PROJECT PROFILE
EGG POWDER

1. INTRODUCTION

The egg is the most nutritious natural product. Eggs are rich in protein, vitamins and minerals. During last three decades, the poultry industry in the country has made remarkable progress and grown into an organized and highly productive industry. Dried egg powder can be stored and transported at room temperatures. It is quite stable and has long shelf life . The manufacture of egg powder is an important segment of egg consumption. There is enough scope of an egg powder manufacturing plant, with a suitable capacity.

2. OBJECTIVES

The objective of the profiles is to encourage and assist prospective entrepreneurs in MSME sector in and guiding making them aware of the opportunities of this sector. It is also being developed by the Directorate of the Food Processing Industries, Government of West Bengal to help entrepreneurs with knowledge about raw materials availability, knowledge of market, source of technology and plant and machinery suppliers. M/s ITV Agro & Food Technologies Pvt. Ltd., New Delhi has helped in developing the project profile.

3. RAW MATERIAL AVAILABILITY

The major raw material required is fresh eggs and the daily requirement is 20,000. Prior confirmed arrangements for this quantity are necessary. Packing material like poly-lined paper bags, corrugated boxes, labels etc. shall be needed. Total production of egg in West Bengal is estimated to be 15.00 million / year.

4. MARKET OPPORTUNITIES

Egg is full of nutrients and minerals and is consumed in different forms since centuries. There was misconception that they are from non-vegetarian food category but now people at large have accepted them as a vegetarian item and their consumption is increasing year after year. Transportation of eggs is difficult as chances of breakage during transportation is higher and it is costly also. Egg powder is comparatively easier to transport and there is no question of any breakage during the transit.

a) Marketing Strategy

The major market is defense establishments, various government and non-government nutritional programmes, bakeries and all such areas like hills or forests where transportation is difficult. Before venturing into this project, a proper market assessment and some firm tie- up is advisable.

5. PROJECT DESCRIPTION

a) Product & Its uses

Egg powder is one of the most common products in poultry industry in the country. Attempts have been made to prepare egg pudding also, but this product has not yet been accepted by the consumers, whereas demand for egg powder is increasing year after year. This project can be set up in West Bengal.

b) Capacity

The proposed capacity of the plant is to process 60 lacs eggs / year.

c) Manufacturing process

Manufacture of dried egg powder starts with breaking of eggs and removing egg-shells. After removal of shells, the mixture is filtered and stored in storage tanks at about 4 ° C and then it is taken to tubular heater wherein it is dried at about 65° C for 8 to 10 minutes and it is filtered and passed to high pressure spray drier with the

help of high pressure pump. The material which comes out of high pressure spray drier is not only in dried form but also in powder form which is then packed in poly-lined boxes. The average yield is around 80%.

6. PROJECT COMPONENTS & COST

a) Land & Building

A plot of around 800 sq. mtrs. will be sufficient as the built –up area requirement is not more than 500 sq. mtrs. The built –up area would have main production unit in around 300 sq. mtrs. and balance area will be utilized for storage and packing. Cost of land is expected to be Rs. 4.0 lacs whereas that of civil work would be Rs. 40.00 lacs.

b) Plant & Machinery

It is proposed to install dry egg powder making unit with capacity of 240 tons per annum with 16 hours of working per day for 300 working days.

The plant and machinery required for the above production capacity may cost about Rs. 162.50 lacs. The details are as under:

(Rs. in lacs)

Particulars	**Qty.**	**Price**
Egg breaker	4	5.00
Centrifuge	2	15.00
Filter	2	5.00
Storage tank	4	7.50
Feed pump	2	15.00
Tubular heater	1	20.00
Balance tank	4	7.50
Feed pump	2	17.50
High pressure pump	1	20.00

High Pressure spray dryer	1	18.75
Cyclone with exhaust and fan	1	8.75
Packing unit	1	12.50
Electrification and installation	-	10.00
Total		**162.50**

c) Miscellaneous Assets

Other miscellaneous assets required are fans, weighing balance, tables, chairs, furniture, D. G. set etc. which would cost Rs. 15.00 lacs.

d) Utilities

The total power required shall be 75 HP whereas per day water requirement would be 50,000 litre. The cost of utilities is estimated at Rs. 8.40 lacs.

e) Prel. & Pre Operative Expenses

The registration charges, establishment expenses, trial run expenses, interest during implementation etc. would be around Rs. 20.00 lacs.

f) Working Capital Assessment

At 65% utilization in the first year, the total working capital needs shall be as under:

(Rs. in lacs)

Particulars	**Period**	**Margin**	**Total**	**Bank**	**Promoters**
Stock of Raw & packing Material	½ month	30%	4.16	2.98	1.38
Stock of Finished Goods	½ month	25%	6.28	4.71	1.57
Receivable	½ month	25%	8.40	6.30	2.10
		Total	**18.84**	**13.79**	**5.05**

g) Project cost & Means of finance

Item	**Amount (Rs. in lacs)**
Land and Building	44.00
Plant and Machinery	162.50
Miscellaneous Assets	15.00
P & P Expenses	24.00
Contingencies @ 10% on Building and plant and machinery	20.00
Working capital margin	5.05
Total	**270.55**
Means of Finance	
Promoters' contribution	108.22
Term loan from Bank/ FI	162.33
Total	270.55
Debt Equity Ratio	1.5:1
Promoters contribution	40%

Financial assistance in the form of grant is available from the Ministry of Food Processing Industries, Govt. of India, towards expenditure on technical civil works and plant and machinery for eligible projects, subject to certain terms and conditions.

7) PROJECTED PROFITABILITY

a) Production Capacity

The installed production capacity of the proposed unit would be to process 60 lacs eggs / year in 300 working days. The capacity utilization of 65% and 80 % is envisaged during the first two years.

b) Sales Revenue at 100%

Product	**Qty (Tons)**	**Selling Price (Rs./kg)**	**Sales (Rs. in lacs)**
Egg Powder	240	150.00	360.00

c) Raw Material Required at 100.

(Rs. in lacs)

Product	**Qty (Tons)**	**Rate (Rs./ egg)**	**Value**
Fresh Eggs	60 lacs	2.50	150.00
Cost of packing material @ 7000 / T	-	-	16.80
		Total	**166.80**

d) Projected Profitability **(Rs. in lacs)**

S. No.	**Particulars**	**1st year**	**2nd year**
A.	**Installed capacity**	**240 Tonnes**	
	Capacity Utilisation	65%	80%
	Sales Realisation	234.00	288.00
B.	**Cost of Production**		
	Raw & packing materials	100.00	125.00
	Utilities	5.04	6.30
	Salaries	18.00	19.80
	Stores and Spares	2.40	3.00
	Repairs and Maintenance	3.00	3.75
	Selling Expenses @ 10%	20.00	25.20
	Administrative Expenses	2.40	3.00
	Total	**150.80**	**186.00**
C.	**Profit before Interest & Depreciation**	**83.20**	**102.00**
	Interest on Term Loan	16.23	13.20
	Interest on Working Capital	1.70	2.12
	Depreciation.	20.00	18.00
	Net Profit	45.00	68.68
	Income-tax @ 20%	9.00	13.73
	Profit after tax	36.00	54.95

	Cash Accruals	56.00	72.95
	Repayment of Term Loan	Nil	30.00

e) Break Even Point Analysis (Rs. in lacs)

S. No.	Particulars	Amount	
(A)	**Sales**		**234.00**
(B)	**Variable Costs**		
	Raw & packing material	100	
	Utilities(70%)	3.50	
	Salaries (60%)	12.60	
	Stores and Spares	2.40	
	Selling and Distribution Exps (70%)	14.00	
	Admn Expenses (50%)	1.20	
	Interest on WC	1.70	**135.40**
(C)	**Contribution (A) - (B)**		**99.00**
(D)	**Fixed Costs**		**33.33**
(E)	**Break Even Point**		**34%**

f) Debt Service Coverage Ratio (DSCR) *(Rs. in lacs)*

Particulars	1st year	2nd year	3rd year
Cash Accruals	56.00	72.95	83.71
Interest on TL	16.23	13.20	10.20
Total (A)	79.23	26.15	93.91
Interest on TL	16.23	13.20	10.20
Repayment of TL	Nil	30.00	30.00
Total (B)	16.23	43.20	40.20
DSCR (A) /(B)	4.88	1.86	2.33
Average DSCR	3.02		

g) Internal Rate of Return (IRR)

Cost of the project is Rs. 270.55 lacs

(Rs. in lacs)

Year	Cash Accruals	15%	24%
1	56.00	48.72	44.80
2	72.95	55.15	47.09
3	83.71	55.08	43.86
4	83.71	47.88	35.40
5	83.71	41.01	28.54
6	83.71	34.48	23.02
7	83.71	31.47	18.58
8	83.71	27.37	14.98
Total		336.16	255.00

The IRR is around 22%

h) Manpower requirement

Particulars	**Nos.**	**Monthly**	**Total Monthly Salary (Rs.)**
Machine operators	2	8,000	16,000
Skilled workers	6	7,500	45,000
Semi skilled workers	4	6,000	24,000
Un Skilled Workers	10	5,000	50,000
Salesman	1	8,000	08,800
Clerk	1	7,000	07,000
		Total	**1,50,000/-**

8. ASSUMPTIONS

- The plant will work for 300 days in a year. :
- The operating capacity is 65% , 80% & 90 % during 1st year , 2nd year and 3rd year respectively.
- The interest on term loan is taken at 10% per annum and on working capital it is 12% per annum.
- Price of raw material and selling price of finished products is taken at Rs. 2.50 / egg and Rs. 150/kg respectively.

9. SOURCES OF TECHNOLOGY

CFTRI, Mysore, has successfully developed the technical know-how for the product. BIS has laid down the quality standard. The compliance under FSSAI act is a must.

10. PLANT & MACHINERY SUPPLIERS

1. Sanova Technology Group
   Thulevej 25-27
   5210, odense NV. Denmark
   email.info@sanova group.com

2. SSP Limited
   19, DLF Industrial Area – II,
   13/4, Mathura Road, Faridabad – 121003 (Haryana)
   Tel. 2275441
   www. sspindia.com