

A PROJECT PROFILE FOR MANUFACTURE OF
NUTRITIOUS BISCUITS (Updated)

QUANTITY : **108 MT**

VALUE : **Rs. 90,72,000/-**

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PREPARED BY :

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I. Introduction:

Baking industry occupies an important position among Indian food processing industries with an annual turnover of about Rs. 3000 crores. The spurt in the production of bakery products could be attributed to their advantages over other processed foods. Bakery products are ready to eat, convenient to use and possess satisfactory nutritional quality. India is the second largest producer of biscuits after USA. The biscuit industry in India comprises of organized and un-organised sectors. Bread and Biscuits form the major baked foods accounting to over 80% of total bakery products produced in the country. The quantities of bread and biscuits produced are more or less same, however, value of biscuits is 112 times more than bread. The industry has traditionally been and largely continues to be in the unorganized sector contributing to over 70% of the total production. Bakery products once considered as sick man's diet, have now become an essential food item of vast majority of population. Though bakery industry in India has been in existence since long, real fillip came only in the later part of 20th century. The contributing factors were urbanization, resulting in increased demand for ready to eat profiles at reasonable costs etc. The main constituent of bakery products the refined wheat flour is deficient in lysine and soybean are deficient in sulphur containing amino acids. Thus a combination of these two as ingredients in biscuits/ bakery products is a desirable step for not only increasing the protein content, but also for supply of balanced amino acid pattern. The Indian bakery industry can, therefore, explore this aspect for better food value and product quality. The use of soy flours and soy products in bakery products not only improve nutritional quality of bakery product, but also increases profit margins of an entrepreneur due to improved product quality.

II. Market Potential:

The per capita consumption of bakery products is about 2.5 Kg. Per year as compared to 150 Kg. In other developed countries, indicating greater potential for the industry as compared to the present situation. The bakery units are unevenly spread among states. It is mainly concentrated in the states of Maharashtra, West Bengal, Andhra Pradesh, Karnataka and Uttar Pradesh. Industrially advanced states like Maharashtra and West Bengal have very large number of bakery units. The per capita consumption is very high in industrialized states like Maharashtra and West

Bengal. The Biscuits are becoming quite popular in rural areas. Nearly 55% of biscuits is consumed by rural sector. The higher consumption of biscuits in rural area could be attributed to its position as a snack, longer shelf life and better taste which is liked by different cross sections of population. There is no marketing problem as every shop is a market for biscuits.

III.Scope:

Bakery products still remain at cheapest of the processed ready to eat products in the country. The production of Bakery products has increased from 5.19 lakh tonnes in 1975 to 18.95 lakh tonnes in 1990 recording four-fold increase in 15 years. Among the bakery products biscuits occupies an important place as it contributes to over 33% of total products processed. Over 79% of the biscuits are produced by small scale sector consisting of both factory and non-factory units. The Growth rate for bakery products is estimated at an average of 9.8% per annum. The demand for bakery products will continue to increase in future years. The estimated growth rate of 9.8% is on the lower side considering the present potentiality of bakery products, particularly in rural areas, where about 80% of the population lives. The increased demand for these products has to be met by small scale sectors alone if the present policy of the Govt. continues. The future growth of bakery industry depends on capability of small scale bakery industry which has to rise to the occasion to meet the demands and requirements of the consumer. This could be achieved by modernization of bakery industry particularly that belonging to small and family scale units with respect to processing technology, ingredients, machinery etc. Hence use of soy is beneficial to users consumers for nutritional improvement and to entrepreneur for earning more profit. The protein content of biscuits varies from 7-8 percent and supplementation with 30 percent soyflour add to the protein content by 50 percent of original value. Encouraging trend in consumption of bakery products by population of lower and middle income groups indicates vast scope for consideration of nutritional enrichment of bakery products. Considering the 55% lower consumption by lower income groups, Nutritious Biscuits can serve as means of providing additional nutrition at affordable cost.

IV. Basis & Presumption:

1. The Project Profile has been prepared on the basis of Single Shift of 8-hrs. a day and 25-working days in a month at 75% efficiency.
2. It is presumed that Ist year, the capacity utilization will be 70% followed by 85% in the next year and 100% in the subsequent year.
3. The rates quoted in respect of salaries and wages for skilled worker and others are on the basis of minimum rates in the State of U.P.
4. Interest rate for the fixed and working capital has been taken @ 12% on an average whether financed by the Bankers or Financial Institutional.
5. The margin money required is minimum (30% of the total capital investment).
6. The rental value for the accommodation of office, workshop and other covered area has been taken @ Rs. 30/- per Sq.mtr.
7. The rate quoted in respect of machinery, equipment and raw materials are those prevailing at the time of preparation of the Project Profile and are likely to vary from place to place and suppliers to suppliers. When a tailor made project profile is prepared, necessary changes are to be made.
8. The pay back period may be 5-years after the initial gestation period.
9. The gestation period in implementation of the project may be to the tune of 6 to 9 months which includes making all arrangements, completion of all formalities, market surveys and tie-ups etc. Once all the above arrangements are made and quality/standards achieved the 100% project capacity may be achieved at the end of three years. However, a detailed PERT/CPM/chart with implementation period has been given in the report.

V. Implementation Schedule:

The implementation of the project includes various jobs/exercises such as procurement of technical know how, transfer of technology, market surveys and tie-ups, preparation of project report, selection of site, registration, financing of project, procurement of machinery and raw materials etc., recruitment of staff, erection/ commissioning of machines, trial production and commercial production etc. In order to efficiently and successfully implement the project in the shortest period the slack period is curtailed to minimum possible and as far as possible simultaneous exercises are carried out. In view of above a CPM-PERT Chart has been illustrated below, According to which a minimum period of 227 days is involved in finally starting the project on commercial basis. By following this process a time period of 82 days can be saved.

Details of Activities C.P.M.

Activity	Days	Activity	Days	Particulars of activity
1-2 know how/	15	1-2	15	Procurement of Tech.
3-4	15	3-4	15	transfer of technology.
4-5	7	2-3	7	Market survey, tie up and obtaining quotations.
5-6	70	4-5	7	Selection of site.
report				Preparation of Project
6-7	45	5-6	70	Registration and
financing.				
7-10	30	6-7	45	Placement of orders for machinery and receipt of machines.
10-11	30	6-8	30	Recruitment of staff and training
11-12	15	6-9	30	Addition/Alteration in rental premises
material/		8-10	15	Procurement of raw
				Bought out components
		7-10	30	Erection, Electrification
and				Commissioning
		10-11	30	Trial Production
		11-12	15	Commercial Production
227 days				309 days

VI. Technical Aspect

a. Manufacturing Process:

The nutritious biscuits can be manufactured after obtaining Raw Materials like maida , starch, soda , salt, color , soy flour, preservatives, vanaspati ,sugar, flavours etc. which is easily available in local market. The calculated amount of maida ,soy flour , starch ,vanaspathy ,water etc. are mixed and properly kneaded to the desired consistency.The dough is then rolled, Baked, Cooled and packed in pouches.

b. Process Flow Chart:

c. Quality Control & Standards:

The relevant Bureau of Indian Standards Specification for Protein enriched Biscuits (first revision) : **IS:7487:1986**. The specification for Biscuits (third revision) (with Amendment No.1) is 1011:1992. The details of specification can be obtained from the Bureau of Indian Standards, Manak Bhawan , 9, Bahadur Shah Zafar Marg , New Delhi-110 002.

d. Production (Target & Value):

- | | |
|-------------------------------------|-------------------|
| 1.Production of Nutritious Biscuits | : 108 MT |
| 2.Value of Nutritious Biscuits | : Rs. 90,72,000/- |

e. Power Requirement: **:50 K.W.**

f. Energy Conservation:

The following steps may be taken for the conservation of energy.

1. Machinery & Equipment's parts, which are revolving and reciprocating should be properly, lubricated from time to time with suitable lubricant oil.
2. Lay out of the unit should be in such a way in that no back tracking of material is there.
3. All electric switches may be kept off, when not required.
4. The entire transmission belt will be tightened before starting the work is wherever applicable.
5. Fluorescent tube with electronic Chokes may be used for energy saving. Further recently developed compact fluorescent tubes called (CFT) of 10,15, watts Philips/Glaux made may be used for energy saving and decoration. These self ballasted fluorescent lamps are high efficiency replacements for ordinary bulbs. For same light output, CFLEBs consume about one-fifth the power consumed by ordinary bulbs, thereby saving a lot of energy. The savings get further multiplied when CLEBs are used in air conditioned areas, since the saving of energy by using CLEBs also corresponds to less heat dissipation reducing load on air conditioners. The life of CFLEBs is about 8000/10000 hours i.e. about 10 times that of ordinary bulb.

The typical payback period in terms of savings of energy bills and cost of ordinary lamps is about 6 months operation. Unlike ordinary bulbs, these CFLEBs provide choice of three colours designated A, B & C, to suit individual requirements.

Electronic Ballast, with protection against high voltage spikes, along with high quality CFLs make these composite CFLEBs (or self ballasted CFLs) Slim, lightweight, efficient and reliable units.

6. As far as possible Solar Energy and day light will be used keeping all the other lights off.
7. As far as possible inductive load of motor will be reduced and high power factor will be used with the aid of capacitors of appropriate sizes.

8. It is desirable for an oven to have a higher production capacity , a short come-up-time, a higher reliability and energy efficiency (with least thermal radiation) and less maintenance requirement.

g. Pollution Control:

1. This industry may be involves pollution to some extent for which State Pollution Control Board has to be approached.
2. Minimum height of shed will be maintained with exhaust fans should be installed for removing decongestion proper ventilation, removal of cokes fumes etc.

VII. Financial Aspects:

(A) Fixed Capital:

1.Land and Building :

Land and Building (rented)
On Rent @ Rs.50/-Sq. meter
Covered Area 500 Sq. meter

25,000/-

2. Machinery and equipment:

S.No.	Description	HP/KW	Ind/Imp.	Qty.	Value (Rs)
<u>Production Unit</u>					
	Name of machine with specification				
1.	Automatic continuous Roller cutting machine with Oven size 48" fitted with two heavy duty reduction gearbox ,automatic wastage returning system with Elec. Motors with starters complete machinery			one	9,50,000/-
2.	Flour Shifter automatic screw type vibrator system With automatic lifting system with motor & starters			one	60,000/-
3.	Suger Grinding Machine (30-50 Kg./Hrs. , 2KW)			one	35,000/-
4.	Roll Sheeter size 24" fitted with reduction gear box Variable speed, with motor & starters			one	2,30,000/-
5.	Double action horizontal mixing machine cap. 300 Kg. Per batch , automatic tilting with elec. Motor			one	1,60,000/-
6.	Cooling conveyor size 24" working length 100' total length 35' with motor & starters			one	2,50,000/-
7.	Oil spraying machine for salted biscuit belt size 24" With elec. Motor & starters			one	65,000/-
8.	Turn table working between oven and conveyor Fitted with motor and starters			one	1,20,000/-
9.	Extra Brass roller for rotary cutting machine & Roller cutting machine			one	10,000/-
10.	Syrup Machine with one motor & starters SS			one	85,000/-
11.	Biscuit Grinder with motor 5 HP starters			one	25,000/-
12.	Working table with S.S./Aluminium top			two	5,000/-
13.	Weighing Balance platform type			one	5,000/-
14.	Aluminium vessels, Mats, cups, Mugs, ladle, spoons, gloves,etc. and misc.equipt.			-	10,000/-
15.	Electrification & Installation Charges @ 10%			-	2,00,000/-
16.	Cost of Office Equipment and other production equipment etc.			-	40,000/-
	Total Cost of Machinery & Equipments				22,50,000/-
3.	Pre-Operative Expenses:				25,000/-
	Total Fixed Capital (1+2+3)				22,90,000/-

(B) Working Capital (Per month)

(1) Staff and Labour (per month):

S.No.	Description	No.	Salary	Total Value (Rs.)
(a)	Administrative & Supervisory			
i)	Production Manager	one	8000/-	8,000/-
ii)	Supervisor/storekeeper	one	5000/-	5,000/-
iii)	Accountant	one	4000/-	4,000/-
iv)	Salesman	three	3000/-	9,000/-
v)	Peon/watchman	one	2000/-	2,000/-
vi)	Sweeper	one	2000/-	2,000/-
(b)	Technical Skilled & Unskilled			
i)	Skilled Worker	three	3000/-	9,000/-
ii)	Semi Skilled Worker	two	2500/-	5,000/-
iii)	Helper	four	1500/-	6,000/-
	TOTAL			50,000/-
		Perquisites @ 15 %		7,500/-
		Total		57,500/-

(2) Raw Material (per month):

S.No.	Description with specification	Qty.	Rate	Value (Rs.)
i)	Wheat Floor (Maida)	6000Kg.	15/-per Kg.	90,000/-
ii)	Maiza starch,vegetable fat ,salt, soy flour, soda, colours, preservatives etc.	3000Kg.	-	2,45,000/-
iii)	packaging material	-	-	1,25,000/-
				4,50,000/-

(3) Utilities (per month):

Electricity	10,000/-
Water	2,000/-
	12,000/-

(4) Other Expenditure (per month)

1.	Postage & Stationary	500/-
2.	Advertisement	2,000/-
3.	Telephone	500/-
4.	Repair & Maintenance	500/-
5.	Transportation	1,000/-
6.	Consumable	1,000/-
7.	Sales expenses	3,000/-
8.	Insurance	500/-
9.	Misc. Expenses	1,000/-
	Total:	10,000/-

Total Recurring Expenditure (per month):

1) Salary & Wages	57,750/-
2) Raw Material	4,50,000/-
3) Utilities	12,000/-
4) Other Contingent Expenses	10,000/-
Total:	5,29,750/-
Say:	5,30,000/-

Working Capital for three months:

15,90,000/-

Total Capital Investment:

Fixed capital: 22,90,000/-

Working capital for 3 months: 15,90,000/-

Total: 38,80,000/-**VIII. MACHINERY UTILIZATION:**

It is expected that during first year machine utilization will be 70% and during second year 85% and 100% in subsequent years.

IX. FINANCIAL ANALYSIS:**1. Cost of Production (per annum):**

(a) Total Recurring Cost per year 63,60,000/-
 (b) Depreciation on Machinery & Equipment @ 10% 2,00,000/-
 (c) Depreciation on Office Equipments & furniture @ 20% 8,000/-
 (d) Interest on Total Capital Investment @ 12% 4,65,600/-

Total: 70,33,200/-
Say 70,33,000/-

2. Turn Over(per annum):**Sales turnover per Month**

S.No.	Description	Qty.(Kg.)	Rate(per Kg.)	Value (Rs.)
(i)	Biscuits Salty & Sweet	9000	140/-	12,60,000/-

Less sales expenses@ 40% 5,04,000/-

Net Sales Realization(turn over)**per month: 7,56,000/-****So Net Sales Realization(turn over)****per Year : 90,72,000/-****3. Net Profit per annum before Income Tax :
(Sales- cost of production)****20,39,000/-****4. Net Profit Ratio:**

$$= \frac{\text{Net profit} \times 100}{\text{Turn over}}$$

$$= \frac{20,39,000 \times 100}{90,72,000}$$
= 22.48%**5. Rate of Return:**

$$= \frac{\text{Net profit} \times 100}{\text{Total investment}}$$

$$= \frac{20,39,000 \times 100}{38,80,000}$$
= 52.55%

X. BREAK EVEN ANALYSIS:

(1) Fixed Cost (per annum)

(a) Total Depreciation (on m/c. & equipment, dies, tools, furniture):	2,00,000/-
(b) Rent:	3,00,000/-
(c) Interest on borrowing:(Total Investment):	4,65,600/-
(d) Insurance:	6,000/-
(e) 40% of salary:	2,76,000/-
(f) 40% of utilities:	57,600/-
(g) 40% of other contingent expenses: (Excluding rent & insurance)	48,000/-

Total: 13,53,200/-

(2). Break Even Point (B.E.P)

$$= \frac{\text{Fixed Cost} \times 100}{\text{Fixed cost} + \text{profit}}$$

$$\begin{aligned} &= \frac{13,53,200 \times 100}{13,53,200 + 20,39,000} \\ &= \mathbf{39.89\%} \end{aligned}$$

XI. LIST OF MACHINERY & RAW MATERIAL SUPPLIERS:

1. Sembhi Engineers
4-5, New Colony , Opp. KMV College, Jalandhar-144 004
2. Reliance Engineering Works
K.No. 4065, Sec.46-D, Chandigarh-160 047
3. Authentic Designerr,s
C-112,Sector-10,Noida-201 301(U.P)
4. Ghaziabad Printing & Packing Industry (P) Ltd.
Opp. Ganesh Tent House, Near DPS,Meerut Road ,Ghaziabad
5. Aroras Box & Cartons Pvt Ltd.
39th K.M. , Delhi-Jaipur Road (N.H.No.8), Gurgaon-122 001(Haryana)
6. Jain Packaing Products
33,Sarai Pipal Thala, Behind Mangat Ram Dal Mill, Subzi Mandi ,Azadpur, Delhi-110033
7. United Packaging
19/21, Shakti Nagar ,Delhi-110 007
8. Rajat Electronics
1309,A-5. First Floor, Pan Mandi, Sadar Bazar,Delhi-6
9. R.D. Singal & Co.
A-81/2, Wazirpur Industrial Area, Delhi-110 052
10. Ambica Packers & Printers
2687,Kinari Bazar, Dariba Kalan, Delhi-110 006
11. Control Print (India) Ltd.
A-27, Swasthya Vihar, Vikas Marg, Delhi-110 092

ADDRESSES OF RAW MATERIAL SUPPLIERS:

Local dealers.
