



PM Formalisation of Micro Food Processing Enterprises (PM-FME) Scheme

MODEL DETAILED PROJECT REPORT PROCESSING OF AMCHUR POWDER



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CHAPTER 1: THE PROJECT AT A GLANCE

1.	Name of the proposed project	:	Amchur powder Processing Unit
2.	Name of the entrepreneur/ FPO/ SHG/ Cooperative	:	
3.	Nature of proposed project :	:	Proprietorship/Company/Partnership
4.	Registered office	:	
5.	Project site/location	:	
6.	Names of Partners (if partnership)	:	
7.	No. of shareholders (if company/FPC)	:	
8.	Technical advisor	:	
9.	Marketing advisor/partners	:	
10.	Proposed project capacity	:	120 MT/ annum (60%, 70%, 80% & 90% capacity utilization in the 2 nd , 3 rd , 4 th & 5 th years respectively)
11.	Raw materials	:	Mango
12.	Major product outputs	:	Amchur Powder (Raw Mango powder)
13.	Total Project Cost	:	Rs. 35.90 Lakhs
	• Land development, building & civil construction(only for expansion of existing built-up area)	:	<i>Rs 4.00 Lakhs</i>
	• Machinery and equipment	:	<i>Rs 21.00 Lakhs</i>
	• Utilities (Power & water facilities)	:	<i>Rs 2.00 Lakhs</i>
	• Miscellaneous fixed assets	:	<i>Rs 2.00 Lakhs</i>
	• Pre-operative expenses	:	<i>Rs 0.50 Lakhs</i>
	• Contingencies	:	<i>Rs 2.00 Lakhs</i>
	• Working capital margin	:	<i>Rs 4.40 Lakhs (Rounded off)</i>
14.	Working capital requirement		
	• 2 nd year	:	<i>Rs 17.42 Lakhs</i>
	• 3 rd year	:	<i>Rs 21.39 Lakhs</i>
	• 4 th year	:	<i>Rs 24.37 Lakhs</i>
15.	Means of Finance		
	• Subsidy grant by MoFPI (max 10 lakhs)	:	<i>Rs 10.00 Lakhs</i>
	• Promoter's contribution (min 20%)	:	<i>Rs 5.90 Lakhs</i>

	• Term loan (42%)	:	<i>Rs 20.00 Lakhs</i>
16.	Debt-equity ratio	:	3.39:1
17.	Profit after Depreciation, Interest & Tax		
	• 2 nd year	:	<i>Rs 2.61 Lakhs</i>
	• 3 rd year	:	<i>Rs 5.89 Lakhs</i>
	• 4 th year	:	<i>Rs 8.08 Lakhs</i>
18.	Average DSCR	:	2.49
19.	Benefit-Cost Ratio	:	1.15
20.	Term loan repayment	:	5 years with 1 year grace period
21.	Payback period for investment	:	5 years

CHAPTER 2

General Overview of Production, Post Harvest Management and Value Addition of Mango in India

2.1 Introduction

India is the world's largest producer of mangoes, contributing over 40% of global production. In the fiscal year 2021-22, India produced approximately 20.77 million metric tons (MT) of mangoes, with projections for 2023 estimating around 21 million MT. The country has a diverse array of mango varieties, with over 1,500 cultivars documented, making it a significant player in both domestic and international markets.

Mangoes are rich in vitamins (A, C, E, K, B1, B2, B3, B5 and B6), minerals (potassium, magnesium, calcium and sodium), phytonutrients (α , β -carotene, and crypto-xanthin), carbohydrates, calorie, while low in protein, fat and dietary fiber. Though mangoes are rich in antioxidants and phytonutrients, they have a short shelf life due to high moisture content of around 80%. Mangoes are seasonal crop, overproduction during peak season and scarcity during offseason.

Preservation of green mango is one of the best options to reduce postharvest losses. Green mango has several medicinal properties, including cure scurvy, stomach troubles, promote liver and heart health, and prevent body dehydration and widely used for the preparation of pickle, chutney, sauce, green mango drink, and a dehydrated powder called as amchoor. Amchoor is used in culinary preparation, categorized under spices for different chat foods, used as an acidulant instead of tamarind, and popular in the preparation of pulihora mix that utilized for making instant rice-based food.

Amchur powder, also known as mango powder, is a popular spice in Indian cuisine, known for its tangy flavour and health benefits. The global market for amchur powder has been growing steadily, driven by increasing demand for natural flavour enhancers and the rising popularity of plant-based diets. According to recent data, the global mango powder market is projected to grow at a compound annual growth rate (CAGR) of 5.8% from 2023 to 2032. India is the leading exporter of amchur powder, accounting for the majority of global exports.

The potential for value added products provides an extremely viable opportunity for sustainable promotion of rural as well as urban livelihoods. Processing of Mango into value added products at small scale/ village level and selling to the markets directly/ tying up with big aggregators will help both the farmers and the consumers.

Therefore, processing of Mango into value added products such as Amchur powder can ensure nutritional and food security, improved profitability and also offers huge scope for entrepreneurship development at micro, small or medium scale levels using effective government schemes such as PM-Formalization of Micro Food Processing Enterprises Scheme of MoFPI, Government of India.

2.2 Origin and distribution of Mangoes

Mangoes (*Mangifera indica*) are believed to have originated in South Asia, particularly in the region spanning eastern India, Myanmar, and Bangladesh. The fruit has been cultivated for over 4,000 years, with references in ancient Indian scriptures, including the Vedas and the epics like the Ramayana and Mahabharata. The name "mango" is derived from the Tamil word māṅgā or Malayalam word māñña, which was adapted into Portuguese as manga during their colonization of India in the 15th and 16th centuries. Mughal emperors, notably Akbar (1556–1605 CE), established extensive orchards in North India, popularizing varieties like Dasherri and Langra.

From India, mango cultivation spread to other parts of the world through trade and colonization. By the 10th century, mangoes had reached East Africa, and by the 16th century, Portuguese explorers introduced them to Brazil and the Caribbean. Today, mangoes are grown in over 100 countries, with major producers including India, China, Thailand, Indonesia, Mexico, and Pakistan. Mangoes thrive in tropical and subtropical climates, making them a staple fruit in many regions.

Mango is the national fruit of India, Pakistan, and the Philippines, and the national tree of Bangladesh. Approximately 50% of all tropical fruits produced worldwide are mangoes. Mango is commercially grown in more than 80 countries. Globally, mango production is estimated at around 55-60 million metric tons annually. According to FAOSTAT, after India, the top producers include:

- China - 5 million metric tons
- Thailand - 3.5 million metric tons
- Indonesia - 3 million metric tons
- Mexico - 2.5 million metric tons
- Pakistan - 2 million metric tons

Mangoes are a significant export commodity for many countries. Mexico is the largest exporter of mangoes to the United States, while India exports mangoes to the Middle East, Europe, and the United States.

2.3 Production of Mangoes in India

Mangoes are deeply ingrained in Indian culture and agriculture with cultivation across the country. According to Indian beliefs, mangoes symbolize the life and are used in almost every sacred ritual. Mango leaves are almost always used for festivals and wedding decorations. The fruit is very popular with the masses due to its wide range of adaptability, high nutritive value, richness in variety, delicious taste and excellent flavour

The Indo-Gangetic plains, Deccan Plateau, and coastal regions are major hubs due to suitable climates. India is home to over 1,000 varieties of mangoes, each with unique flavors, textures, and uses. Mango cultivation thrives in tropical and subtropical regions across India.

India is the largest producer of mangoes globally, accounting for approximately 50% of the world's total production. In 2023–24, India produced around 20.26 million metric tons of mangoes, according to the Agriculture Statistics and this is expected to reach 21.12 million metric tonnes in the current year.

The Alphonso mango, often referred to as the "King of Mangoes," is one of the most sought-after varieties, both domestically and internationally. Statistics on mango export data show that India exported 32,104.09 MT of mangoes, valued at USD 60.14 million in 2023–2024, with top mango exports being Alphonso, Totapuri, Kesar, and Badami varieties.

Table 1: Area, production and productivity of Mango in India

Years	Area (in Million Hectares)	Production (in Million Tonnes)	Productivity (Tonnes/Hectare)
2013-14	2.31	18.43	7.98
2014-15	2.33	18.77	8.06
2015-16	2.36	19.63	8.32
2016-17	2.51	21.82	8.69
2017-18	2.52	22.35	8.87
2018-19	2.51	21.82	8.69
2019-20	2.52	22.35	8.87
2020-21	2.61	24.45	9.37
2021-22	2.65	25.63	9.67

Source: *Horticulture Statistics at a Glance (Ministry of Agriculture and Farmers' Welfare, GoI)*.

2.3.1. Production and yield of Mango in major states in India

Uttar Pradesh is the largest producer of mangoes in India, contributing 23% of the total production, followed by Andhra Pradesh (15%) during 2023-24. Uttar Pradesh has the highest productivity (16.19 tonnes/hectare), indicating efficient farming practices and favourable climatic conditions.

Table 2: State-wise share in area and production (2021-2022)

State	Area (in '000 Hectares)	Production (in '000 Tonnes)	Productivity (Tonnes/ha)
Uttar Pradesh	278.0	4,500.0	16.19
Andhra Pradesh	198.0	2,800.0	14.14
Telangana	180.0	2,500.0	13.89
Karnataka	160.0	1,800.0	11.25
Gujarat	140.0	1,600.0	11.43
Bihar	135.0	1,500.0	11.11
Tamil Nadu	120.0	1,400.0	11.67
Maharashtra	110.0	1,300.0	11.82
West Bengal	100.0	1,200.0	12.00
Odisha	90.0	1,000.0	11.11
Others	500.0	5,000.0	10.00
Total	2,611.0	24,450.0	9.37

2.4 Composition and Nutritional value of Raw Mangoes

Table 3: Composition & Nutritive Value of Raw Mango (per 100 g of edible portion), fresh weight basis

Principle	Nutrient Value	
Energy	44 Kcal	
Carbohydrates	11.1 g	
Sugars	9.9 g	
Protein	0.6 g	
Total Fat	0.4 g	
Dietary Fiber	1.3 g	
Vitamins		
Vitamin A (Beta-carotene)	38 µg	6%
Vitamin C	27.7 mg	61%

Vitamin E	0.9 mg	4.5%
Vitamin K	4.2 µg	5%
Folate (vit B9)	14 µg	11%
Minerals		
Calcium		10 mg
Iron		0.13 mg
Magnesium		9 mg
Potassium		156 mg
Phosphorous		11 mg

Source: National Institute of Nutrition's Food Composition Tables (2017)

2.5 Health benefits of Raw Mangoes

- ‡ Rich in Vitamin C: Green mangoes contain more vitamin C than ripe mangoes, which boosts immunity and acts as an antioxidant.
- ‡ Aids Digestion: Green mangoes are a good source of dietary fiber and contain enzymes like amylase and mangiferin, which aid digestion and improve nutrient absorption.
- ‡ Prevents Heat-Related Illnesses: In India, green mangoes are consumed during summer to prevent heatstroke and dehydration. Aam Panna, a drink made from green mangoes, is a popular remedy.
- ‡ Supports Liver Health: Green mangoes stimulate bile production, which improves liver function and detoxifies the body.
- ‡ Helps in Weight Loss: Green mangoes are low in calories and high in fiber, making them an excellent addition to a weight-loss diet.
- ‡ Regulates Blood Sugar Levels: The mangiferin in green mangoes improves insulin sensitivity, making it beneficial for people with diabetes (when consumed in moderation).
- ‡ Alkalizes the Body: Green mangoes help maintain the body's pH balance by reducing acidity and alkalizing the system.

2.6 Mango Varieties in India

India is home to a wide variety of mango cultivars, each with its unique flavor, texture, and culinary uses.

Mangoes are consumed in India as

- Raw (green mango) in the form of pickles, chutneys, salads and drinks like aam panna

- Ripe as fresh fruit, desserts such as aamras, kheer, shrikhand, juices and smoothies and chutneys
- Processed: Dried mango slices (snack), mango powder (amchur) and canned mango pulp.

Below is a table of popular mango varieties, their predominant states, and how they are typically consumed (raw, ripe, or processed).

Variety	Predominant States	Consumption
Alphonso	Maharashtra, Gujarat, Karnataka	Ripe: Eaten fresh, used in desserts like aamras, mango shakes, and ice creams.
Dasheri	Uttar Pradesh	Ripe: Eaten fresh, used in juices and desserts.
Langra	Uttar Pradesh, Bihar	Ripe: Eaten fresh, used in chutneys and pickles.
Kesar	Gujarat	Ripe: Eaten fresh, used in juices, shakes, and desserts.
Banganapalli	Andhra Pradesh, Telangana	Ripe: Eaten fresh, used in desserts and juices.
Totapuri	Karnataka, Tamil Nadu	Raw: Used in pickles and chutneys. Ripe: Used in juices and smoothies.
Chausa	Uttar Pradesh, Haryana	Ripe: Eaten fresh, used in desserts and juices.
Neelam	Tamil Nadu, Andhra Pradesh	Ripe: Eaten fresh, used in desserts and juices.
Himsagar	West Bengal	Ripe: Eaten fresh, used in desserts and juices.
Mallika	Andhra Pradesh, Karnataka	Ripe: Eaten fresh, used in desserts and juices.
Amrapali	Across India (hybrid variety)	Ripe: Eaten fresh, used in desserts and juices.
Fazli	West Bengal, Bihar	Ripe: Eaten fresh, used in pickles and chutneys.
Safeda	Uttar Pradesh, Andhra Pradesh	Ripe: Eaten fresh, used in desserts and juices.
Pairi	Gujarat, Maharashtra	Ripe: Eaten fresh, used in desserts and juices.
Rajapuri	Gujarat	Raw: Used in pickles. Ripe: Eaten fresh, used in desserts.

2.7 Amchur – raw mango powder

Amchur, also known as raw mango powder, is a souring agent made from dried unripe green mangoes. It is widely used in Indian cuisine to add a tangy flavour to dishes like chutneys, curries, snacks and street foods. Totapuri and Rajapuri are the most commonly used mango varieties for amchur production due to their high acidity and low sugar content

when unripe. Uttar Pradesh, Gujarat, and Rajasthan are the leading states in amchur production.

Uses of Amchur in Indian Cuisine

- Flavoring: Adds a tangy taste to dishes like chaats, dals, and curries.
- Preservative: Acts as a natural preservative in pickles and chutneys.
- Digestive Aid: Used in traditional remedies to aid digestion.

Mango Varieties Used for Amchur Production

‡ Totapuri: Known for its firm texture and tangy flavour, Totapuri mangoes are one of the most commonly used varieties for making amchur.

- Predominant states: Karnataka, Tamil Nadu, Andhra Pradesh.

‡ Rajapuri: Used for making amchur due to its tangy and slightly sweet flavor.

- Predominant state: Gujarat.

‡ Kachcha Aam (Raw Common Mango):

1. Any variety of unripe green mango can be used for amchur, but smaller, tangier varieties are preferred. Predominant states: Uttar Pradesh, Bihar, Gujarat, Rajasthan.

2.8 Cultivation and Harvesting of Mangoes

The cultivation and harvesting practices for mangoes intended for amchur production are specialized to ensure the fruit retains its tartness and firmness. The following section is a detailed look at the process.

The cultivation and harvesting of mangoes for amchur powder production require careful attention to detail, from selecting the right variety to ensuring proper drying and processing. This traditional practice not only adds a unique flavour to Indian cuisine but also provides a sustainable way to utilize unripe mangoes, reducing food waste and supporting local economies. Amchur powder remains a testament to India's rich culinary heritage and agricultural expertise.

❖ Climatic and soil requirements

Mango trees thrive in tropical and subtropical climates, in ideal temperature range of 24°C to 27°C. A distinct winter season with cool, dry weather is essential for flowering and fruit setting.

Mango trees require adequate sunlight and moderate rainfall, ideally between 75 cm and 250 cm annually. Dry weather during flowering and fruit development is crucial for a good harvest.

Mango trees can grow in a wide range of soils but prefer well-drained, deep, and fertile soils. The ideal soil types for mango cultivation are sandy loam, alluvial soils (found in river basins) and red laterite soils (common in peninsular India). While mango trees grow best in soils with a pH range of 5.5 to 7.5, highly alkaline or saline soils are unsuitable.

❖ **Cultivation Practices:**

a) **Planting and Spacing:**

Mango trees are typically propagated through grafting to ensure uniformity and quality. The trees are planted at a spacing of 10–12 meters to allow adequate sunlight and air circulation.

b) **Irrigation and Fertilization:**

Young mango trees require regular irrigation, especially during dry spells. Drip irrigation is commonly used to conserve water. Fertilizers rich in nitrogen, phosphorus, and potassium are applied during the growing season to promote healthy fruit development.

c) **Pest and Disease Management:**

Common pests like mango hoppers and fruit flies are controlled using organic pesticides or integrated pest management (IPM) techniques. Diseases such as anthracnose and powdery mildew are managed through timely spraying of fungicides and proper orchard hygiene.

❖ **Harvesting Practices:**

a) **Timing of Harvest:**

- For amchur production, mangoes are harvested before they ripen, typically when they are green and firm. This ensures the fruit retains its tartness and high vitamin C content.
- The ideal time for harvesting is April to June, depending on the region and variety.

b) **Harvesting Method:**

To avoid bruising or damage, the fruits shall be hand-picked or using bamboo poles with nets or baskets to gently pluck the mangoes from the trees.

c) **Sorting and Grading:**

After harvesting, the mangoes are sorted based on size, color, and firmness. Only the best-quality green mangoes are selected for amchur production.

2.9. Processing and Storage of Amchur Powder

a. Washing

The harvested mangoes shall be washed thoroughly in clean water to remove dirt, sap, and any chemical residues. Water temperature should be room temperature (25–30°C), and the washing time should be 2–3 minutes.

Machinery required: A fruit washing machine with brushes and water jets can be used for efficient cleaning.

b. Peeling and Slicing:

They are then peeled and sliced into thin pieces or strips. The skin of washed mangoes can be peeled using stainless steel knives manually or automated peelers. The mangoes shall be sliced into thin, uniform pieces or strips (2–3 mm thickness) for even drying.

Machinery:

- Automatic mango peeler: For large-scale peeling.
- Slicing machine: Equipped with adjustable blades for uniform slicing.

Specifications: Consistency of slicing thickness shall be ensured to avoid uneven drying.

c. Pre-Treatment:

Optionally a pre-treatment process can be included in the process flow to preserve the color and prevent browning. The sliced mangoes can be dipped in a 0.5% potassium metabisulfite (KMS) solution for 5–10 minutes.

Machinery: A dipping tank made of food-grade stainless steel.

Specifications: Maintain the solution concentration and dipping time as per food safety standards.

d. Drying:

The sliced mangoes shall be spread out on clean mats or trays and sun-dried for 5–7 days, with regular turning until they become crisp and lose all moisture. Alternatively mechanical dryers such as tray or tunnel dryers can be used to speed up the process and ensure uniformity and better process control.

Machinery:

- Tray Dryer: Temperature set at 50–60°C for 8–12 hours.

- Tunnel Dryer: Continuous drying with controlled airflow and temperature.

Specifications:

- Drying temperature shall not exceed 60°C to retain nutritional quality.
- The moisture content should be reduced to 8–10% for long-term storage and grinding.

e. Grinding

The dried mango slices shall be ground into a fine powder using a pulverizer or hammer mill.

Machinery:

- Pulverizer: For fine grinding with adjustable mesh sizes.
- Hammer Mill: For large-scale grinding.

f. Sieving:

The ground powder is sieved to remove any coarse particles and ensure a consistent texture.

Machinery: A vibratory sieve or rotary sieve.

Specifications: Sieve mesh size of 80–100 microns for high-quality amchur.

g. Packaging:

The amchur powder is packed in airtight containers or bags to preserve its flavor and shelf life and prevent moisture absorption. It is then distributed to markets or used in food processing industries. The packaging shall be airtight and labelled with product details, including expiry date and batch number.

Machinery:

- Automatic filling and sealing machine: For accurate weighing and sealing.
- Vacuum packaging machine: To extend shelf life.

Packaging Materials: Polyethylene (PE) bags, aluminum foil pouches, or glass jars shall be used. Printed flexible pouches (pillow type, gusseted type, and stand-up pouches) and lined cartons are the most common forms, with materials such as Polyester/ metalized polyester/ LDPE, BOPP/ LDPE, BOPP/ metalized polyester/ LDPE, Polyester/ Al foil/ LDPE.

For bulk packaging, Flexible Intermediate Bulk Containers (FIBCs) commonly known as Jumbo bags with capacity up to 1 tonne are prevalent. For institutional packages, materials

such as Laminated flexible pouches and plastic woven sacks can be used.

h. Quality Control:

At every stage from raw material selection to final packaging, quality checks shall be conducted. The following parameters may be assessed.

- Moisture content: 8–10%.
- Acidity: 10–12% (as citric acid).
- Color: Light yellow to pale brown.
- Flavor: Tangy and sour, free from off-flavors.

Machinery: Moisture analyzers, pH meters, and colorimeters can be used for quality testing.

i. Storage and Distribution:

The packaged amchur powder shall be stored in a cool, dry place away from direct sunlight in temperature less than 25°C and relative humidity less than 60%. Proper handling during transportation and distribution is essential to prevent damage to packaging.

CHAPTER 3

MODEL AMCHUR POWDER PROCESSING UNIT UNDER PM-FME SCHEME

3.1 Introduction

The Central Sector scheme for Formalization of Micro Enterprises in Food Processing sector under Ministry of Food Processing Industries, Government of India is an important scheme that offers for formalization and mainstreaming the unorganized home based or micro food processing units. The scheme is useful for expansion of the existing units in terms of capacity and technology through installation of new machineries and additional civil infrastructures. Further, the scheme promotes establishment of new micro units on the principle of ODOP (One District One Product).

Establishment or expansion of Amchur powder Processing Unit is an attractive option in potential mango growing states in India as mango is a major cash crop cultivated across India. A model generalized DPR is therefore, prepared for expansion of existing unformalized Amchur powder processing Unit. A detailed account of the model DPR prepared on the basis of certain generalized assumptions is discussed in the sequent sections. An entrepreneur can use this model DPR template and modify according to his/her need in terms of capacity, location, raw materials availability etc.

3.2 Form of the Business Enterprise

The entrepreneur concerned must specify about the form of his/her business organization i.e. whether Sole Proprietorship, Cooperative, FPO/FPC, SHG Federation, Partnership Firm or Company and accordingly attach all the required documents. The documents may be registration certificate, share holding pattern, loan approval certificate etc as specified in the FME scheme guidelines.

3.3 Background of the Promoters/ Owners and Required Documents

The detailed bio-data of promoter/promoters inter-alia name, fathers name, age, qualification, business experience, training obtained, contact number, email, office address, permanent address, share holding pattern, definite sources of meeting the commitment of promoters contribution, details of others business along with certified balance sheet and profit loss account for the last 3- 4 years, tax registration, PAN Number, income tax return etc for 3-4 years and other requirements as specified in the FME guidelines must be provided with the DPR.

3.4 Background of the Proposed Project

The entrepreneur must specify whether it is a new project or expansion of the existing project. If new project is proposed then the reason to go in to the project and if expansion of the existing project, the must specify what kind of expansion is proposed in terms of capacity, product, machines, civil infrastructure etc.

3.5 Location of the Proposed Project and Land

The entrepreneur must provide description of the proposed location, site of the project, distance from the targeted local and distant markets; and the reasons/advantages thereof i.e. in terms of raw materials availability, market accessibility, logistics support, basic infrastructure availability etc. The entrepreneur must mention whether project is proposed in self-owned land or rented/allotted land in any industrial park or private location. Accordingly, he/she must provide ownership document, allotment letter/ lease deed.

Land clearance certificate must be from village authority/ municipality or any other concerned authority. The ideal locations for establishment of exclusive Mango powder Processing Units are in the production clusters of the major Mango growing states such as Uttar Pradesh, Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Gujarat, Bihar, Maharashtra, West Bengal, etc where adequate quantities of Mango will be available for processing.

3.6 Installed Capacity

The maximum installed capacity of the Amchur powder Processing Unit in the present model project is proposed as 120 tonnes/ annum. The unit is assumed to operate 300 days/annum @ 8-10 hrs/ day. The 1st year is assumed to be construction/expansion period of the project; and in the 2nd year 60 percent capacity, 3rd year 70 percent capacity, 4th year 80 percent capacity and 5th year onwards 90% capacity utilization is assumed in this model project.

3.7 Raw Material Requirements for the Unit

A sustainable food processing unit must ensure maximum capacity utilization and thus requires an operation of minimum 280-300 days per year to get reasonable profit. Therefore, ensuring uninterrupted raw materials supply requires maintenance of adequate raw material inventory. The processor must have linkage with producer organizations preferably FPCs through legal contract to get adequate quantity and quality of raw materials which otherwise get deteriorated. In the current model Amchur powder processing project, the product yield is considered as 10%; the unit requires 1.4 Tonnes/ day, 2.8 Tonnes/ day, 3.2 Tonnes/ day, and 3.6 Tonnes/ day of raw mango at 60, 70, 80 and 90 percent capacity utilization, respectively.

3.8 Product Profile of the Unit

In the present model Amchur powder processing unit, the targeted product output is taken as Amchur powder.

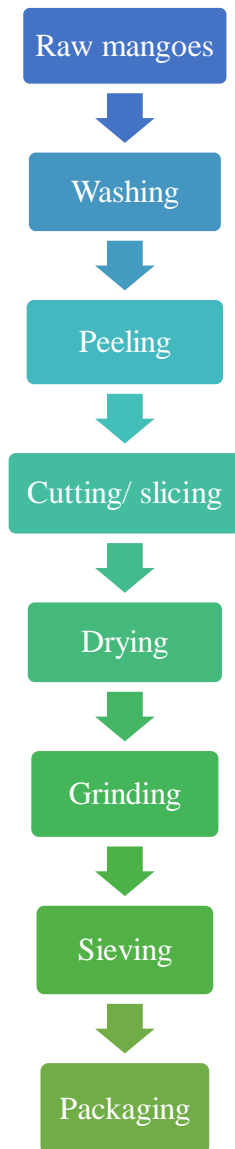
India being the largest producer of mangoes globally ensures a steady and cost-effective supply of raw materials for amchur production. Also, during the mango flush season, the surplus of green mangoes that go to waste due to lack of storage and processing facilities can be utilized effectively by establishing an amchur processing unit.

The increasing global demand for ready-to-use spices and condiments like amchur powder drives the increasing demand for it. Amchur is a staple in Indian cuisine, used in dishes like chaats, curries, chutneys, and pickles. Its tangy flavour makes it a popular ingredient in both traditional and modern recipes. The longer shelf life of amchur powder compared to fresh mangoes makes it a practical way to preserve the fruit's nutritional and economic value. Amchur is also in demand in international markets, especially in countries with a significant Indian diaspora. Amchur's vitamin C content, its antioxidant and stimulant properties and low-calorie content makes it a healthy alternative to artificial flavouring agents.

More recently, organically cultivated mango is gaining prominence because of its medicinal properties as well as harmful chemical-free nature. This implies that the processing methods should also be based on mechanized, physical and biological processes to maintain the vital quality of organic ingredient throughout each step of its processing.

Therefore, value addition of mango has great potential in terms of maintaining the nutritive quality of the product, Amchur powder, and minimizing post-harvest losses and enhancing the non-seasonal availability.

3.9 Manufacturing Process of Amchur powder



3.10 Technology Accessibility

NIFTEM, Thanjavur and its liaison offices at Guwahati and Bhatinda have all the technical knowhow on Amchur powder processing. These technologies are available through training, incubation and consultancy. The entrepreneur can first avail training or consultancy and then undergo business incubation before venturing into the business. Other than NIFTEM, CFTRI and other institutes also have the technical knowledge and training facilities.

3.11 Market Outlook

With rapid urbanization and changing lifestyles, there is a rising demand for ready-to-use spices and condiments like amchur powder. Amchur powder is a convenient alternative to fresh

green mangoes, especially in urban areas where access to fresh produce may be limited. Also, consumers are increasingly preferring natural and organic food products over synthetic additives, driving demand for amchur powder. The growing health-conscious population is opting for natural flavour enhancers like amchur.

The market for amchur in India and globally is poised for significant growth due to its culinary versatility, health benefits, and increasing demand for natural and organic food products. The Indian spice market, including amchur, is projected to grow at a CAGR of 5–6% over the next five years.

Countries with a significant Indian diaspora, such as the USA, UK, Canada, UAE, and Australia, have a high demand for amchur powder. Further amchur is gaining popularity in global cuisines, especially in fusion dishes and vegan recipes, due to its unique tangy flavour. The global trend towards natural and organic food products and health benefits making it a sought-after ingredient in functional foods is driving demand for amchur powder. The global spice market, including amchur, is expected to grow at a CAGR of 4–5% over the next five years. The demand for amchur is particularly high in North America, Europe, and Asia-Pacific regions.

3.12 Market Potential

A. Domestic Market Potential:

- Amchur powder can be marketed through the widely available distribution/ retail networks like supermarkets, grocery stores, and online platforms in India.
- Food Processing Industry: Amchur is used as an ingredient in ready-to-eat meals, snacks, and condiments, creating opportunities for bulk supply to food manufacturers.
- Institutional Demand: Hotels, restaurants, and catering services are significant consumers of amchur powder.

B. Export Market Potential:

- Branding and Packaging: High-quality, branded, and well-packaged amchur powder can capture a significant share of the global market.
- Certifications: Obtaining certifications like Organic, Fair Trade, etc can enhance the export potential of amchur powder.
- Distribution Channels: Establishing partnerships with international distributors and retailers can help penetrate global markets.

3. Product Diversification:

- Value-Added Products: Diversifying into value-added products like organic amchur

powder, flavored amchur, and amchur-based spice blends can attract a wider customer base.

- Private Labeling: Offering private labeling services for international brands can create additional revenue streams.

3.13 Detailed Project Assumptions

This model DPR for Amchur powder Processing Unit is basically prepared as a template based on certain assumptions that may vary with capacity, location, raw materials availability etc. An entrepreneur can use this model DPR format and modify as per requirement and suitability. The assumptions made in preparation of this particular DPR are given in Table 6.

This DPR assumes expansion of existing unit by adding new amchur powder line. Therefore, land and civil infrastructures are assumed as already available with the entrepreneur. Construction and installation are assumed to be done in the first year itself.

Parameter	Value	
Assumed Capacity of the Amchur powder processing unit :	120 MT/ annum	
Utilization of capacity :	Year 1	60%
	Year 2	70%
	Year 3	80%
	Year 4 onwards	90%
Working days per year:	300 days	
Working hours per day:	8-10 hours	
Interest on term loan	12.00%	
Interest on working capital loan	12.00%	
Repayment period	Five years with 1 yr grace period is considered.	
Average price of raw material:	Rs. 10/ kg	
Average sale price of product	Rs. 150/ kg	
Average Product yield	10% (1kg amchur powder/ 10 kg raw mangoes)	

3.14 Fixed Capital Investment

3.14.1. Land & Building: Rs. 4.00 Lakhs

This DPR is for FME scheme to upgrade/ formalize existing micro enterprises which already has land & built-up area. However, they can invest to expand the built-up area (Table 7) as required.

i. Land 1000 Sq ft	Assumed land already developed and has 6000 sq ft built in area. So additional 1000 sq ft can be built in @ Rs. 400/sq ft Rs. 4,00,000
ii. Built-up processing area 6000 sq ft	
iii. Storage area 1000 sq ft	
Total	Rs. 4.00 Lakhs

3.14.2. Machinery & Equipment: Rs. 21.00 Lakhs

S.No	Description	Power required	Area reqd (Sq.ft)	Unit Price, (Rs.)	Qty	Amount (Rs. In Lakhs)
1.	Weighing scale	2 HP	100	100000	1	1.00
2.	Washer	2 HP	50	250000	1	2.50
3.	Slicer	2 HP	100	250000	1	2.50
4.	Stainless Steel Tank	-	50	50000	2	1.00
5.	Dryer	5 HP	200	500000	1	5.00
6.	Grinder	10 HP	100	400000	1	4.00
7.	Siever	5 HP	50	150000	1	1.50
8.	Packing machine	2 HP	100	250000	1	2.50
9.	Knife, Peeler, Cutting table, etc			100000	1	1.00
	Total (Rs. in Lakhs)					21.00

3.14.3. Utilities and Fittings: Rs. 2.00 Lakhs

Power	Rs. 1.20 Lakhs
Water	Rs. 0.80 Lakhs
Total	Rs. 2.00 Lakhs

3.14.4. Other Fixed Assets: Rs. 2.00 Lakhs

Table 10: Other Fixed Assets	
Furniture and fixtures	Rs. 2.00 lakhs
Utensils, trays, thermometer, refractometer, etc	
Total	Rs. 2.00 Lakhs

3.14.5. Pre-operative Expenses

Table 11: Pre-operative Expenses	
Legal expenses, start-up expenses, establishment cost, consultancy fee, trial runs, & others	Rs. 50,000.00
Total	Rs. 0.50 Lakhs

3.14.6. Total Fixed Capital Investment

Total Fixed Capital Investment = (Land & Building + Machinery & Equipment+ Utilities and Fittings + Other Fixed Assets + Pre-operative Expenses)

= Rs. (4.00+21.00+2.00+2.00+0.50) = **Rs. 29.50 Lakhs**

3.15 Working Capital Requirement

Table 12: Working Capital Requirement (Rs. In lakhs)				
Particulars	Period	year 2 (70% - 70 MT)	year 3 (80% - 80 MT)	year 4 (90% - 90 MT)
Raw material stock	7 days	1.50	1.75	2.00
Packing material	15 days	0.30	0.35	0.40
Work in progress	15 days	3.76	4.47	5.06
Finished goods' stock	15 days	3.61	4.44	5.03
Receivables	30 days	8.25	10.38	11.88
Total current assets		17.42	21.39	24.37
Current Liabilities		0.00	0.00	0.00
Working capital gap		17.42	21.39	24.37
Margin money (25%)		4.36	5.35	6.09
Bank finance		13.06	16.04	18.28

3.16 Total Project Cost and Means of Finance

Table 13: Total Project Cost and Means of Finance (Rs. In lakhs)	
Particulars	Amount
i. Land and building	4.00
ii. Machinery and equipment	21.00
iii. Utilities & Fittings	2.00
iv. Miscellaneous Fixed assets	2.00
v. Pre-operative expenses	0.50
vi. Contingencies	2.00
vii. Working capital margin	4.36
Total project cost (i to vii) (Rounded-off)	35.90
Means of finance	
i. Subsidy	10.00
ii. Promoter's contribution	5.90
iii. Term loan	20.00

3.17 Manpower Requirement

Table 14: Manpower Requirement			
Particulars	No. of persons	Monthly Wage (Rs.)	Total Monthly Salary (Rs.)
i. Manager (can be the owner)	1	20000	20000
ii. Skilled worker	2	10000	20000
iii. Semi-skilled	3	7500	22500
iv. Helper	3	5000	15000
v. Salesman	1	7500	7500
Total	10		85000

Note: Only the manager and two skilled workers are permanent staffs (Salary Rs. 40000/month). Others are causal staffs.

3.18 Expenditure, Revenue and Profitability Analysis

Table 15: Expenditure, Revenue and Profitability Analysis (all values in Rs. in Lakh)									
	Particulars	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year
A	Total Installed Capacity	120 MT/Year Amchur powder							
	Capacity utilization (%)	60%	70%	80%	90%	90%	90%	90%	90%
B	Total Sales Revenue (Rs. in Lakh)								
	Sale of Mango powder @ Rs. 150/ kg	99.00	124.50	142.50	160.50	162.00	162.00	162.00	162.00
C	Total Expenditure								
	Raw Material Consumed	72.00	84.00	96.00	108.00	108.00	108.00	108.00	108.00
	Consumable Stores & Spares	7.20	8.40	9.60	10.80	10.80	10.80	10.80	10.80
	Power, fuel & utilities	3.64	4.04	4.43	4.82	4.82	4.82	4.82	4.82
	Salary & wages	7.14	7.91	8.67	9.44	9.44	9.44	9.44	9.44
	Repair & maintenance	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
	Depreciation	3.25	2.88	2.57	2.30	2.05	1.82	1.63	1.45
	Sub-total	93.97	107.97	122.01	136.10	135.85	135.62	135.43	135.25
	Cost of Production (Adjusting stock in process)	90.21	107.26	121.42	135.51	135.84	135.63	135.44	135.25
	Cost of Sales (CoP adjusted for finished goods)	86.60	106.43	120.83	134.92	135.80	135.64	135.45	135.25
	Selling, packing & distribution expenses	1.99	2.49	2.85	3.21	3.24	3.24	3.24	3.24
	Administrative & Misc. Expenses	2.97	3.74	4.28	4.82	4.86	4.86	4.86	4.86
D	Sub-Total	91.56	112.66	127.96	142.95	143.90	143.74	143.55	143.35

	Profit before Interest & Tax (PBIT) A-D	7.44	11.84	14.54	17.55	18.10	18.26	18.45	18.65
	Interest on Term Loan from Bank	2.39	2.06	1.58	1.10	0.62	0.15	0.00	0.00
	Interest on Bank Borrowing	1.57	1.92	2.19	2.46	2.48	2.47	2.47	2.47
	Operating Profit	3.48	7.86	10.77	13.99	15.00	15.64	15.98	16.18
	Profit before Tax (PBT)	3.48	7.86	10.77	13.99	15.00	15.64	15.98	16.18
	Provision for Taxation	0.87	1.97	2.69	3.50	3.75	3.91	3.99	4.05
	Profit after Tax (PAT)	2.61	5.89	8.08	10.49	11.25	11.73	11.99	12.13
	Drawings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Retained Earnings	2.61	5.89	8.08	10.49	11.25	11.73	11.99	12.13
	Surplus for Repayment (Net Profit + Non-cash Exp)	5.86	8.77	10.65	12.79	13.30	13.55	13.62	13.58
E	Cash Flow available for Debt service (Retained Earnings+ Depreciation+ Term Loan Interest) (Rs. in Lakh)	8.25	10.83	12.23	13.89	13.92	10.32	0.00	0.00
F	Total Debt	3.39	6.06	5.58	5.10	4.62	3.15	0.00	0.00
	DSCR (E/ F)	2.43	1.79	2.19	2.72	3.01	3.28	NA	NA
	Average DSCR	2.49	(Sum of Cash Flow available for Debt service/ Sum of Total Debt)						
	Payback Period (on Rs. 35.90 Lakhs initial investment)	5 years							

3.19 Repayment Schedule

Table 16: Repayment Schedule (Rs. in Lakh)									
Year	Outstanding loan at start of yr.	Disbursement	Total outstanding Loan	Surplus for repayment	Interest payment	Repayment of principal	Total outgo	o/s Loan at the end of the yr.	Balance left
1	0	20.00	20.00	5.86	2.39	0	2.39	20.00	3.47
2	20.00		20.00	8.77	2.06	4.00	6.06	16.00	2.71
3	16.00		16.00	10.65	1.58	4.00	5.58	12.00	5.07
4	12.00		12.00	12.79	1.10	4.00	5.10	8.00	7.69
5	8.00		8.00	13.30	0.62	4.00	4.62	4.00	8.68
6	4.00		4.00	13.55	0.00	4.00	4.00	0.00	9.55

3.20 Assets' Depreciation

Table 17: Assets' Depreciation (Written Down Value Method) (Rs. in Lakh)								
Particulars	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year
Civil works (5%)	4.07	3.87	3.68	3.50	3.32	3.15	2.99	2.84
Depreciation	0.20	0.19	0.18	0.18	0.17	0.16	0.15	0.14
Depreciated value	3.87	3.68	3.50	3.32	3.15	2.99	2.84	2.70
Plant & Machinery (10%)	21.36	19.22	17.30	15.57	14.01	12.61	11.35	10.21
Depreciation	2.14	1.92	1.73	1.56	1.40	1.26	1.14	1.02
Depreciated value	19.22	17.30	15.57	14.01	12.61	11.35	10.21	9.19
Other Fixed Assets (15%)	6.07	5.16	4.39	3.73	3.17	2.69	2.29	1.95
Depreciation	0.91	0.77	0.66	0.56	0.48	0.40	0.34	0.29
Depreciated value	5.16	4.39	3.73	3.17	2.69	2.29	1.95	1.66
All Assets	31.50	28.25	25.37	22.80	20.50	18.45	16.63	15.00
Depreciation	3.25	2.88	2.57	2.30	2.05	1.82	1.63	1.45
Depreciated value	28.25	25.37	22.80	20.50	18.45	16.63	15.00	13.55

3.21 Financial Assessment of the Project

Table 18: Benefit Cost Ratio (BCR) and Net Present Worth (NPW)

S. No	Particulars	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year	
i	Capital cost (Rs. in Lakh)	31.50	0	0	0	0	0	0	0	
ii	Recurring cost (Rs. in Lakh)	3.20	91.52	105.89	120.24	134.60	134.60	134.60	134.60	
iii	Total cost (Rs. in Lakh)	34.70	91.52	105.89	120.24	134.60	134.60	134.60	134.60	890.75
iv	Benefit (Rs. in Lakh)	0.00	99.00	124.50	142.50	160.50	162.00	162.00	162.00	
v	Total Depreciated value of all assets (Rs. in Lakh)								13.55	
vi	Total benefits (Rs. in Lakh)	0.00	99.00	124.50	142.50	160.50	162.00	162.00	175.55	1026.05
<p>Benefit-Cost Ratio (BCR): 1.15 (Profitable Project)</p> <p>Net Present Worth (NPW): 135.30</p>										

3.22 Break Even Analysis of the Project

Break Even analysis indicates costs-volume-profit relations in the short run. This is the level at which the firm is in no loss no profit situation.

Table 19: Break-Even Analysis									
S.No	Particulars	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year
	Capacity utilization	72 MT (60%)	84 MT (70%)	96 MT (80%)	108 MT (90%)	108 MT (90%)	108 MT (90%)	108 MT (90%)	108 MT (90%)
A	Variable Cost (Rs. in Lakh)								
	Raw Material Consumed	72.00	84.00	96.00	108.00	108.00	108.00	108.00	108.00
	Consumable Spares	7.20	8.40	9.60	10.80	10.80	10.80	10.80	10.80
	Power, Fuel & Other Utilities (Variable)	2.34	2.74	3.13	3.52	3.52	3.52	3.52	3.52
	Factory Salaries & Wages (Variable)	4.59	5.36	6.12	6.89	6.89	6.89	6.89	6.89
	Selling, Packing & Distribution Expenses (Variable)	1.49	1.87	2.14	2.41	2.43	2.43	2.43	2.43
	Interest on Bank Borrowing	1.57	1.92	2.19	2.46	2.48	2.47	2.47	2.47
	Total Variable Cost (Rs. in Lakh)	89.19	104.29	119.18	134.08	134.12	134.11	134.11	134.11
B	Total Income (Rs. in Lakh)	106.37	126.04	143.68	161.68	162.05	161.98	161.98	162.00
C	Contribution (B-A)	17.18	21.75	24.50	27.60	27.93	27.87	27.87	27.89
D	Fixed Cost (Rs. in Lakh)								

	Power, Fuel & Other Utilities (Fixed)	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
	Factory Salaries & Wages (Fixed)	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
	Repairs & Maintenance	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
	Selling, Packing & Distribution Expenses (Fixed)	0.50	0.62	0.71	0.80	0.81	0.81	0.81	0.81
	Depreciation	3.25	2.88	2.57	2.30	2.05	1.82	1.63	1.45
	Administrative & Misc. Expenses	2.97	3.74	4.28	4.82	4.86	4.86	4.86	4.86
	Interest on Term Loan from Bank	2.39	2.06	1.58	1.10	0.62	0.15	0.00	0.00
	Total Fixed Cost (Rs. in Lakh)	13.70	13.89	13.73	13.61	12.93	12.23	11.89	11.71
D	Break Even Point (BEP) as % of installed capacity	47.85%	44.70%	44.83%	44.38%	41.66%	39.49%	38.40%	37.79%

3.23 Projected Cash Flow Statement

Table 3.16: Projected Cash flow statement									
Particulars	Construction period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Sources of funds									
PBT with interest added back	0.00	7.44	11.84	14.54	17.55	18.10	18.26	18.45	18.65
Depreciation	0.00	3.25	2.88	2.57	2.30	2.05	1.82	1.63	1.45
Increase in Proprietor's Capital	5.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Increase in Subsidy	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Increase in Term Loan from Bank	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Increase in Bank Borrowings for WC	0.00	13.06	2.98	2.24	2.23	0.13	0.00	0.00	0.00
Increase in Current Liabilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Preliminary Expenses written off	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	35.90	23.75	17.70	19.35	22.08	20.28	20.06	20.07	20.10
Disposition of funds									
Increase in Capital expenditure	31.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

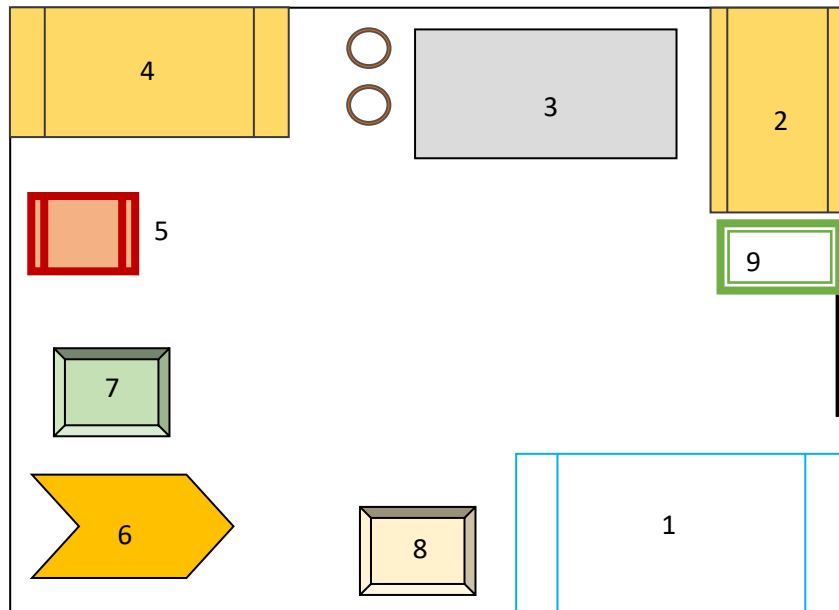
Preliminary Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Increase in Current Assets	0.00	17.42	3.97	2.98	2.98	0.17	-0.02	-0.02	0.00
Decrease in Term Loan from Bank	0.00	1.00	4.00	4.00	4.00	4.00	3.00	0.00	0.00
Interest on Term Loan from Bank	0.00	2.39	2.06	1.58	1.10	0.62	0.15	0.00	0.00
Interest on Working Capital Limit	0.00	1.57	1.92	2.19	2.46	2.48	2.47	2.47	2.47
Taxation	0.00	0.87	1.97	2.69	3.50	3.75	3.91	3.99	4.05
Total	31.50	23.25	13.92	13.44	14.04	11.02	9.51	6.44	6.52
Opening Cash & Bank Balance	0.00	4.40	4.90	8.68	14.59	22.63	31.89	42.44	56.07
Net Surplus/ Deficit	4.40	0.50	3.78	5.91	8.04	9.26	10.55	13.63	13.58
Closing Cash & Bank Balance	4.40	4.90	8.68	14.59	22.63	31.89	42.44	56.07	69.65

3.24 Projected Balance Sheet

Table 3.17: Projected Balance sheet									
Particulars	Construction period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
A. Liabilities									
Proprietor's Capital	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90
Reserves & Surplus	0.00	2.61	8.50	16.58	27.07	38.32	50.05	62.04	74.17
Subsidy	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Term Loan from Bank	20.00	19.00	15.00	11.00	7.00	3.00	0.00	0.00	0.00
Bank Borrowings for WC	0.00	13.06	16.04	18.28	20.51	20.64	20.62	20.61	20.61
Current Liabilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Liabilities	35.90	50.57	55.44	61.76	70.48	77.86	86.57	98.55	110.68
B. Assets									
WDV of Fixed assets	31.50	31.50	28.25	25.37	22.80	20.50	18.45	16.63	15.00
Less : Depreciation	0.00	3.25	2.88	2.57	2.30	2.05	1.82	1.63	1.45
Net Fixed Assets	31.50	28.25	25.37	22.80	20.50	18.45	16.63	15.00	13.55

Current Assets	0.00	17.42	21.39	24.37	27.35	27.52	27.50	27.48	27.48
Cash & Bank Balance	4.40	4.90	8.68	14.59	22.63	31.89	42.44	56.07	69.65
Preliminary Expenses not written off	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Assets	35.90	50.57	55.44	61.76	70.48	77.86	86.57	98.55	110.68
Current Ratio		1.71	1.87	2.13	2.44	2.88	3.39	4.05	4.71
Debt Equity Ratio	1.26	1.03	0.61	0.34	0.16	0.06	0.00	0.00	0.00

3.25 Plant Layout



- | | |
|--------------|------------------|
| 1 Storage | 6 Grinder |
| 2 Washer | 7 Sieving |
| 3 Slicer | 8 Packing |
| 4 Dryer | 9 Weighing scale |
| 5 Work table | |

CHAPTER 4

LIMITATIONS OF THE MODEL DPR AND GUIDELINES FOR ENTREPRENEURS

4.1. Limitations of the Model DPR

- i. This model DPR has provided only the basic standard components and methodology to be adopted by an entrepreneur while submitting a proposal under the Formalization of Micro Food Processing Enterprises Scheme of MoFPI.
- ii. This is a model DPR made to provide general methodological structure not for specific entrepreneur/crops/location. Therefore, information on the entrepreneur, forms and structure (proprietorship/partnership/cooperative/ FPC/joint stock company) of business, background of proposed project, location, raw material base/contract sourcing, entrepreneur's own SWOT analysis, market research, rationale of the project for specific location, community advantage/benefit, employment generation etc are not given in detail.
- iii. The present DPR is based on certain assumptions on cost, prices, interest, capacity utilization, output recovery rate and so on. However, these assumptions in reality may vary across places, markets and situations; thus the resultant calculations will also change accordingly.
- iv. This particular DPR is made on three components of means of finance i.e. grant, owner's contribution and loan/debt as followed in many central sector schemes.

4.2. Guidelines for the Entrepreneurs

- i. The success of any prospective food processing project depends on how closer the assumptions made in the initial stage are with the reality of the targeted market/place/situation. Therefore, the entrepreneurs must do its homework as realistic as possible on the assumed parameters.
- ii. This model DPR must be made more comprehensive by the entrepreneur by including information on the entrepreneur, forms and structure (proprietorship/partnership/cooperative/ FPC/joint stock company) of entrepreneur's business, project location, raw material base/contract sourcing, entrepreneurs own SWOT analysis, detailed market research, comprehensive product mix based on demand, rationale of the project for specific location, community advantage/benefit from the project, employment generation,

production/availability of the raw materials/crops in the targeted area/clusters and many more relevant aspects for acceptance and approval of the competent authority.

iii. The entrepreneur must be efficient in managing the strategic, financial, operational, material and marketing aspects of a business. In spite of the assumed parameter being closely realistic, a project may become unsustainable if the entrepreneur does not possess the required efficiency in managing different aspects of the business and respond effectively in changing situations.

iv. The machineries should be purchased after thorough market research and satisfactory demonstration.

v. The entrepreneur must ensure uninterrupted quality raw materials' supply and maintain optimum inventory levels for smooth operations management.

vi. The entrepreneur must possess a strategic look to steer the business in upward trajectory.

vii. The entrepreneur must maintain optimum (not more or less) inventory, current assets. Selecting optimum source of finance, not too high debt-equity ratio, proper capital budgeting and judicious utilization of surplus profit for expansion is must.

viii. The entrepreneur must explore prospective markets through extensive research, find innovative marketing strategy, and maintain quality, adjust product mix to demand.

ix. The entrepreneur must provide required documents on land, financial transaction, balance sheet, further project analysis as required by the competent authority for approval.

x. The entrepreneur must be hopeful and remain positive in attitude.

ANNEXURE**List of Suppliers of Machinery and Equipment**

S.No	Supplier details	Machinery/ Equipment
1.	Perfura Technologies (India) Private Limited 7, Maruthamalai Gounder Layout Ramakrishnapuram, Ganapathy Pudur, Coimbatore- 641006, Tamil Nadu +91 80489 66267	Pulverizer
2.	Accelor Food Tech Pvt Ltd 22, RVL Nagar, Uppilipalayam Post, Coimbatore – 641 015, Tamil Nadu, India. +91 – 99944-11095 info@accelorfoodtech.com	Washer, tray dryer
3.	Zigma International SF. No. 25, Veerakeralam (Po), Vedapatti Road, Coimbatore - 641007, Tamil Nadu.	Pulverizer; Drying machinery; Sieving equipment
4.	SP Automation and Packaging Machines, 64, Athipalayam Rd, Ramakrishnapuram, Chinnavedampatti, Coimbatore - 641006, Tamil Nadu +91 80489 79085	FFS machine; different packaging machinery
5.	Ace Pack Machines 23, V. N. Industrial Estate, Bharathi Colony Rd, Sri Kamadhenu Nagar, Coimbatore - 641004 Tamil Nadu +91 80489 85386	FFS machine
6.	Sri Karpagam Engineering 39A, Lakshman Gounder Street, 2nd Cross Sanganoor, Coimbatore - 641027, Tamil Nadu +91 80460 56077	SS work tables, trolleys, bins, trays

