

## **1 POTATO AND BANANA CHIPS**

### **1.1 Introduction**

Chips are the most popular variety of snacks on various occasions. Besides being salty, spicy or flavoured, consumer preference is always for fresh quality. Potato and banana chips are popular processed food items resulting in substantial value-addition.

### **1.2 Objective**

The primary objective of the model report is to facilitate the entrepreneurs in understanding the importance of setting up unit of potato and banana chips. This model report will serve as guidance to the entrepreneurs on starting up such a new project and basic technical knowledge for setting up such a facility.

### **1.3 Raw Material Availability**

Potatoes and bananas are grown abundantly in the entire Madhya Pradesh. It is estimated that the state grows around 5.97 lakh MT on an area of 14941 Ha (yield- 40.00) of bananas and 7.14 lakh MT of potatoes on area of 47602 ha (yield - 15) in year 2004-05. Other materials required are salt, edible oil, spices and flavours. But their quantities shall be very small.

### **1.4 Market Opportunities**

There exists a very large market for chips and they can be sold at various retail outlets, paan shops, bus-stands, railway stations, roadside eateries, etc. There also exists institutional market consisting of clubs and other institutions, school & college canteens, army establishments, bars & pubs, railway and airlines caterers, etc.

Competition from organised sector is increasing but local and small units have distinct advantages in terms of less overheads and transportation costs, longer shelf life, quick access to market and cost.

### **1.5 Project description**

#### **1.5.1 Applications**

Chips are very popular amongst all age groups and they are made from various materials. This industry is very large and is dominated mainly by local manufacturers. Easy availability, freshness and competitive price are the main features. These products can be manufactured in any part of the country but this note envisages.

### 1.5.2 Availability of know how and compliances

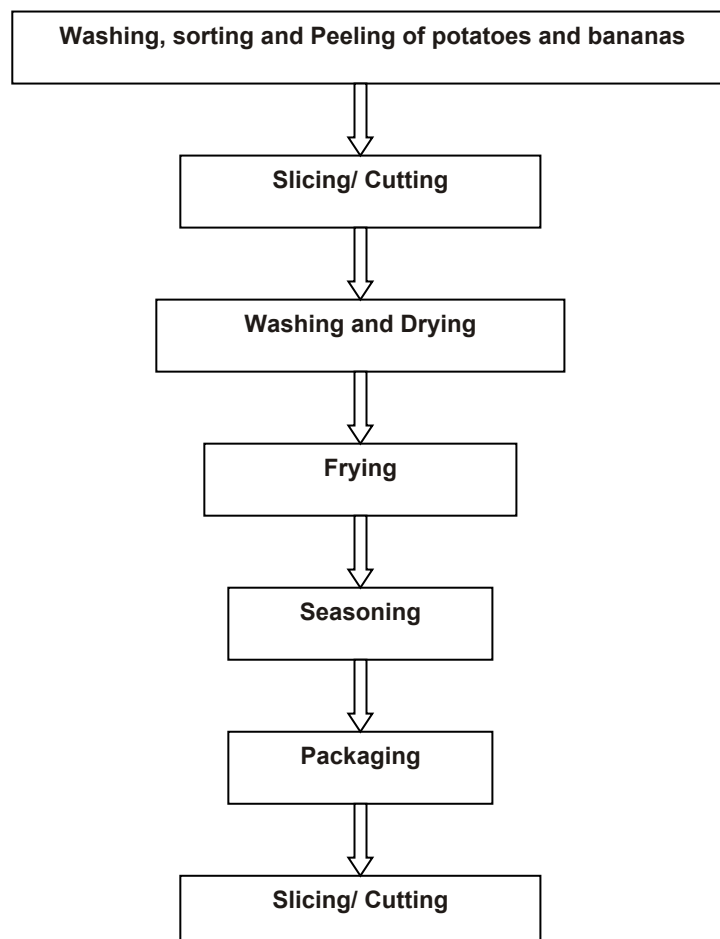
Compliances under the FPO and PFA Act are mandatory. Quality standards as specified by BIS are IS 2397:1988. CFTRI, Mysore, has developed the technical know-how.

### 1.5.3 Capacity of the Project

The annual capacity is 60 MT of the potato and banana chips.

### 1.5.4 Manufacturing process

It is very well established and simple. It involves visual inspection and sorting of damaged potatoes and bananas and washing them in water. Then they are peeled and trimmed before slicing or cutting them to the required size. Then they are once again washed and dried. They are then fried and either salt or other spices/flavours are mixed homogenously. After cooling them, they are packed in pouches or plastic bags. A typical process flow chart is as under:



## 1.6 Project component and cost

Major components of the projects and their costs are described in the table hereunder:

Particulars	Unit	Qty	Cost/unit	Total
<b>LAND &amp; BUILDING</b>				<b>10.50</b>
Land	SqM	300	250.00	0.75
<b>Land Development</b>				
Land Area		300	500.00	1.50
<b>Building</b>				
<b>Production Block</b>				
Main Production Area	SqM	150	5,000.00	7.50
Contingencies		10%		0.75
<b>PLANT &amp; MACHINERY</b>				<b>8.16</b>
Slicer	Nos	2	50,000.00	1.00
Electrically operated dryer	Nos	1	100,000.00	1.00
Automatic Potato Peeling	Nos	2	75,000.00	1.50
Automatic Sealing Machine	Nos	2	65,000.00	1.30
Coal Fired furnace	Nos	1	50,000.00	0.50
Electrical installation	LS	1	50,000.00	0.50
Cutting and peeling knives	LS	2	50,000.00	1.00
Contingencies		20%		1.36
<b>MISCELLANEOUS FIXED ASSETS</b>				<b>4.20</b>
Misc Assets	LS	1	350,000	3.50
Contingencies		20%		0.70
<b>PRE-OPERATIVE EXPENSES</b>				<b>3.12</b>
Establishment		1	157,500	1.58
Preoperative Interest		1	34,700	0.35
Security Deposits		1	120,000	1.20
<b>TOTAL</b>				<b>25.98</b>

### 1.6.1 Plant and Machinery

The cost of the required plant and machineries is Rs. 8.16 lakhs.

### 1.6.2 Building

The building development and construction will cost around Rs. 8.25 lakhs.

## 1.7 Miscellaneous Assets

A provision of Rs. 4.20 lakhs would take care of other items like furniture and fixtures, storage facilities, packing tables etc.

## 1.8 Preliminary & Pre-operative Expenses

There will be many pre-production expenses like registration, administrative and traveling charges, interest during implementation, trial run expenses etc. for which a provision of Rs. 3.12 is made.

## 1.9 Working Capital Assessment

ITEMS	Year 1	Year 3	Year 5
STOCK OF RAW MATERIAL & PACKING MATERIAL	1.24	1.65	1.65
SUNDRY DEBTORS	5.91	7.88	7.88
<b>TOTAL</b>	<b>7.14</b>	<b>9.53</b>	<b>9.53</b>
<b>MARGIN</b>	1.79	2.38	2.38
<b>MPBF</b>	5.36	7.14	7.14
<b>INTEREST ON WC</b>	0.59	0.79	0.79

### 1.10 Means of Finance

<b>EQUITY CAPITAL</b>			25.00%	<b>6.94</b>
<b>MOFPI SUBSIDY</b>	25%	50.00	25.00%	<b>6.94</b>
<b>TERM LOAN</b>				
FINANANCIAL INSTITUTIONS		10.00%	50.00%	<b>13.88</b>
-Payable half yearly Installments	10	1.40		
<b>TOTAL</b>			100%	<b>27.77</b>

### 1.11 Cash flow statement

PARTICULARS	Year 1	Year 3	Year 5	Year 7
<b>SOURCES OF FUNDS</b>				
EQUITY CAPITAL	-	-	-	-
SUBSIDY				
NET PROFIT	1.78	6.40	5.10	3.77
(INTEREST ADDED BACK)				
DEPRECIATION	1.45	1.45	1.45	1.45
PRELIMINARY EXP.W/O	0.45	0.45	0.45	0.45
INCREASE IN TERM LOAN	-	-	-	-
INCREASE IN BANK BORROWINGS-WC	5.36	1.07	-	-
<b>TOTAL</b>	<b>9.03</b>	<b>9.37</b>	<b>7.00</b>	<b>5.66</b>

### 1.12 Projected balance sheet

PARTICULARS	Year 1	Year 3	Year 5	Year 7
<b>LIABILITIES</b>				
EQUITY CAPITAL	6.94	6.94	6.94	6.94
RESERVES & SURPLUS	6.74	12.81	21.10	27.68
TERM LOAN	12.48	6.88	1.28	(0.00)
BANK BORROWINGS-WC	<b>5.36</b>	<b>7.14</b>	<b>7.14</b>	7.14
<b>TOTAL</b>	<b>31.53</b>	<b>33.78</b>	<b>36.47</b>	<b>41.76</b>

### 1.13 Projected profit and loss account

PARTICULARS	Year 1	Year 3	Year 5	Year 7
<b>INCOME</b>	39.38	52.50	52.50	52.50
<b>EXPENDITURE</b>	35.70	44.20	45.50	46.84
<b>VARIABLE</b>	18.63	23.76	23.76	23.76
<b>FIXED</b>	17.07	20.44	21.74	23.08
<b>GROSS PROFIT</b>	3.68	8.30	7.00	5.66
<b>RETAINED PROFIT</b>	(0.20)	4.72	3.97	2.98

### 1.14 Key Indicators

NET PRESENT VALUE at current Inflation (Rs.in lakhs)	31.63
INTERNAL RATE OF RETURN %	25.84
AVERAGE DSCR	1.84
BREAK EVEN POINT %	89.63
PAY BACK PERIOD ( YEARS)	4.29

### 1.15 Manpower Requirement

PARTICULARS	NO.
<b>SUPERVISORY STAFF</b>	
ADMN STAFF	3
<b>WORKERS</b>	
PRODUCTION SUPERVISORS	2
SKILLED WORKERS	2
UNSKILLED WORKERS	6

### 1.16 Assumptions

<b>Project and Financials</b>			
Contingencies on Building			10%
Contingencies on Equipment			20%
Term Loan			50%
Rate of Interest on Term Loan			10%
Subsidy Considered	Subject to ceiling		25%
Expected time of Installation		Months	3
Moratorium		Months	6
<b>CAPACITY</b>			
Rated Capacity Per Annum	80% of Installed capacity	TPA	100
Number of Operational Days	DAYS		300
Working Hours Per day	Hrs		16
<b>CAPACITY UTILIZATION</b>			
Year I			75%
Year II			85%
Year III			100%
<b>SALES PRICE</b>			
W S Price			75000
<b>OTHER EXPENSE</b>			
Commission			10.0%
Marketing Expenses			2.5%
<b>POWER</b>			
Connected Load	HP		300
<b>DEPRICIATION AS PER COMPANY'S ACT</b>			
BUILDING			3.34%
PLANT & MACHINERY			10.34%
MISC. FIXED ASSETS			7.07%
LAND & SITE DEVELOPMENT			1.63%
<b>MAINTENANCE</b>			
BUILDING			1.00%
PLANT & MACHINERY			3.00%
MISC. FIXED ASSETS			2.00%
LAND & SITE DEVELOPMENT			1.00%

#### 1.16.1 Sources of technology

- Industrial Equipments, Guwahati

- Archana Machinery Stores, Guwahati
- East End Engineering Company, 173/1, Gopalrai Thakur Road, Kolkata 700035.  
Tel. No. 25773416/6324

**The actual cost of project may deviate on change of any of the assumptions.**