

SISI, Imphal

-1997

III. "PAPAD MAKING"
Project for PABAD MAKING under Food (SSI) Industry

1. Nature of activity: To manufacture papad from urad dal and moong dal, with special varieties of red chilli, green chilli, black papper, garlic, etc.

2. Importance: Papad forms a popular food item in Indian diet. It is essentially thin waffer lilke product usually circular in shape, rolled from a dough made out of pulse or fernaceous material with added salt and spices. In south india it is known as apallam. Papadam popular in Kerela differs from papad in the sense that it has a higher moisture content and puffs on frying. Though traditionally it has been confined to the household, papad making in recent years it has developed it is posed with multifuriosus problems such as quality of ingredients used, method of preparation, processing, packing and storage char acteristics.

The Central Food Technology Research Institute, Mysore, has done a good deal amount of work on papad making and quality problems and has standarised a processed to improve the quality of papads which has enhanced the storage life of the product.

With papad making one may also go for Vidiya making. The latter makes food dishes delicious and very tasty, specially curried vegetables.

3. Market Potential/Demand Feasibility: Due to the industrialization, the purchasing power of the people has increased. With the result, the food habits have also been changing. The people now prefers to have convenient foods at

different taste. To have some more spiced meals, the consumption of papads and vidiya have gone up in the recent past in the country. Its demand has also increased manifold in foreign countries especially where the Indian immigrants have settled down. It is estimated that the exports of papads from India is of the order of 1200 MT per year valued at Rs. 4 to 5 million. The products which used to be manufactured by the housewives in their homes have now become part of their monthly ration especially in the metropolitan cities. In view of above, it is envisaged that there is a good scope for the development of this industry especially in the backward and the rural areas to generate more employment opportunities and to meet the demand of the urbanised markets besides export commitments.

Leading manufacturers of papad in India are M/S. Mahila Gruh Udyog, Bombay- brand "Lijjat", M/S. Tasty Food Products, Rajkot - brand "Tasty", M/S. Ganesh Gruh Udyog, Bombay- brand "Ganesh", M/S. Gits Food Products, Poona-brand "Gits". The last named industry has successfully floated completely mechanised small papad roughly 1 to 12 inch diameter. The company is exporting this variety of papad to U.K. Canada & Middle East Countries.

In Manipur state, not a single well organised unit engaged in papad making is available however the efforts by the tiny/cottage industries are being made. With the experience and guidance of a food technology with S.I.S.I., it is hoped that at least two to three units will be successful to put their papads in Imphal market.

4. Process of Manufacture: Papad may be manufactured with singled variety of dal flour, urad or moong or combination of these two flours. Good quality papd can be made using 10 parts of black gram dal flour of 85 mesh, 45 parts of water, 8 parts of comman salt and 1 part of sodium bicarbonate. To have special varieties blckpapper dall or crush, red chilli powder, green chilli fresh and crudhes, gralic fresh and crushed are used.

Weighed quantity of flour is taken in a mixer. A dispersion of common salt of and carbonate in requisite quantity of water is added and the whole contents are kneaded at a minimum speed to get homogenous lump of the dough. After 30 minutes resting it is divided into small balls of 2 cm. diameter weighing 5-6 grams. These are rolled into thin circular discs of about 1mm thickness using wooden roller pins. Corn starch or iol may usec to prevent sticking during rolling. The papads are usually dried to 14 to 15 per cent moisture content at 27-30 °C and relative humidity being 65 per cent.

Machines are also developed by C.F.T.R.I., Mysore to have mechanised papd. Experience says that the mechanised papds are not so good in quality as compared to hand-made papd. This is the reason why "Lijjat" papad - a largest manufacturer and exporter have adopted hand rolling method to make good papads.

5. Details of the Scheme:

A. Background Information.

- i. Name of of the product and byproduct if any : papad
- ii. Type of unit(individual/institutional) : Individual

iii. Estimated annual capacity		
Quantity		: 30 MT
Value		: Rs.16.80lacs
iv. Estimated working days in a year		: 300 days.
v. Working hours in a day		: 8 hours.
vi. Type raw materials		
Pl. refer annexure - IV.		
Value (for raw material)		: Rs. 614,000
Value (for packaging)		: Rs. 72,000

		Rs. 686,000/-
vii. Wastage, if any,		
Quantity		: 1200 Kg (5%)
Value		: Rs. 26,400
viii. Utilities(P.A.)		
(a) Electricity (connected load)		: 10 HP
No. of units		
(HP X PF X Hrs. X days X %utilities)		
= 10 X 0.785 X 8 X 300 X 0.5		: 9420 No.
Total charge @Rs.1.50 unit		: Rs.14,130
(b) Water		: Rs. 2,000
(c) Grease, etc.		: Rs. 870

Total		Rs.17,000/-
ix. Tools/Equipment/Machinery		
Pl. refer Annexure - II		
Value (including furniture cost)		: Rs. 1,30,000
x. Where work would be carried on		: Imphal
xi. Approximate Area Required		
Particular	Size	Area
1. Production Hall	40'x20'	800 sq.ft.
2. Raw Mat. store	15'x10'	300 sq. ft.

3. Finished Good store	15'x10'	300 sq.ft.
4. Laboratory	10'x10'	100 sq.ft.
5. Office	15'x10'	150 sq.ft.
6. W/C & bath	10'x10'	100 sq.ft.

Total		1600 sq.ft.

Construction @Rs.200/- per sq.ft. : Rs. 3,20,000/-

xii. Manpower required

Pl. refer Annexure V-A

Technical : 3 Nos.

Administrative : 4 Nos.

Direct Labour : 5 Nos.

Total 12 Nos.

: Rs.204,000/yr.

WORKING CAPITAL REQUIREMENT

I. Fixed Working Capital Needs.

(a) Salaries : Rs. 204,000

(b) Repairs & maintenance : Rs. 3,000

(c) Administrative expenses such as stationery, postage, telephone, etc. : Rs. 3,000

(d) Interest on term loan @ 16% p.a. (Annexure X) : Rs. 54,000

(e) Insurance @ 1% on C.E.+ one cycle of turn-over. : Rs. 8,000

Total : Rs.2,72,000

Fixed W.C. for one operating cycle : Rs. 68,000

II. Varied Working Capital

(a) Wages : Rs. 60,000

(b) Interest on fixed W.C. @ 18% : Rs. 49,000

(c) Raw Material	: Rs. 6,14,000
(d) Packing Material	: Rs. 72,000
(e) Electricity-fuel	: Rs. 17,000
(f) Other consumables	: Rs. 15,000
(g) Transport	: Rs. 15,000
<hr/>	
Total	Rs. 8,42,000
Variable W.C. for one operating cycle	: Rs. 2,10,500
Therefore, total W.C. requirement	
1. Fixed W.C. for one cycle	: Rs. 68,000
2. Variable W.C. for one cycle.	: Rs. 2,10,000
<hr/>	
Total	Rs. 2,78,000

Working Capital Loan

90% of total W.C. i.e.

90% of Rs. 278,000 =Rs.2,50,000/-

Therefore margin money =Rs.28,000/-

III Depreciation

particular	Value Rs.	Dep %	Value (dep) Rs.
(a) Working shed/ Building	3,20,000	5	16,000
(b) Plant & Machinery	1,20,000	10	12,000
(c) Furniture & fixture	10,000	20	2,000
<hr/>			
Total	4,50,000		30,000
<hr/>			

COST ANALYSIS (AT 80% Utilisation)

Cost of production	Rs.
(i) Fixed cost	2,95,000
(ii) Variable cost	7.42,000
Total	<u>10,37,000</u>

(iii) Estimated sales realisation (80% of the total)

Particular	Qnt	Rate Rs./kg.	Value Rs.
Papads	24,000kg	56.00	13,44,000

(iv) Gross surplus

$$\begin{aligned} & \text{Sales} - \text{Cost of production} \\ & = \text{Rs. } 13,44,000 - \text{Rs. } 10,37,000 \\ & = \text{Rs. } 3,07,000/- \end{aligned}$$

(v) Net Surplus

$$\begin{aligned} & \text{Gross surplus} - (\text{interest on term loan} + \text{interest on} \\ & \quad \text{W.C loan} + \text{Depreciation}) \\ & = \text{Rs. } 3,07,000 - \text{Rs. } (54,000 + 45,000 + 30,000) \\ & = \text{Rs. } 3,07,000 - \text{Rs. } 1,29,000 \\ & = \text{Rs. } 1,78,000/- \end{aligned}$$

(vi) Disposable surplus

$$\begin{aligned} & = \text{Net surplus} + \text{Depreciation} \\ & = \text{Rs. } 1,78,000 + \text{Rs. } 30,000 \\ & = \text{Rs. } 2,08,000/- \end{aligned}$$

The project can pay back term loan in two years even at a capacity utilisation of 80%

RATIO ANALYSIS
(at 80% utilisation)

I	Debt Equity Ratio : (DER)		Rs.Lakhs
	DER = Debt/Equity	Debt : Term loan	3.37
	= 5.87/2.90	working loan	2.50
	= 2.02 : 1		5.87
		Equity : Own investment	2.90
		(share capital)	
		including land value	
II	Capital Employed to value of output Ratio		
	= Fixed Capital + Working Capital/Output		
	= 4.50 + 2.78/13.44		
	= 0.54 : 1		
III	Capital Employed to Net Value Employed Ratio.		
	= F.C + W.C / Net Value : Net Value Output = 13.44		
	= 4.50 + 2.78 / 5.96	- (R.M., power, water, fuel,	
	= 1.22 : 1	consumable stores, depreciation)	7.48
			5.96
IV	Investment Per Worker Ratio.		
	= F.C + W.C / Total No. of workers & Staff		
	= 4.50 + 2.78 / 12		
	= Rs. 0.61 lakh.		
V	Productivity Per Worker		
	= Output / Total Workers & Staff		
	= 13.44 / 12		
	= Rs. 1.12 lakhs.		

VI Percentage of Raw Material to Value of Output

$$= \text{Value of R.M} / \text{Value of Output} \times 100$$

$$= 6.86 / 13.44 \times 100 \quad * \text{ including packing}$$

$$= 51.0\% \quad \text{material.}$$

VII. B.E.P. Calculation (in Rupees)

$$\text{B.E.P.} = \text{Fixed Cost} / \text{Contribution} \times 100$$

$$= \text{Fixed Cost} / \text{Sales Price} - \text{Variable Cost} \times 100$$

$$= 2.95,000 / 13,44,000 - 7,42,000 \times 100$$

$$= 2.95,000 / 6,02,000 \times 100$$

$$= 49.0\%$$

CONSTRUCTION OF WORKSHED / GODOWN

Annexure - I

Industry	Purpose for which construction is proposed.	Specification given by Industry Director location, area capacity.	Cost of construction per sq.ft.	Total cost (approx. Rs.)	Time required for construction (in months)	Anticipated life of the assets (years)	Depreciation to be included in cost of production	Certificate by architect
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Food papad making	Production R.M. Stores F.B. Store Laboratory Office W.C & Bath	40' x 20' 15' x 10' 15' x 10' 10' x 10' 15' x 10' 10' x 10'	Rs. 200	Rs. 320,000	3 months.	20 years @ 5%	Rs. 16,000	

Total = 1600 sq.ft.

MACHINERY/EQUIPMENT/IMPLEMENTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Industry	Process	Type of machinery/ implement/ equipment necessary.	from whom and where to be procured and where to be installed.	Life of the M/C (yes & depreciation in cost).	Mode of supply	Whether spare provided along with supply. repairs. etc.	Arrangement for servicing inspection & repairs.	Cost of M/C including transport, installation.	Guarantee period if any.	Period/Time required for supply (in months).
Food Papad making	Sieving	(i) Flour sifter with 2 HP motor.	Listed separately for all machines.	10 yr. 10%	Through Bank.	Yes	Unit's skilled workers available or mechanic	Es. 17,000	1 year	3 months.
	Mixing	(2) Dough Mixer with 2 HP motor.		10 yr. 10%	"	Yes	"	Es. 18,500	1 year	3 months.
	Rolling & pressing	(3) Pressing M/C (2).		10 yr. 10%	"	Yes	"	Rs. 40,000	---	2 months.
	Sealing	(4) Polythene sealing M/C.		10 yr. 10%	"	Yes	"	Es. 12,000	1 year	1 month.
	Weighing	(5) Platform type weighing scale. Cap. 100 kg.		10 yr. 10%	"	Yes	"	Rs. 12,000	1 year	1 month.
	Weighing	(6) Table model weighing scale. Cap. 5kg		10 yr. 10%	"	Yes	"	Rs. 5,000	1 year	1 month.
Drying	(7) Drying Mats, utensils, heaters.							Rs. 15,500	---	1 month
	(8) Office furniture.							Rs. 10,000		
								Total = Rs. 1,20,000		
								Total = Rs. 1,30,000		

ANNEXURE II contd.

	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Time required for installation in days.	Total time required for installation in days.	Time required to attach full commissioning capacity. (from the day order placed).	Technical support provided from manufacturers.	Whether special type of electricity/ power supply required.	Whether insurance coverage provided.	Number of workmen of work.	Whether training is necessary and if so, its nature.	Remarks	
(1) 1 Week	3 months	2 Weeks	Simple working	2 HP, 3ph	Yes	Sieving	No.		
(2) 1 Week	3 months	2 Weeks	"	2HP, 3ph	Yes	Mixing	NO		
(3) 1 WEEK	2 months	2 months	"	-	Yes	Rolling presing Sealing	No		
(4) 1 Day	1 month	1 month	"	-	Yes	weighing	No		
(5) 1 Day	1 month	1 month	"	-	Yes	weighing	No		
(6) 1 Day	1 month	1 month	"	-	Yes	Drying	No		
(7) 1 Week	1 month	1 month	"	-	Yes	-	-		
(8) -	1 month	1 month	"	-	Yes	-	-		

TARGETS: PHYSICAL: (Qty & Value)

Annexure III

Targets:

I. Production/Processing

Items to be produced: Papads

Unit:MT
Value:Rs.Lakhs

1st year		2nd year		3rd year		4th year		5th year	
Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value
18 (60%)	9.36	21 (70%)	10.92	24 (80%)	13.44	27 (90%)	15.12	30 (100%)	16.80
(i) Estimated production					24 MT				
(ii) % of the rated capacity					80 %				

(II) Sales

- (i) Whole sales Rs.13.44 Lakhs
- (ii) Retail sales -
- (iii) Percentage of the rated capacity 80 %

(III) Employment

(i) Staff	
(a) Administrative/supervisor	3 Nos.
(b) Technical	4 Nos.
(ii) Direct cost	
(a) Technical/Skilled works	5 Nos.
(b) Beneficiaries self-employment getting earning	-
Total (i)+(ii)	12 Nos
(IV) Employment/wage (in rupees)	
(i) For in direct labour	Rs.1,44,000
(ii) For direct labour	Rs. 60,000
Total	Rs.204,000

Term loan Requirement.

Particular	Value (Rs.)	Margin %	Margin Money (Rs.)	Term %	Loan Value(
1. Land @5000 Sq.ft.			OWN		
2. Building @1600 Sq.ft.	3,20,000	25	80,000	75	2,40,0
3. Plant & Mac- chinery.	1,20,000	25	30,000	75	90,0
4. Furniture & Equipment.	10,000	25	2,500	75	7,5
Total.	4,50,000		112,500		3,37,