



MODEL PROJECT REPORT



PROJECT REPORT ON BANANA POWDER

SWAVALAMBI BHARAT ABHIYAN

PROJECT AT GLANCE

1 Name of Proprietor/Director	XXXXXXXXXX
2 Firm Name	XXXXXXXXXX
3 Registered Address	XXXXXXXXXX
4 Nature of Activity	XXXXXXXXXX
5 Category of Applicant	XXXXXXXXXX
6 Location of Unit	XXXXXXXXXX
7 Cost of Project	21.18 Rs. In Lakhs
8 Means of Finance	
i) Own Contribution	2.12 Rs. In Lakhs
ii) Term Loan	13.68 Rs. In Lakhs
iii) Working Capital	5.38 Rs. In Lakhs
9 Debt Service Coverage Ratio	3.29
10 Break Even Point	43%
11 Power Requiremnet	30 KW
12 Employment	14 Persons

13 Major Raw Materials

Banana

14 Details of Cost of Project & Means of Finance

Cost of Project	Amount in Lacs
Particulars	Amount
Land and building	Owned/Leased
Plant & Machinery	14.20
Furniture & Fixture	-
Other Misc Assets	1.00
Working Capital Requirement	5.98
Total	21.18
Means of Finance	
Particulars	Amount
Own Contribution	2.12
Term Loan	13.68
Working capital Loan	5.38
Total	21.18

1. INTRODUCTION



Banana powder has been discovered to be a "major carbohydrate and calorie source." Despite the fact that it is a low-protein source, the powder's beneficial components are "markedly superior to that of other fruits." The powder has also been found to be effective as a dyspepsia therapy. Banana powder is a powder created from bananas that have been processed. It's a common ingredient in milkshakes and infant meals. It's also utilised in the production of a variety of cakes and cookies. Banana powder is prepared from pulp of fruits after mashing and drying in a drum or spray driers. Then dried product is pulverized and passed through a 20 mesh sieve. Banana powder has been widely used in baby formula since the early 1900s as a means of keeping babies healthy. Along with dried banana "figs," it was called one of the "major industries of the West Indies" at this time period in 1916.

Banana powder has taken the world by storm, thanks to its gluten- free status and lower price point than wheat powder. As food and beverage makers shift away from banana flakes and puree for the preparation of baby food and morning cereals, greater solubility remains a key selling point for banana powder. A colloid mill is used to make banana powder from processed bananas. The powdering of bananas extends their shelf life and lowers the cost of transportation for export and import. Bananas are a good source of vitamins C and magnesium, as well as antioxidants and carbs. Because it is gluten- free and a cheaper alternative to wheat powder, banana powder has taken the world by storm.

As food and beverage companies shift away from banana flakes and puree for the preparation of baby food and morning cereals, greater solubility remains a key selling point for banana powder. The colloid mill is used to make banana powder from processed bananas. Banana powdering extends the shelf life of the fruit and lowers the cost of shipping for export and import. Vitamin C, magnesium, antioxidants, and carbs are all found in large quantities in bananas. The food Industry currently represents the biggest consumer of banana powder where it is widely used in infant food, puffed food, seasonings, solid beverages, cakes, cold food, instant food, etc.

2. PRODUCT DESCRIPTION

2.1 PRODUCT USES

Banana flour/powder is increasingly popular as a gluten-free alternative or a source of starch. Because of its great nutritional value, banana powder is expected to increase at a rapid rate in the market. It is a rich source of fibre, carbs, proteins, vitamins (A, B6, C), and other nutrients.

2.2 MANUFACTURING PROCESS

The manufacture of banana powder comprises a sequence of following operations.

- I. Pre-Treatment- Pre-treatments of bananas are necessary for right selection of banana, its variety, matureness, etc. and includes the following.
 - Inspection of Bananas: The bulk of the bananas are inspected for its right variety and immatureness. It is done manually. The bananas are put on a bamboo platform and inspected manually. The bananas should be fully matured but slightly unripe. Overripe bananas are rejected especially because they produce undesired powder.
 - Sorting: Sorting is done for the uniform size material. During this operation, bananas are Selected as per the size uniformity.
 - Washing: The selected bananas are washed either by spraying water at low pressure or by dipping in a tank of water. In both the cases, the damage of the bananas is prevented due to any jerk or pressure.
 - Peeling: Peeling of bananas is done by first dipping the fruits in boiling-water for 2-3 minutes. It is done by immersing the few dozens of bananas at one instant in

boiling water. The bananas are taken out within 2-3 minutes and not more than 3 minutes in any case as the banana becomes very soft after few minutes. After dipping, the peels are removed by hand. Knife may also be used for peeling.

- Trimming & Cutting: The pulp so obtained is cut lengthwise into halves or quarters, depending upon the diameter of banana, and spread in a single layer on slat bottom bamboo trays.
- II. Drying- For the drying, the trimmed bananas are placed on a drying chamber with slatted floor placed over a heater. In order to get a white powder, the slices are exposed first to fumes of burning sculpture for 20 minutes before drying. Drying is done by introducing hot air at 145oF from heater through the material spread over the floor and escapes through a vent in a roof or the chamber.
- III. Pulverizing- The dehydrated slices of bananas are then powdered in a pulverize. The mesh size is kept 100 to 200 or even more, depending upon the end uses. The banana slices after dehydration are fed into the hopper of the pulverize. The outcome of the mill is fed to a vibrating screen to separate coarse particles from the fines. The fines are collected in a container and the course are again sent-back to the mill.
- IV. Packaging- The banana powder is packed in the conventional containers, either water or air proof polythene bags or tin containers.

3. PROJECT COMPONENTS

3.1 Land & Building

The land required for this manufacturing unit will be approx. around 2500 square feet. Land Purchase and Building Civil Work Cost have not been considered as part of the cost of project. It is expected that the premises will be on rental and approximate rentals assumed of the same will be Rs.40,000 per month.

- Workshop Area- This area includes the setup and foundation space for all equipment's, work floor area, etc. Total workshop area is approx.1500 Sqft.
- Inventory Area- This area includes the storage space for all the raw materials and finished goods. Total inventory area is approx. 500 Sqft.
- Office Area – This space includes staff working region, their accommodation space. Total workshop area is approx. 300 Sqft. This may be considered above the ground floor.
- Parking Space, Electric Mounting Space, and Others. This could be approx. 200 Sqft.

Land and building requirement may vary depending on the size of project.

3.2 Plant & Machinery

- **Jacketed Vessel:** This machine is used to boil the nuts before peeling and cutting.



- **Fruit Washer:** Pesticide residue on fruits and vegetables can be removed with a fruit washer. The machine's washing component successfully rinses the raw materials. Fruits and vegetables can be sterilized using a fruit cleaning equipment.



- **Slicer Machine:** A thin-bladed knife or implement used for slicing, especially food: a cheese slicer. a person or thing that slices.



- **Pulverizer:** Pulverizers are devices that shatter, crush, and grind materials. They are used in a variety of industrial applications for crushing and pulverising in food processing.



- **Dryer:** To remove or reduce moisture content in nuts this dryer is used.



- **Packaging Machine:** This machine is used to pack seeds after processing. This machine will also weigh the seeds.



Additional Machinery-

- **Weighing Machine**
- **Conveyors**
- **Boiler**

Machine	Quantity	Price
Jacketed Vessel	1	2,15,000
Fruit Washer	1	2,50,000
Slicer Machine	1	1,55,000
Pulveriser	1	2,50,000
Dryer	1	3,00,000
Packaging Machine	1	2,50,000
TOTAL		14,20,000

Note: Total Machinery cost shall be Rs 14.20 lakhs (Approx.) including GST and Transportation Cost.

Projected Balance Sheet

<u>PROJECTED BALANCE SHEET</u>					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>Liabilities</u>					
Capital					
Opening balance		2.59	4.73	7.04	9.79
Add:- Own Capital	2.12				
Add:- Retained Profit	5.38	6.83	8.71	11.36	13.66
Less:- Drawings	4.90	4.70	6.40	8.60	10.70
Closing Balance	2.59	4.73	7.04	9.79	12.75
Term Loan	12.16	9.12	6.08	3.04	-
Working Capital Limit	5.38	5.38	5.38	5.38	5.38
Sundry Creditors	0.97	1.11	1.27	1.43	1.61
Provisions & Other Liability	0.20	0.24	0.29	0.35	0.41
TOTAL :	21.30	20.58	20.05	19.99	20.16
<u>Assets</u>					
Fixed Assets (Gross)					
	15.20	15.20	15.20	15.20	15.20
Gross Dep.	2.28	4.22	5.87	7.27	8.46
Net Fixed Assets	12.92	10.98	9.33	7.93	6.74
Current Assets					
Sundry Debtors	5.16	6.06	6.89	7.78	8.77
Stock in Hand	1.79	2.05	2.32	2.60	2.92
Cash and Bank	0.24	0.20	0.10	0.17	0.12
Loans & Advances /Other Current Assets	1.20	1.30	1.40	1.50	1.60
TOTAL :	21.30	20.58	20.05	19.99	20.16

Projected Profitability

<u>PROJECTED PROFITABILITY STATEMENT</u>					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	55%	60%	65%	70%	75%
<u>SALES</u>					
Gross Sale					
Banana Powder	77.35	90.83	103.40	116.73	131.56
Total	77.35	90.83	103.40	116.73	131.56
<u>COST OF SALES</u>					
Raw Material Consumed	29.04	33.41	38.06	43.01	48.24
Electricity Expenses	3.17	3.46	3.74	4.03	4.32
Depreciation	2.28	1.94	1.65	1.40	1.19
Wages & labour	18.72	21.53	24.76	27.73	31.61
Repair & maintenance	0.85	1.36	1.55	1.75	1.97
Packaging	1.93	2.27	2.58	2.92	3.29
Cost of Production	55.99	63.96	72.35	80.84	90.62
Add: Opening Stock	-	1.31	1.49	1.69	1.89
Less: Closing Stock	1.31	1.49	1.69	1.89	2.11
Cost of Sales	54.69	63.78	72.15	80.64	90.39
GROSS PROFIT	22.67	27.05	31.25	36.09	41.16
	29.30%	29.78%	30.22%	30.92%	31.29%
Salary to Staff	8.52	10.65	12.25	14.08	15.49
Interest on Term Loan	1.34	1.18	0.85	0.52	0.18
Interest on working Capital	0.59	0.59	0.59	0.59	0.59
Rent	4.80	5.04	5.29	5.56	5.83
Selling & Administrative Exp.	1.93	2.27	2.58	2.92	3.29
TOTAL	17.19	19.74	21.57	23.67	25.39
NET PROFIT	5.48	7.32	9.68	12.43	15.77
	7.08%	8.06%	9.36%	10.65%	11.99%
Taxation	0.10	0.48	0.97	1.07	2.11
PROFIT (After Tax)	5.38	6.83	8.71	11.36	13.66

Projected Cash Flow Statement

<u>PROJECTED CASH FLOW STATEMENT</u>					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>SOURCES OF FUND</u>					
Own Margin	2.12				
Net Profit	5.48	7.32	9.68	12.43	15.77
Depreciation & Exp. W/off	2.28	1.94	1.65	1.40	1.19
Increase in Cash Credit	5.38	-	-	-	-
Increase In Term Loan	13.68	-	-	-	-
Increase in Creditors	0.97	0.15	0.16	0.16	0.17
Increase in Provisions & Oth labilities	0.20	0.04	0.05	0.06	0.07
	-				
TOTAL :	30.10	9.44	11.53	14.05	17.21
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	15.20				
Increase in Stock	1.79	0.26	0.27	0.28	0.32
Increase in Debtors	5.16	0.90	0.84	0.89	0.99
Repayment of Term Loan	1.52	3.04	3.04	3.04	3.04
Loans & Advances /Other Current Assets	1.20	0.10	0.10	0.10	0.10
Drawings	4.90	4.70	6.40	8.60	10.70
Taxation	0.10	0.48	0.97	1.07	2.11
TOTAL :	29.87	9.48	11.62	13.98	17.26
Opening Cash & Bank Balance	-	0.24	0.20	0.10	0.17
Add : Surplus	0.24	(0.04)	(0.09)	0.07	(0.05)
Closing Cash & Bank Balance	0.24	0.20	0.10	0.17	0.12

DSCR

<u>CALCULATION OF D.S.C.R</u>					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	7.66	8.77	10.35	12.76	14.85
Interest on Term Loan	1.34	1.18	0.85	0.52	0.18
Total	9.00	9.96	11.20	13.27	15.03
REPAYMENT					
Instalment of Term Loan	1.52	3.04	3.04	3.04	3.04
Interest on Term Loan	1.34	1.18	0.85	0.52	0.18
Total	2.86	4.22	3.89	3.56	3.22
DEBT SERVICE COVERAGE RATIO	3.14	2.36	2.88	3.73	4.67
AVERAGE D.S.C.R.	3.29				

Repayment schedule

REPAYMENT SCHEDULE OF TERM LOAN							
						Interest	11.00%
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
1st	Opening Balance						
	1st month	-	13.68	13.68	-	-	13.68
	2nd month	13.68	-	13.68	0.13	-	13.68
	3rd month	13.68	-	13.68	0.13	-	13.68
	4th month	13.68	-	13.68	0.13		13.68
	5th month	13.68	-	13.68	0.13		13.68
	6th month	13.68	-	13.68	0.13		13.68
	7th month	13.68	-	13.68	0.13	0.25	13.43
	8th month	13.43	-	13.43	0.12	0.25	13.17
	9th month	13.17	-	13.17	0.12	0.25	12.92
	10th month	12.92	-	12.92	0.12	0.25	12.67
	11th month	12.67	-	12.67	0.12	0.25	12.41
	12th month	12.41	-	12.41	0.11	0.25	12.16
					1.34	1.52	
2nd	Opening Balance						
	1st month	12.16	-	12.16	0.11	0.25	11.91
	2nd month	11.91	-	11.91	0.11	0.25	11.65
	3rd month	11.65	-	11.65	0.11	0.25	11.40
	4th month	11.40	-	11.40	0.10	0.25	11.15
	5th month	11.15	-	11.15	0.10	0.25	10.89
	6th month	10.89	-	10.89	0.10	0.25	10.64

	7th month	10.64	-	10.64	0.10	0.25	10.39
	8th month	10.39	-	10.39	0.10	0.25	10.13
	9th month	10.13	-	10.13	0.09	0.25	9.88
	10th month	9.88	-	9.88	0.09	0.25	9.63
	11th month	9.63	-	9.63	0.09	0.25	9.37
	12th month	9.37	-	9.37	0.09	0.25	9.12
					1.18	3.04	
3rd	Opening Balance						
	1st month	9.12	-	9.12	0.08	0.25	8.87
	2nd month	8.87	-	8.87	0.08	0.25	8.61
	3rd month	8.61	-	8.61	0.08	0.25	8.36
	4th month	8.36	-	8.36	0.08	0.25	8.11
	5th month	8.11	-	8.11	0.07	0.25	7.85
	6th month	7.85	-	7.85	0.07	0.25	7.60
	7th month	7.60	-	7.60	0.07	0.25	7.35
	8th month	7.35	-	7.35	0.07	0.25	7.09
	9th month	7.09	-	7.09	0.07	0.25	6.84
	10th month	6.84	-	6.84	0.06	0.25	6.59
	11th month	6.59	-	6.59	0.06	0.25	6.33
	12th month	6.33	-	6.33	0.06	0.25	6.08
					0.85	3.04	
4th	Opening Balance						
	1st month	6.08	-	6.08	0.06	0.25	5.83
	2nd month	5.83	-	5.83	0.05	0.25	5.57
	3rd month	5.57	-	5.57	0.05	0.25	5.32

	4th month	5.32	-	5.32	0.05	0.25	5.07
	5th month	5.07	-	5.07	0.05	0.25	4.81
	6th month	4.81	-	4.81	0.04	0.25	4.56
	7th month	4.56	-	4.56	0.04	0.25	4.31
	8th month	4.31	-	4.31	0.04	0.25	4.05
	9th month	4.05	-	4.05	0.04	0.25	3.80
	10th month	3.80	-	3.80	0.03	0.25	3.55
	11th month	3.55	-	3.55	0.03	0.25	3.29
	12th month	3.29	-	3.29	0.03	0.25	3.04
					0.52	3.04	
5th	Opening Balance						
	1st month	3.04	-	3.04	0.03	0.25	2.79
	2nd month	2.79	-	2.79	0.03	0.25	2.53
	3rd month	2.53	-	2.53	0.02	0.25	2.28
	4th month	2.28	-	2.28	0.02	0.25	2.03
	5th month	2.03	-	2.03	0.02	0.25	1.77
	6th month	1.77	-	1.77	0.02	0.25	1.52
	7th month	1.52	-	1.52	0.01	0.25	1.27
	8th month	1.27	-	1.27	0.01	0.25	1.01
	9th month	1.01	-	1.01	0.01	0.25	0.76
	10th month	0.76	-	0.76	0.01	0.25	0.51
	11th month	0.51	-	0.51	0.00	0.25	0.25
	12th month	0.25	-	0.25	0.00	0.25	-
					0.18	3.04	
	DOOR TO DOOR MORATORIUM PERIOD	60	MONTHS				
	REPAYMENT PERIOD	6	MONTHS				
		54	MONTHS				