is observed that there are companies supplying all the equipments giving a single window solution. It is suggested that it would be better for an entrepreneur to buy all equipments from a single vendor because the following reasons.

- There will not be any mismatch between equipments and automation would be smoother.
- Single point of contact would not allow any blame game between vendors in case something goes wrong.
- Power assessment would be better and line can be drawn accordingly
- A single unit set up by any of these can be visited to get a clear overview.
- Training would be much easier as it would from one agency

The packaging machine would depend on what volume we want to pack. As we are targeting direct marketing in this case, packaging would be for say 200 grams to a maximum of 500 grams.

Miscellaneous fixed assets					
Sl. No.	Particulars	Units		Unit cost	Amount in Rs.
1	Electrical and water Connection		1	500000	500000
2	Chairs		11	2000	22000
3	Table		2	5000	10000
4	Computer		2	50000	100000
5	Printer		1	15000	15000
	<b>Total</b>				<b>647000</b>

Given the fact that the raw material would be procured from either soya oil mills or local wholesalers or from Indiamart, we need not stock raw material for more than a 7 days. Only a room adjacent to the processing room would be made to store the raw material. No separate silo need to be created for this purpose. Similarly finished goods inventory would not be more than 15 days. The production would be managed accordingly. The project could be done on a 0.25 acre plot keeping future expansion in view and a building including godown for raw material and finished goods. The total building cost is given in table below:

Land and Building			
Particulars	Area reqd	Rate/sqft in Rs.	Amount in Rs.
Land cost	Own land -0.5 acre		0
Building cost @ 1430/-- per sq ft	4000	1430	5720000
Prefabricated godown @ 234/- per sq ft	2000	234	468000
<b>Total cost</b>			<b>6188000</b>
Vehicles for Transportation of goods	Units	price	Amount in Rs.
eight to ten tonne capacity truck	1	2500000	2500000
1 tonne truck	3	800000	2400000
<b>Total</b>			<b>4900000</b>

The total bank loan component based on the assumptions made and unit costs taken would be as follows:

Project Summary			
Project Cost excluding land			23565000
Preoperative Expenses			235650
Total Project Cost excluding land			23800650
Own Contribution			9520260
Estimated Bank loan			14280390
Own Contribution in Rs. Lakh			<b>95.20</b>
<b>Bank Loan in Rs. Lakh</b>			<b>142.80</b>

In addition interest cost of the first year will be capitalized as the project would need a moratorium for 12 months. This would increase the outstanding at the end of the first year.

### Project Timeline

The project to start off production would need around one year for implementation to be completed.

The breakup for the same is given in table below:

Activity	
Arrangement of finance	3 months
Building of premises/Acquisition of premises	6 months
Procurement of equipments	2 months
Recruitment of manpower	1 month
Training	1 month

As recruitment of manpower can be done along with procurement of equipment and the activity would not be part of the critical path, the total time taken would be 12 months for setting up the project and to reach a position to start production. Hence, one year moratorium has been taken. If “ready to move in” premises suitable for the project is acquired, then the timeline would come down by around 3 months. However, in this project it has been assumed that the unit will be set up in own land and costing has been done assuming the same.

### Price of Raw material and finished goods

The raw material price is one of the key issues as it tends to fluctuate based on the soya bean market price. Present price range on Indiamart shows the same to be anywhere between Rs.50/- to 100/- per kg. To be on the conservative side, it has been taken at Rs.100/- per kg. On the other hand branded nuggets like Nutrela and Fortune are sold at Rs.50/- to Rs.57/- for a 200 gm pack. At this end also to be on the conservative side, the price of nuggets has been taken at Rs.27/- for a 200 gm pack.

## Working Capital requirement

Working capital requirement has been assessed keeping in view the banking requirements. Own contribution has been taken at 25%. However, before calculating the working capital requirement it is necessary to find out the overall raw material requirement, production and details of stock based on the assumptions stated above from which working capital requirement is generated. In the following tables details of working capital requirement is assessed

Capacity utilisation in the second year has been kept at a very modest level of 50% as the market linkages has to be set up and brand has to establish itself in the surrounding locality. Processed soya nuggets production in the first five years of the project is expected to be as follows:

Soya nugget Production Production for 5 years					
Production Period	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation	0%	50%	55%	60%	65%
Raw material requirement per day	0	4	4.4	4.8	5.2
Raw material required in tonnes	0	1200	1320	1440	1560
Rate per tonne in Rs.	0	100000	107500	115563	124230
Cost of packaging material per 200 grams	0	2	2.15	2.31	2.48
Packaging cost	0	120	141.9	166.32	193.44
Total Cost in Rs. Lakh	0	1320	1560.9	1830.43	2131.43

Calculation of Sales					
Particulars	1st year	2nd year	3rd year	4th year	5th year
<b>Production of Spices</b>					
Opening Stock	0	0	58.8	64.68	70.56
Production in tonnes	0	1176	1293.6	1411.2	1528.8
Closing Stock	0.00	58.80	64.68	70.56	76.44
Net Sales in tonnes	0	1117.2	1287.72	1405.32	1522.92
Sales price per packet of 200 gm incl packaging	0	29	30	32	34
<b>Sales value in Rs. Lakh</b>	<b>0.00</b>	<b>1619.94</b>	<b>1931.58</b>	<b>2248.51</b>	<b>2588.96</b>

Working capital requirement has to be evaluated based on the above mentioned details. The same is given in the table below:

<b>Working Capital Assessment</b>					
<b>Computation of value of closing stock and working capital requirement</b>					
<b>Particulars</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
Finished goods inventory in tonnes	0	58.8	64.68	70.56	76.44
Price of finished good/200 grams in Rs. including packaging material	0	29	30	32	34
Total finished goods stock price in Rs.	0	8526000	9702000	11289600	12994800
Raw material inventory in tonne	0	28	30.8	33.6	36.4
Price of Raw Material/tonne in Rs.	0	100000	107500	115563	124230
Packaging Material per 200 grams	0	2	2.15	2.31	2.48
Total Raw Material Stock Price	0	3074400	3635478	4263235	4964305
Total value of stock	0	11600400	13337478	15552835	17959105
Amount in Lakh	0	116	133.37	155.53	179.59
Less Creditors in lakh	0	29	33.34	38.88	44.9
Paid Stock in lakh	0	87	100.03	116.65	134.69
Add sundry debtors in lakh	0	17.4	20.01	23.33	26.94
<b>Total</b>	<b>0</b>	<b>104.4</b>	<b>120.04</b>	<b>139.98</b>	<b>161.63</b>
<b>Own contribution @ 25%</b>	<b>0</b>	<b>26.1</b>	<b>30.01</b>	<b>35</b>	<b>40.41</b>
<b>Working Capital requirement in Rs. Lakh</b>	<b>0</b>	<b>78.3</b>	<b>90.03</b>	<b>104.98</b>	<b>121.22</b>
<b>* WC requirement has been taken based on the requirement of the second year as the first year would be treated as moratorium period for setting up the project.</b>					

The project is expected to generate sufficient cash and working capital limit is pegged at the requirement of the second year, first year being the moratorium for setting up the factory.

### Other Expenses

There are other expenses which may be also termed as running cost. They are mainly salary, rental charges for the premises and electricity charges. The details of these expenses are given below:

<b>Labour and Staff Salary/wages</b>				
<b>Particulars</b>	<b>Wages/ Salary per month</b>	<b>No. of employees</b>	<b>Total Salary per month</b>	<b>Annual Salary</b>
Manager	30000	1	30000	360000
Accountant	25000	1	25000	300000
Helper	10000	1	10000	120000
Plant Operator	20000	1	20000	240000
Skilled labour	15000	2	30000	360000
Unskilled labour	10000	10	100000	1200000
<b>Total Salary</b>			<b>215000</b>	<b>2580000</b>

Projected Salary Expenses					
Salary expenses Projection	1st year	2nd year	3rd year	4th year	5th year
Annual Salary expenses	0	2580000	2838000	3121800	3433980
Salary expenses rounded off to lakhs	0	25.8	28.38	31.22	34.34
Electricity Charges					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation	0%	50%	55%	60%	65%
Consumption of power per day in units	0	500	550	600	650
Rate per unit in Rs.		9.00	9.00	9.00	9.00
Power bill per month in Rs.	0	112500	123750	135000	146250
<b>Total power bill per year</b>	<b>0</b>	<b>1350000</b>	<b>1485000</b>	<b>1620000</b>	<b>1755000</b>
<b>Power bill in Rs. Lakh</b>	<b>0</b>	<b>13.50</b>	<b>14.85</b>	<b>16.20</b>	<b>17.55</b>
Packaging Cost					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Cost of Packaging per unit (200 grams)	0	2	2.15	2.31	2.48
Total Production in kg	0	1176000	1293600	1411200	1528800
<b>Packaging cost in Rs. Lakh</b>	<b>0.00</b>	<b>117.60</b>	<b>139.06</b>	<b>162.99</b>	<b>189.57</b>
Selling, transportation and administrative expenses					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Sales and branding expenses per annum	0	1000000	1000000	1000000	1000000
Admin Expenses	0	480000	480000	480000	480000
Transportation charges	0	480000	480000	480000	480000
<b>Total Expenditure on Sales, Admin &amp; Transportation</b>	<b>0</b>	<b>1960000</b>	<b>1960000</b>	<b>1960000</b>	<b>1960000</b>
<b>Amount in Rs. Lakh</b>	<b>0</b>	<b>19.6</b>	<b>19.6</b>	<b>19.6</b>	<b>19.6</b>

All these costs will be factored in later in the report while evaluating the financial benefits of the project

## Depreciation

The depreciation calculation is as follows:

Depreciation Calculation					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Total value of equipments	0	17377000	14770450	12554882	10671650
Depreciation @15%	0	2606550	2215568	1883232	1600748
Value at the end of the year to be carried forward	0	14770450	12554882	10671650	9070902
Total Value of building	0	6188000	5569200	5012280	4511052
Depreciation of building@10%	0	618800	556920	501228	451105
Value at the end of the year to be carried forward	0	5569200	5012280	4511052	4059947
<b>Total depreciation</b>	<b>0</b>	<b>3225350</b>	<b>2772488</b>	<b>2384460</b>	<b>2051853</b>
<b>Total depn in Rs. Lakh</b>	<b>0</b>	<b>32.25</b>	<b>27.72</b>	<b>23.84</b>	<b>20.52</b>

## Repairs and maintenance

In case of new equipments including computers, generally they give a warranty for one year. Thus the maintenance cost would be starting from the second year onwards. The same in general is given at a service charge of 15% per annum. In case there are any major spares to be replaced the cost of that has to be borne by the customers. Given these general terms, it can be taken at 20% of the equipment cost per annum. The same would then be as follows:

Cost of Maintenance	
Particulars	Amount
Total fixed cost	17377000
Maintenance cost in percentage	20%
Cost of Maintenance	3475400
Maintenance cost in Rs. Lakh	34.75

## Cost of Project and Means of Finance

Based on the data presented above on cost of plant and machinery, working capital requirement, etc., the cost of the project and means of finance required can be summarized as follows:

Cost of The Project	
(in Rs. Lakh)	
Particulars	Amount
Land & Building*	61.88
Plant & Machinery	118.3
Misc. Items, Transport & pre-op exp.	57.83
Working Capital	104.4
Total	342.41
*Land is assumed as own land and hence cost taken is 0	

Means of Finance	
(in Rs. Lakh)	
Particulars	Amount
Own Contribution	95.20
Term Loan from Bank	142.80
Working Capital Own contribution	26.10
Working Capital	78.3
total	342.40

The detailed repayment schedule of the term loan is indicated in Annexure 4. The interest for the first year is capitalized and loan outstanding accordingly increased in the end of the first year. It is assumed that the working capital limit given will be renewed every year for the next five years. Any increase in the working

capital may not be necessary as the project should be able to generate sufficient profits and the internal accruals should be able to take care of additional working capital requirements. The summary of interest payment for working capital and term loan and principal repayment is given in the table below:

Year-wise Interest on Bank Loan					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Interest on Term Loan in Rs.*	0	1543803	1107906	672007	236111
Interest on Term Loan in Rs. Lakh	0.00	15.44	11.08	6.72	2.36
Interest on working Capital	0	8.61	8.61	8.61	8.61
Principal Repayment in Rs.	0	3962700	3962700	3962700	3962700
Principal Repayment in Rs. Lakh	0.00	39.63	39.63	39.63	39.63
Balance outstanding - end of the year	158.51	118.88	79.25	39.62	0.00

\* Interest on term loan has been capitalised for 12 months due to moratorium leading to increase in the capital outlay.

## Financial Statements

The profitability of the project can be judged based on the financial statements generated based on the data presented above in the series of tables. Accordingly the projected Profit and loss account, Balance sheet, and cash flow statement along with breakeven analysis is presented in the tables below. During the moratorium period the interest is charged by the bank which has to be capitalized to ensure that the same is repaid over a period of time. Capitalisation thus leads to increase in the loan quantum at the end of the first year which can be seen in the balance sheet.

Projected P&L Statement					
(in Rs. Lakh)					
Particulars	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation%	0%	50%	55%	60%	65%
Gross Sale of Spices	0	1619.94	1931.58	2248.51	2588.96
<b>Total</b>	<b>0</b>	<b>1619.94</b>	<b>1931.58</b>	<b>2248.51</b>	<b>2588.96</b>
Cost of Production					
Raw Material Consumed	0	1200	1419	1664.11	1937.99
Electricity Charges	0	13.5	14.85	16.2	17.55
Depreciation	0	32.25	27.72	23.84	20.52
Salary and wages	0	25.8	28.38	31.22	34.34
Repair and Maintenance	0	34.75	34.75	34.75	34.75
Packaging	0	117.60	139.06	162.99	189.57
Selling & Admn Expenses	0	19.60	19.60	19.60	19.60
<b>Total Cost of Production</b>	<b>0</b>	<b>1443.5</b>	<b>1683.36</b>	<b>1952.71</b>	<b>2254.32</b>
<b>Profit before interest and taxes</b>	<b>0</b>	<b>176.44</b>	<b>248.22</b>	<b>295.8</b>	<b>334.64</b>

Projected P&L Statement					
Interest on Term Loan*	0.00	15.44	11.08	6.72	2.36
Interest on Working Capital	0	8.61	8.61	8.61	8.61
<b>Total Interest Payment</b>	<b>0.00</b>	<b>24.05</b>	<b>19.69</b>	<b>15.33</b>	<b>10.97</b>
Profit before Tax	0.00	152.39	228.53	280.47	323.67
Income Tax	0	38.1	57.13	70.12	80.92
<b>Net profit after tax</b>	<b>0.00</b>	<b>114.29</b>	<b>171.40</b>	<b>210.35</b>	<b>242.75</b>
<b>Term loan interest for first year capitalised to account for the moratorium</b>					

As can be seen, the unit would be in profits after tax from second year onwards. The project has enough profits even at 50% capacity utilization.

Projected Balance Sheet					
Rs. In Lakh					
Particulars	1st year	2nd year	3rd year	4th year	5th year
<b>Liabilities</b>					
Capital					
Opening Balance	0	95.20	209.49	380.89	591.24
Own Capital Contribution	95.2	0.00			
Retained Earnings	0.00	114.29	171.40	210.35	242.75
<b>Total-Closing Balance</b>	<b>95.2</b>	<b>209.49</b>	<b>380.89</b>	<b>591.24</b>	<b>833.99</b>
Term Loan	158.51	118.88	79.25	39.62	0.00
Working Capital Limit	0.00	78.30	78.3	78.3	78.3
Sundry Creditors	0	29.00	33.34	38.88	44.9
<b>Total Liabilities</b>	<b>253.71</b>	<b>435.67</b>	<b>571.78</b>	<b>748.04</b>	<b>957.19</b>
<b>Assets</b>					
Fixed Assets	238.01	238.01	238.01	238.01	238.01
Gross Depreciation	0	32.25	59.97	83.81	104.33
<b>Net Fixed Assets</b>	<b>238.01</b>	<b>205.76</b>	<b>178.04</b>	<b>154.2</b>	<b>133.68</b>
Sundry Debtors	0	17.4	20.01	23.33	26.94
Stock in Hand	0	116	133.37	155.53	179.59
Interest capitalised	15.71	0	0	0	0
Cash and Bank Balance	-0.01	96.51	240.36	414.98	616.98
<b>Total Assets</b>	<b>253.71</b>	<b>435.67</b>	<b>571.78</b>	<b>748.04</b>	<b>957.19</b>

The project is generating healthy profit from second year with the first year being moratorium as presented

above. The breakeven analysis indicates the level of operation at which the operations will breakeven and not have any loss. It becomes important to identify the fixed and the variable costs. Even within variable component there is always a part which is fixed. For example, even if the plant is not running there will be lights and fans which will be used for administrative work, people will have to be paid salary for those days as well, etc. Accordingly, a portion of the variable expenses have been taken as fixed cost to arrive at the contribution and the total fixed cost. Total fixed cost divided by the contribution (fixed cost÷Contribution) gives us the breakeven point. In this case the breakeven capacity utilization in year 2 comes at 6% capacity utilisation.

<b>Breakeven Point Analysis</b>		
	Rs. In Lakh	
<b>Total Sale (Sales - opening WIP + closing WIP)</b>	<b>Year 1</b>	<b>Year 2</b>
Net Sales	0.00	1619.94
Less: Opening Stock	0.00	0.00
Add: Closing Stock	0.00	85.26
<b>Total Production/Sales</b>	<b>0.00</b>	<b>1705.20</b>
<b>Variable Expenses</b>		
Raw Material and Packaging	0.00	1320.00
Interest on working Capital	0.00	8.61
Repair and Maintenance	0.00	8.69
Salary expenses	0.00	2.58
Sales & Admin Expenses	0.00	2.94
Energy - Electricity	0.00	13.23
<b>Total</b>	<b>0.00</b>	<b>1356.05</b>
<b>Contribution</b>	<b>0.00</b>	<b>349.15</b>
<b>Contribution per unit (per tonne)</b>	<b>NA</b>	<b>31252.24</b>
<b>Fixed expenses</b>		
Interest on Term Loan	0.00	15.44
Repair and Maintenance	0.00	26.06
Salary expenses	0.00	23.22
Sales & Admin Expenses	0.00	16.66
Energy - Electricity	0.00	0.27
Depreciation	0.00	32.25
<b>Total</b>	<b>0.00</b>	<b>113.90</b>
Capacity utilisation	0%	50%
<b>Operating Profit</b>	<b>0.00</b>	<b>235.25</b>
<b>Breakeven point in physical units</b>	<b>NA</b>	<b>364</b>
<b>Breakeven point in capacity utilisation (%)</b>	<b>NA</b>	<b>15%</b>

Cash Flow Statement					
Rs. In Lakh					
Particulars	1st year	2nd year	3rd year	4th year	5th year
<b>Sources of Fund</b>					
Own margin	95.20				
Profit Before Interest and Tax	0.00	176.44	248.22	295.80	334.64
Depreciation	0.00	32.25	27.72	23.84	20.52
Working Capital accretion	0.00	78.30	0.00	0.00	0.00
Term Loan accretion	142.80	15.71	0.00	0.00	0.00
Creditors	0.00	29.00	4.34	5.54	6.02
<b>Total</b>	<b>238.00</b>	<b>331.70</b>	<b>280.28</b>	<b>325.18</b>	<b>361.18</b>
<b>Uses of Fund</b>					
Fixed Assets	238.01	0.00	0.00	0.00	0.00
Stock in Trade - Accretion	0.00	116.00	17.37	22.16	24.06
Debtors - Accretion	0.00	17.40	2.61	3.32	3.61
Repayment of term Loan	0.00	39.63	39.63	39.63	39.63
Interest on Term Loan	0.00	15.44	11.08	6.72	2.36
Interest on working capital	0.00	8.61	8.61	8.61	8.61
Income Tax	0.00	38.10	57.13	70.12	80.92
Accretion in cash & bank balance	0.01	96.52	143.85	174.62	201.99
<b>Total</b>	<b>238.02</b>	<b>331.70</b>	<b>280.28</b>	<b>325.18</b>	<b>361.18</b>

The cash flow statement above indicates that chance of any problem with the cash is very little or so to say practically nil in the project. The project generates sufficient cash, and the entrepreneur can maintain a healthy cash balance for any eventuality or a rainy day. There are risks like equipment failure and the repair time required for the same, sudden problem with supply of raw material or shipment not arriving, etc. Now these are unforeseen risk which always cannot be factored in. It is for these kinds of problems that a healthy cash balance is necessary for running a business. This project enables the entrepreneur to have that.

Calculation of DSCR					
Particulars	1st year	2nd year	3rd year	4th year	5th year
<b>Cash Accruals</b>					
Depreciation	0	32.25	27.72	23.84	20.52
Profit before interest and taxes	0	176.44	248.22	295.8	334.64
<b>Total</b>	<b>0</b>	<b>208.69</b>	<b>275.94</b>	<b>319.64</b>	<b>355.16</b>
<b>Repayments</b>					
Interest on Term Loan	0.00	15.44	11.08	6.72	2.36
Term Loan Instalments	0.00	39.63	39.63	39.63	39.63
<b>Total</b>	<b>0.00</b>	<b>55.07</b>	<b>50.71</b>	<b>46.35</b>	<b>41.99</b>
<b>Debt Service Coverage Ratio</b>	<b>NA</b>	<b>3.79</b>	<b>5.44</b>	<b>6.9</b>	<b>8.46</b>

The debt service coverage ratio from second year is 3.79 and above indicating that the project should not have any problem in servicing the loan in the structure suggested which is a five-year loan including one year moratorium.

### IRR/NPV and BC Ratio

The calculation for internal rate of return (IRR) a, BC Ratio and net present value (NPV) is given below. The BC ratio is a healthy 1.11 considering a discount rate of 15%. The net present value of future benefits at a discount rate of 15% comes to Rs. 910.31 lakh. And the internal rate of return comes to 106% which essentially indicates that at 106% discount rate the net present value of net benefits would be zero. This also acts as an indicator of the risk bearing capacity of the project.

BC Ratio, NPV and IRR								(Amt in Rs. Lakh)
Costs and revenue items	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year
<b>Fixed Costs</b>	238.007							
<b>Variable costs</b>								
Raw material	0	1320	1560.9	1830.43	2131.43	2467.87	2842.43	3259.78
Salary	0	25.8	28.38	31.22	34.34	37.77	41.55	45.71
Electricity	0	13.50	14.85	16.20	17.55	18.90	20.25	21.60
Maintenance	0	34.75	34.75	34.75	34.75	34.75	34.75	34.75
Sales and Admin exp	0	19.6	19.6	19.6	19.6	19.6	19.6	19.6
<b>Total Costs</b>	<b>238.007</b>	<b>1413.65</b>	<b>1658.48</b>	<b>1932.2</b>	<b>2237.67</b>	<b>2578.89</b>	<b>2958.58</b>	<b>3381.44</b>
Rate of discount	15%							
Present value of costs	7916.19							
<b>Revenues</b>								
<b>Sale of finished goods</b>								
200 gram pack soya nuggets		1619.94	1931.58	2248.51	2588.96	2952.94	3340.43	3751.44
<b>Total</b>	<b>0</b>	<b>1619.94</b>	<b>1931.58</b>	<b>2248.51</b>	<b>2588.96</b>	<b>2952.94</b>	<b>3340.43</b>	<b>3751.44</b>
Rate of discount	15%							
Present value of benefits	8826.50							
<b>BC Ratio</b>	<b>1.11</b>							
<b>Net Benefits</b>	<b>-238.007</b>	<b>206.29</b>	<b>273.1</b>	<b>316.31</b>	<b>351.29</b>	<b>374.05</b>	<b>381.85</b>	<b>370</b>
Rate of discount	15%							
<b>NPV</b>	<b>910.31</b>							
<b>IRR</b>	<b>106%</b>							

## Registration/Certification

There are four registrations necessary for MSMEs which are involved in food processing. A brief on the same is given below:

- 1. GST:** GST registration in today's environment is a necessity for anyone doing a business. The entrepreneur must get himself registered for the same first. Many of the benefits given by central government is being linked to GST registration. Necessary system should be put in place to file the GST return from time to time as per the rules laid down by GoI.  
(<https://reg.gst.gov.in/registration/>)
- 2. FSSAI:** The processing units should follow the Food Safety and Standard Authority of India (FSSAI) act 2006. FSSAI Act is applicable pan India for all food products. It prescribes minimum standards operating procedures, food safety norms, packaging & labeling norms. The new units need to take a license called FSSAI number from Food Safety and Standards Authority of India. The registration can be done at FSSAI website. (<https://fssai.gov.in/cms/registration.php>)
- 3. UDYAM:** The entrepreneur may consider getting himself registered in UDYAM.  
(<https://udyamregistration.gov.in/Government-India/Ministry-MSME-registration.htm>).
- 3. ISO:** ISO certification is a seal of approval from a third party body that a company runs to one of the international standards developed and published by the International Organization for Standardization (ISO). It is absolutely essential if one wants to venture into exports. Even for domestic sales this certification adds value. A person feels comfortable with ISO certification mentioned in the packaging along with FSSAI registration. Various agencies are there doing this job of certification. One such site available is <https://legalwaycertification.com/iso/>. There are many other such agencies that have been authorized to issue ISO certification.

All three viz., GST registration, FSSAI registration and ISO certification has to be mentioned on the packaging. It is also important that these certifications are renewed as and when required. For example, ISO certification is valid for 1 year in many cases. If so, the certification needs to be renewed every year.

In addition to the ones stated above, it would be necessary to take fire and pollution clearances. It would also be advisable choose a brand name for the product and secure the name with trademark. Having a trademark is useful for bulk sale and is necessary for direct marketing as well as exports.



# Annexures



## Annexure 1: Promoter's Profile

Sl. No.	Particulars	Details				
1	Name of the person					
2	Date of birth and Age					
3	Marital status					
4	Residential Address					
5	Educational Qualification	Item	Name of School/ college	Year of Passing	Subject	Percentage obtained
		Secondary				
		Higher secondary				
		College				
		Post- Graduation				
	Any Other (Pl. Specify)					
6	Training	Specify training programmes attended, if any				
7	Past experience	Work Experience: Business Experience:				
8	Aadhaar Number					
9	PAN Number					
10	Any police complaint against the promoter	Yes/No; If yes please give details				

## Annexure 2: Company Profile

Is it an existing company? : Yes/No (If “Yes” the fill up table 1 and if “No”, go to table 2)

**Table 1 of Annexure 3 (for existing companies)**

Sl. No.	Item	Details			
1.	Name of the company				
2.	Year of establishment				
3.	List of investors/ shareholders	Name	Pan No.	CIBIL Score (enclose CIBIL Report)	Whether filing IT return (Yes/No)
4.	Products of the company				
5.	P&L Account and Balance sheet	Please attach copy of balance sheet and P&L account for maximum of last 3 years. If company is less than 3 years old, then the same may be provided for the years of existence			
6.	Profit after tax	Financial Year			
		Profit/Loss			
		Turnover			
7.	Proposed location of the new unit				
8.	Connectivity and other details	<ol style="list-style-type: none"> <li>1. Whether the site is connected by motorable approach road? Yes/No</li> <li>2. Whether the Road is a metallic road? Yes/No</li> <li>3. Whether the area is a low lying area? Yes/No</li> <li>4. Any incidence of flooding in the last 5 years in the area? Yes/ No – If yes please mention the years</li> <li>5. Whether power connection available? Yes/No</li> <li>6. Whether drinking water supply available? Yes/No</li> <li>7. Whether water supply available for industrial activity? Yes/No</li> <li>8. Name of the nearest town/city</li> <li>9. Distance from the nearest town/city</li> <li>10. Nearest Police station - pl give name and distance</li> <li>11. Any other information – please specify</li> </ol>			

**Table 2 of Annexure 3 (for newly set up/proposed to be set up companies for the project)**

Sl. No.	Item	Details			
1.	Proposed Name of the company				
2.	Expected date of establishment				
3.	Proposed List of investors/ shareholders	Name	Pan No.	CIBIL Score (enclose CIBIL Report)	Whether filing IT return (Yes/No)
4.	Proposed location of the new unit				
5.	Connectivity and other details	<ol style="list-style-type: none"> <li>1. Is it a non-agricultural land? Yes/No</li> <li>2. Whether the site is connected by motorable approach road? Yes/No</li> <li>3. Whether the Road is a metallic road? Yes/No</li> <li>4. Whether the area is a low lying area? Yes/No</li> <li>5. Any incidence of flooding in the last 5 years in the area? Yes/No – If yes please mention the years</li> <li>6. Whether power connection available? Yes/No</li> <li>7. Whether drinking water supply available? Yes/No</li> <li>8. Whether water supply available for industrial activity? Yes/No</li> <li>9. Name of the nearest town/city</li> <li>10. Distance from the nearest town/city</li> <li>11. Nearest Police station – pl give name and distance</li> <li>12. Any other information – please specify</li> </ol>			

## Honey Processing

### Annexure 3: Honey Production – Country-wise

Sl No.	Country	Production in Tons	Production per person in kg
1	China	457203	0.328
2	Turkey	114113	1.412
3	Argentina	79468	1.786
4	Iran	77567	0.949
5	Ukraine	71279	1.687
6	United States of America	69104	0.211
7	India	67442	0.050
8	Russian Federation	65006	0.443
9	Mexico	64253	0.515
10	Ethiopia	50000	0.465
11	Brazil	42346	0.202
12	Canada	39116	1.051
13	Spain	36394	0.780
14	Tanzania	30584	0.564
15	Romania	29162	1.494
16	Hungary	27963	2.862
17	South Korea	26720	0.517
18	Poland	23472	0.611
19	Angola	23411	0.800
20	Greece	21400	1.987
21	Kenya	20525	0.403
22	Uruguay	20422	5.825
23	Vietnam	20415	0.216
24	Germany	20333	0.246
25	New Zealand	20000	4.081
Source: www.atlasbig.com			

## Annexure 4: Honey Production in India

Year	in '000 MT
2001-02	10
2002-03	10
2003-04	10
2004-05	10
2005-06	52
2006-07	51
2007-08	65
2008-09	65
2009-10	65
2010-11	112
2011-12	84
2012-13	92
2013-14	76
2014-15	81
2015-16	89

## Annexure 5: Assumptions/ Basis of the project

Particulars	Value	Unit
Machine capacity per day in Kg	80	Kg
Capacity Utilisation in the first year	65%	
Increase in capacity utilisation per year	5%	
Working hours	8	Hours
Working days	25	Days
Wastage	7.50%	
Raw material Stock in Days (collected honey)	15	Days
Finished goods stock in days	10	Days
Interest on working capital and term loan	11%	
Power Consumption in units per day @ 100% capacity	200	Units
Pre-operative Expenses as a percentage of the total project cost	1%	
Increase in sale price/year	4%	
Rate per kg of processed honey in Rs. Including packaging	308	Rupees
Increase in raw material & packaging cost per year	5%	
Raw material cost per kg	175	Rupees
Packaging material cost per 500 gm	14	Rupees
Premises in sq ft.	3000	Sq. Ft.
Construction Cost per sq ft	1430	Rupees
Creditors in percentage of the stock Value	55%	
Debtors in percentage of the stock value	40%	
Power tariff per unit consumed in Rs.	9.00	Rupees
Depreciation of plant and machinery	15%	
Depreciation of building	10%	
Own contribution in Working Capital	25%	
Own contribution in Fixed Cost	40%	
Maintenance cost as Percentage of equipment cost	20%	
Increase in salary expenses every year	10%	
Selling, transportation and Administrative expenses per kg in Rs.	4	Rupees
Repayment of term loan in months	60	months
Moratorium in months	12	months
Income Tax	25%	
Variable cost under Repair and maintenance in percentage	25%	
Variable component in salary in percentage	20%	
Variable component in sale & Admin expenses	35%	
Variable component of electricity in percentage	90%	
Sales and branding expenses per annum in Rs.	1000000	Rupees
Misc Admin Expenses per annum @ 10000/- per month in Rs.	120000	Rupees
Transportation expenses per annum @ 10000/- per week in Rs.	480000	Rupees
Packaging Size in Kg	0.5	kg

## Annexure 6: Interest on Bank Loan and Repayment Schedule

Principal Repayment per month			102235					
Year	Particulars	Amount in Rs.	Total	Interest	Repayment of principal	Closing Balance	Annual Interest payment	Projected Principal Repayment
1	1st Month	4421000		40526	0	4421000		
	2nd Month	4421000		40526	0	4421000		
	3rd Month	4421000		40526	0	4421000		
	4th Month	4421000		40526	0	4421000		
	5th Month	4421000		40526	0	4421000		
	6th Month	4421000		40526	0	4421000		
	7th Month	4421000		40526	0	4421000		
	8th Month	4421000		40526	0	4421000		
	9th Month	4421000		40526	0	4421000		
	10th Month	4421000		40526	0	4421000		
	11th Month	4421000		40526	0	4421000		
	12th Month	4421000		40526	0	4421000	486312	0
2	1st Month	4907312		44984	102235	4805077		
	2nd Month	4805077		44047	102235	4702842		
	3rd Month	4702842		43109	102235	4600607		
	4th Month	4600607		42172	102235	4498372		
	5th Month	4498372		41235	102235	4396137		
	6th Month	4396137		40298	102235	4293902		
	7th Month	4293902		39361	102235	4191667		
	8th Month	4191667		38424	102235	4089432		
	9th Month	4089432		37486	102235	3987197		
	10th Month	3987197		36549	102235	3884962		
	11th Month	3884962		35612	102235	3782727		
	12th Month	3782727		34675	102235	3680492	477952	1226820
3	1st Month	3680492		33738	102235	3578257		
	2nd Month	3578257		32801	102235	3476022		
	3rd Month	3476022		31864	102235	3373787		
	4th Month	3373787		30926	102235	3271552		
	5th Month	3271552		29989	102235	3169317		
	6th Month	3169317		29052	102235	3067082		
	7th Month	3067082		28115	102235	2964847		
	8th Month	2964847		27178	102235	2862612		
	9th Month	2862612		26241	102235	2760377		
	10th Month	2760377		25303	102235	2658142		

	11th Month	2658142		24366	102235	2555907		
	12th Month	2555907		23429	102235	2453672	343002	1226820
4	1st Month	2453672		22492	102235	2351437		
	2nd Month	2351437		21555	102235	2249202		
	3rd Month	2249202		20618	102235	2146967		
	4th Month	2146967		19681	102235	2044732		
	5th Month	2044732		18743	102235	1942497		
	6th Month	1942497		17806	102235	1840262		
	7th Month	1840262		16869	102235	1738027		
	8th Month	1738027		15932	102235	1635792		
	9th Month	1635792		14995	102235	1533557		
	10th Month	1533557		14058	102235	1431322		
	11th Month	1431322		13120	102235	1329087		
	12th Month	1329087		12183	102235	1226852	208052	1226820
5	1st Month	1226852		11246	102235	1124617		
	2nd Month	1124617		10309	102235	1022382		
	3rd Month	1022382		9372	102235	920147		
	4th Month	920147		8435	102235	817912		
	5th Month	817912		7498	102235	715677		
	6th Month	715677		6560	102235	613442		
	7th Month	613442		5623	102235	511207		
	8th Month	511207		4686	102235	408972		
	9th Month	408972		3749	102235	306737		
	10th Month	306737		2812	102235	204502		
	11th Month	204502		1875	102235	102267		
	12th Month	102267		937	102235	32	73102	1226820

## Annexure 7: Details of the advisory

Honey is the natural sweet substance produced by honey bees from the nectar of blossoms or from secretions of plants. When visually inspected, the honey shall be free from any foreign matter such as mould, dirt, scum, pieces of beeswax, the fragments of bees and other insects and from any other extraneous matter. The colour of honey vary from light to dark brown. Standards for honey have been prescribed under Prevention Food Adulteration (PFA) Rules, 1955 as under.

(a) Specific gravity at 27°C	Not less than 1.35
(b) Moisture	Not more than 25 per cent by mass
(c) Total reducing sugars	Not less than 65 per cent by mass
(c-i) for <i>Carbia colossa</i> and Honey dew	Not less than 60 per cent by mass
(d) Sucrose	Not more than to 5.0 per cent by mass
(d-i) for <i>Carbia colossa</i> and Honey dew	Not more than 10 per cent by mass
(e) Fructose-glucose ratio	Not less than 0.95
(f) Ash	Not more than 0.5 percent by mass
(g) Acidity (Expressed as formic acid)	Not more than 0.2 per cent by mass
(h) Fiehe's test	Negative
(i) Hydroxy methyl furfural(HMF),	Not more than 80 mg/kg

If Fiehe's test is positive, and hydroxy methyl furfural (HMF) content is more than 80 milligram/kilogram, then fructose: glucose ratio should be 1.0 or more.

Rule 44 D provides for restriction on sale of *Carbia Callosa* and Honey dew. *Carbia Collosa* and Honey dew shall be sold only in sealed containers bearing AGMARK seal.

Rule 45 specifies that food resembling but not pure honey cannot be marked as honey. No person shall use the word "Honey" or any word, mark, illustration or device that suggests "Honey" on the label or any package of, or in any advertisement for, any food that resembles honey but is not pure honey.

Violation of the provisions of PFA Act/Rules attracts penal action.

No pesticide residues or antibiotics are allowed in honey.

The maximum limits of heavy metals in various foods are prescribed under PFA Rules, 1955. Rule 57 of PFA Rules prescribes the limits of contaminants under category "Foods not specified" (which includes honey) as follows:-

1. Lead	Not more than 2.5 ppm
2. Copper	Not more than 30.0 ppm
3. Arsenic	Not more than 1.1 ppm
4. Tin	Not more than 250.0 ppm
5. Zinc	Not more than 50.0 ppm
6. Cadmium	Not more than 1.5 ppm
7. Mercury	Not more than 1.0 ppm
8. Methyl Mercury	Not more than 0.25 ppm

### Standards of Honey under AGMARK

The Department of Agriculture and Cooperation has laid down standards of honey under the Grading and Marking Rules (AGMARK), which lays down the grades, designation of honey as Special, Grade–A and Standard to indicate the quality of honey for the purpose of certification. It specifies the method of packing, marking and labelling and conditions for grant of certificate for authorization. The standards of AGMARK are voluntary. In the matter of admissibility of antibiotics in honey, safety standards in India are similar to those in European Union, Codex Alimentarius and USA where they are completely prohibited.

## Annexure 8: Illustrative list of equipment manufacturers

### **Blacknut Agri Food Machinery Pvt. Ltd.**

Contact Person: Varun Gupta (Director)

Address:

1, 1127, Shree Krishna Complex,  
Bengali Mohalla,  
Ambala - 133104,  
Haryana, India

Call Us: 08048860042

### **YLEM ENERGY**

29/21, GALI NO -6, ANAND PARBAT INDUSTRIAL AREA  
New Delhi - 110005,  
Delhi, India

Website: [www.ylemmachines.com](http://www.ylemmachines.com)

Phone: 07971474295

### **Tiwana Bee Farm**

G. T. Road, Doraha,  
Ludhiana-141001, Punjab, India

Phone: 08043256862

Website: [www.indiamart.com/tiwanabeefarm/](http://www.indiamart.com/tiwanabeefarm/)

### **SS Engineers & Consultants**

#11-49, Morumpudi Junction  
Rajahmundry-533103,  
East Godavari, Andhra Pradesh

Phone: 08042958925

Email: [sales.markvalves@gmail.com](mailto:sales.markvalves@gmail.com)

## Papad Making Processing

### Annexure 9: Assumptions/Basis of the project

Particulars	Value	Unit
Machine capacity for Daal per day in tonne	1	tonne
Capacity Utilisation in the second year	50%	
Increase in capacity utilisation per year	5%	
Working hours	8	Hours
Working days per year	300	Days
Average working days per month	25	days
Final product as a percentage of raw material	95%	
Raw material Stock in Days	30	Days
Finished goods stock in days	15	Days
Interest on working capital and term loan	11%	
Power Consumption in units per day @ 100% capacity utilisation	250	Units
Preoperative expenses as a percentage of the project cost	1%	
Increase in sale price/year	5%	
Rate per 200 gram pack of processed papad	50	Rupees
Increase in raw material & packaging cost	7.50%	
Average price of pulses per kg	120	
Land	Own land	
Raw material cost per tonne @ Rs.120/kg + 0.50/- per kg for flavours	120500	Rupees
Packaging material cost per 200 grams including printing cost	2.5	Rupees
Creditors in percentage of the stock Value	25%	
Debtors in percentage of the stock value	15%	
Power tariff per unit consumed in Rs.	9.00	Rupees
Depreciation of plant and Machinery and office equipments	15%	
Depreciation of building	10%	
Own contribution in Working Capital	25%	
Own contribution in Fixed Cost	40%	
Maintenance cost as Percentage of fixed cost	20%	
Increase in salary expenses every year	10%	
Repayment of term loan in months	60	months
Moratorium in months	12	months
Income Tax	25%	
Variable cost under Repair and maintenance in percentage	25%	
Variable component in salary in percentage	10%	
Variable component in sale & Admin expenses	15%	
Variable component of electricity in percentage	98%	
Sales and branding expenses per annum in Rs.	1000000	Rupees
Misc Admin Expenses per annum @ 40000/- per month in Rs.	480000	Rupees
Transportation expenses per annum @ 10000/- per week in Rs.	480000	Rupees
Packaging Size	200	grams

## Annexure 10: Interest on Bank Loan and Repayment Schedule

Principal Repayment per month		135120					
Year	Particulars	Amount in Rs.	Interest	Repayment of principal	Closing Balance	Annual Interest payment	Projected Principal Repayment
1	1st Month	5843000	53561	0	5843000		
	2nd Month	5843000	53561	0	5843000		
	3rd Month	5843000	53561	0	5843000		
	4th Month	5843000	53561	0	5843000		
	5th Month	5843000	53561	0	5843000		
	6th Month	5843000	53561	0	5843000		
	7th Month	5843000	53561	0	5843000		
	8th Month	5843000	53561	0	5843000		
	9th Month	5843000	53561	0	5843000		
	10th Month	5843000	53561	0	5843000		
	11th Month	5843000	53561	0	5843000		
	12th Month	5843000	53561	0	5843000	642732	0
2	1st Month	6485732	59453	135120	6350612		
	2nd Month	6350612	58214	135120	6215492		
	3rd Month	6215492	56975	135120	6080372		
	4th Month	6080372	55737	135120	5945252		
	5th Month	5945252	54498	135120	5810132		
	6th Month	5810132	53260	135120	5675012		
	7th Month	5675012	52021	135120	5539892		
	8th Month	5539892	50782	135120	5404772		
	9th Month	5404772	49544	135120	5269652		
	10th Month	5269652	48305	135120	5134532		
	11th Month	5134532	47067	135120	4999412		
	12th Month	4999412	45828	135120	4864292	631684	1621440
3	1st Month	4864292	44589	135120	4729172		
	2nd Month	4729172	43351	135120	4594052		
	3rd Month	4594052	42112	135120	4458932		
	4th Month	4458932	40874	135120	4323812		
	5th Month	4323812	39635	135120	4188692		
	6th Month	4188692	38396	135120	4053572		
	7th Month	4053572	37158	135120	3918452		
	8th Month	3918452	35919	135120	3783332		
	9th Month	3783332	34681	135120	3648212		
	10th Month	3648212	33442	135120	3513092		
	11th Month	3513092	32203	135120	3377972		
	12th Month	3377972	30965	135120	3242852	453325	1621440

4	1st Month	3242852	29726	135120	3107732		
	2nd Month	3107732	28488	135120	2972612		
	3rd Month	2972612	27249	135120	2837492		
	4th Month	2837492	26010	135120	2702372		
	5th Month	2702372	24772	135120	2567252		
	6th Month	2567252	23533	135120	2432132		
	7th Month	2432132	22295	135120	2297012		
	8th Month	2297012	21056	135120	2161892		
	9th Month	2161892	19817	135120	2026772		
	10th Month	2026772	18579	135120	1891652		
	11th Month	1891652	17340	135120	1756532		
	12th Month	1756532	16102	135120	1621412	274967	1621440
5	1st Month	1621412	14863	135120	1486292		
	2nd Month	1486292	13624	135120	1351172		
	3rd Month	1351172	12386	135120	1216052		
	4th Month	1216052	11147	135120	1080932		
	5th Month	1080932	9909	135120	945812		
	6th Month	945812	8670	135120	810692		
	7th Month	810692	7431	135120	675572		
	8th Month	675572	6193	135120	540452		
	9th Month	540452	4954	135120	405332		
	10th Month	405332	3716	135120	270212		
	11th Month	270212	2477	135120	135092		
	12th Month	135092	1238	135092	0	96608	1621412

## Annexure 11: Illustrative List of Equipment Manufacturer

### Gayatri Engineering Works Address:

Plot No. – 1-114, Phase 4 GIDC

Vithhal Udyog Nagar,

Anand - 388121

Gujarat

Phone: +91 2692 230727; +91 9898036760; +91 9825594145 Email: nputsav@gmail.com; papadmachinery@gmail.com;

inquiry@papadmachinery.com Website: www.papadmachinery.com

### Kirtiraj Food Machines Private Limited

Address:

Capital Compound, Loteswar Bhagol Anand - 388001, Gujarat, India

Website: <https://www.kirtirajequipments.in>

Phone: 08049443378

### ABC Agro & Food Machine (India) Private Limited

Address:

2-284, Dr. Ambedkar Road

Venkitta Puram

Coimbatore - 641025,

Tamil Nadu, India

Website <https://www.abcfoodmachine.net>

Phone: 08048762194

## Soya Nuggets Processing

### Annexure 12: Assumptions/Basis of the project

Particulars	Value	Unit
Machine capacity for soya flour per day in tonne	8	tonne
Capacity Utilisation in the second year	50%	
Increase in capacity utilisation per year	5%	
Working hours	8	Hours
Working days per year	300	Days
Average working days per month	25	days
Final product as a percentage of raw material	98%	
Raw material Stock in Days	7	Days
Finished goods stock in days	15	Days
Interest on working capital and term loan	11%	
Power Consumption in units per day @ 100% capacity utilisation	1000	Units
Increase/decrease in power consumption units for every percentage increase/decrease in capacity utilisation in production per day	5	units
Increase in sale price/year	5%	
Rate per 200 gram pack of processed soya nuggets	27	Rupees
Increase in raw material & packaging cost	7.50%	
Land	Own land	
Raw material cost per tonne	100000	Rupees
Packaging material cost per 200 grams including printing cost	2	Rupees
Creditors in percentage of the stock Value	25%	
Debtors in percentage of the stock value	15%	
Power tariff per unit consumed in Rs.	9.00	Rupees
Depreciation of plant and Machinery and office equipments	15%	
Depreciation of building	10%	
Own contribution in Working Capital	25%	
Own contribution in Fixed Cost	40%	
Maintenance cost as Percentage of fixed cost	20%	
Increase in salary expenses every year	10%	
Repayment of term loan in months	60	months
Moratorium in months	12	months
Income Tax	25%	
Variable cost under Repair and maintenance in percentage	25%	
Variable component in salary in percentage	10%	
Variable component in sale & Admin expenses	15%	
Variable component of electricity in percentage	98%	
Sales and branding expenses per annum in Rs.	1000000	Rupees
Misc Admin Expenses per annum @ 40000/- per month in Rs.	480000	Rupees
Transportation expenses per annum @ 10000/- per week in Rs.	480000	Rupees
Pre-operative Expenses ass percentage of Project cost	1%	
Packaging Size	200	grams

### Annexure 13: Interest on Bank Loan and Repayment Schedule

Principal Repayment per month		330225					
Year	Particulars	Amount in Rs.	Interest	Repayment of principal	Closing Balance	Annual Interest payment	Projected Principal Repayment
1	1st Month	14280000	130900	0	14280000		
	2nd Month	14280000	130900	0	14280000		
	3rd Month	14280000	130900	0	14280000		
	4th Month	14280000	130900	0	14280000		
	5th Month	14280000	130900	0	14280000		
	6th Month	14280000	130900	0	14280000		
	7th Month	14280000	130900	0	14280000		
	8th Month	14280000	130900	0	14280000		
	9th Month	14280000	130900	0	14280000		
	10th Month	14280000	130900	0	14280000		
	11th Month	14280000	130900	0	14280000		
	12th Month	14280000	130900	0	14280000	1570800	0
2	1st Month	15850800	145299	330225	15520575		
	2nd Month	15520575	142272	330225	15190350		
	3rd Month	15190350	139245	330225	14860125		
	4th Month	14860125	136218	330225	14529900		
	5th Month	14529900	133191	330225	14199675		
	6th Month	14199675	130164	330225	13869450		
	7th Month	13869450	127137	330225	13539225		
	8th Month	13539225	124110	330225	13209000		
	9th Month	13209000	121083	330225	12878775		
	10th Month	12878775	118055	330225	12548550		
	11th Month	12548550	115028	330225	12218325		
	12th Month	12218325	112001	330225	11888100	1543803	3962700
3	1st Month	11888100	108974	330225	11557875		
	2nd Month	11557875	105947	330225	11227650		
	3rd Month	11227650	102920	330225	10897425		
	4th Month	10897425	99893	330225	10567200		
	5th Month	10567200	96866	330225	10236975		
	6th Month	10236975	93839	330225	9906750		
	7th Month	9906750	90812	330225	9576525		
	8th Month	9576525	87785	330225	9246300		
	9th Month	9246300	84758	330225	8916075		
	10th Month	8916075	81731	330225	8585850		
	11th Month	8585850	78704	330225	8255625		
	12th Month	8255625	75677	330225	7925400	1107906	3962700

4	1st Month	7925400	72650	330225	7595175		
	2nd Month	7595175	69622	330225	7264950		
	3rd Month	7264950	66595	330225	6934725		
	4th Month	6934725	63568	330225	6604500		
	5th Month	6604500	60541	330225	6274275		
	6th Month	6274275	57514	330225	5944050		
	7th Month	5944050	54487	330225	5613825		
	8th Month	5613825	51460	330225	5283600		
	9th Month	5283600	48433	330225	4953375		
	10th Month	4953375	45406	330225	4623150		
	11th Month	4623150	42379	330225	4292925		
	12th Month	4292925	39352	330225	3962700	672007	3962700
5	1st Month	3962700	36325	330225	3632475		
	2nd Month	3632475	33298	330225	3302250		
	3rd Month	3302250	30271	330225	2972025		
	4th Month	2972025	27244	330225	2641800		
	5th Month	2641800	24217	330225	2311575		
	6th Month	2311575	21189	330225	1981350		
	7th Month	1981350	18162	330225	1651125		
	8th Month	1651125	15135	330225	1320900		
	9th Month	1320900	12108	330225	990675		
	10th Month	990675	9081	330225	660450		
	11th Month	660450	6054	330225	330225		
	12th Month	330225	3027	330225	1.8626E-09	236111	3962700

## Annexure 14: Illustrative list of Equipment Manufacturers

### Atharv Engineering

A-508, Oasis Horizon Green

Pipliya Kumar

Vijay Nagar, Indore 452010 Madhya Pradesh

Contact Person: Surendra Soni (CEO)

Phone: +91 7049686416

Email: Surendra.shiva@gmail.com

Website: [www.indiamart.com](http://www.indiamart.com) / [www.tradeindia.com](http://www.tradeindia.com)

### Labh Group of Companies

Address:

4th Floor, Sarthik Square, Near Info Tower,

S. G. Road,

Ahmedabad – 380054, India.

Phone: +91-79-66611888, 66611999, 66622999

E-mail: [sales@labhgroup.com](mailto:sales@labhgroup.com)

Website: [www.labhgroup.com](http://www.labhgroup.com)

### Adhiraj Overseas

301, Bahubali Apartment,

Silicon City, Rau,

Indore-452013,

Madhya Pradesh, India

Phone: 08048927332

### Dhiman Engineers

Plot Number 109, Readymade Complex,

Pardeshi Pura, Redymade Complex,

Indore-452011, Madhya Pradesh, India

Phone: 08048372831 ext. 973

