



SOYBEAN PROCESSING UNIT

NODAL TRAINING INSTITUTE

Regional Institute of Co-operative Management,
Chandigarh.

SUBMITTED UNDER

Agri-Clinics and Agri-Business Centers (ACABC) Scheme
(Ministry of Agriculture & Farmers Welfare, Government of India)

SUBMITTED BY

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CONTENTS

CHAPTER NO.	PARTICULARS	PAGE NO.
I.	HIGHLIGHTS OF THE PROJECT REPORT	
	A. About the Promoter	3
	B. Project Profile	4
II.	PROJECT DESCRIPTION	5
III.	MARKET POTENTIAL	6
IV.	EXTENSION ACTIVITIES	7
V.	SWOT ANALYSIS	8
VI.	ECONOMICS OF THE PROJECT	
	A. Basis & Presumptions	10
	B. Total Cost of Project	11
	C. Means of Finance	12
	D. Projected Profitability	13
	E. Financial Analysis	14
	F. Term Loan Repayment	15

CHAPTER - I
HIGHLIGHTS OF THE PROJECT REPORT

A. ABOUT THE PROMOTER

PARTICULARS	ABOUT THE PROMOTER
1. Name	: Sagar Sawant
2. Address	: A/P Gadhinglaj, Dist.-Kolhapur.
3. Contact number	: 9766308897
4. Date of birth	: 14 Sep
5. Educational qualification	: MBA
6. Project location	: A/P Gadhinglaj, Dist.-Kolhapur, Maharashtra
7. Professional Experience	: 9 years
8. Constitution	: Proprietorship

B. PROJECT PROFILE (FINANCIAL)

PARAMETERS	VALUES
PARAMETERS	VALUES
1. Type of Project	SOYA PANEER (TOFU)
2. Unit size in sq.m. Medium Scale	300 Sq ft
3. Product	Plants
4. Cost of the project	5,65,000
5. Bank loan	5,65,000
6. Margin money Land	Land
7. Financial Indicators BCR at 15% DF 1.81:1	1.37
NPW 15%	32,83,442
IRR (%)	14.36%
DSCR	18.85
8. Interest rate (% per annum)	12%

CHAPTER - II

PROJECT DESCRIPTION

Soya Milk is an inexpensive and remarkably versatile high protein food made from soya beans. It is a white liquid made from the seed. Unlike most other protein foods, milk is entirely free from cholesterol and low in fat (specially saturated fats). The quality of protein is as high as that found in chicken. It is also good for dieters as this contain low calories. It is an excellent food for babies, children, elderly people, pregnant and lactating women since it contains vegetable protein which is very nutritious and easy to digest. Soya milk and its derivatives are the cheapest source of protein, its derivatives tofu (soya paneer) makes tasty dishes like matar paneer, Palak paneer etc. and snacks like soya burger, patties, sandwiches, pakoras etc. and also used in desserts.

PRODUCT BENEFITS

It's a good source of potassium and can be fortified with Vitamins A, B-12 and D as well as Calcium. It contains as much protein as Cow's Milk, yet is lower in calories than the whole milk and about equal to the calories in 1 percent or 2 percent milk. It contains very little saturated fats.

Richest source of protein ,Improves Immune system,Boost heart ,health - Cholesterol free,
Excellent diet for infants,Controls Diabetes,Reduces the risk of cancer,Strengthens the bones
Reduces the risk of atherosclerosis

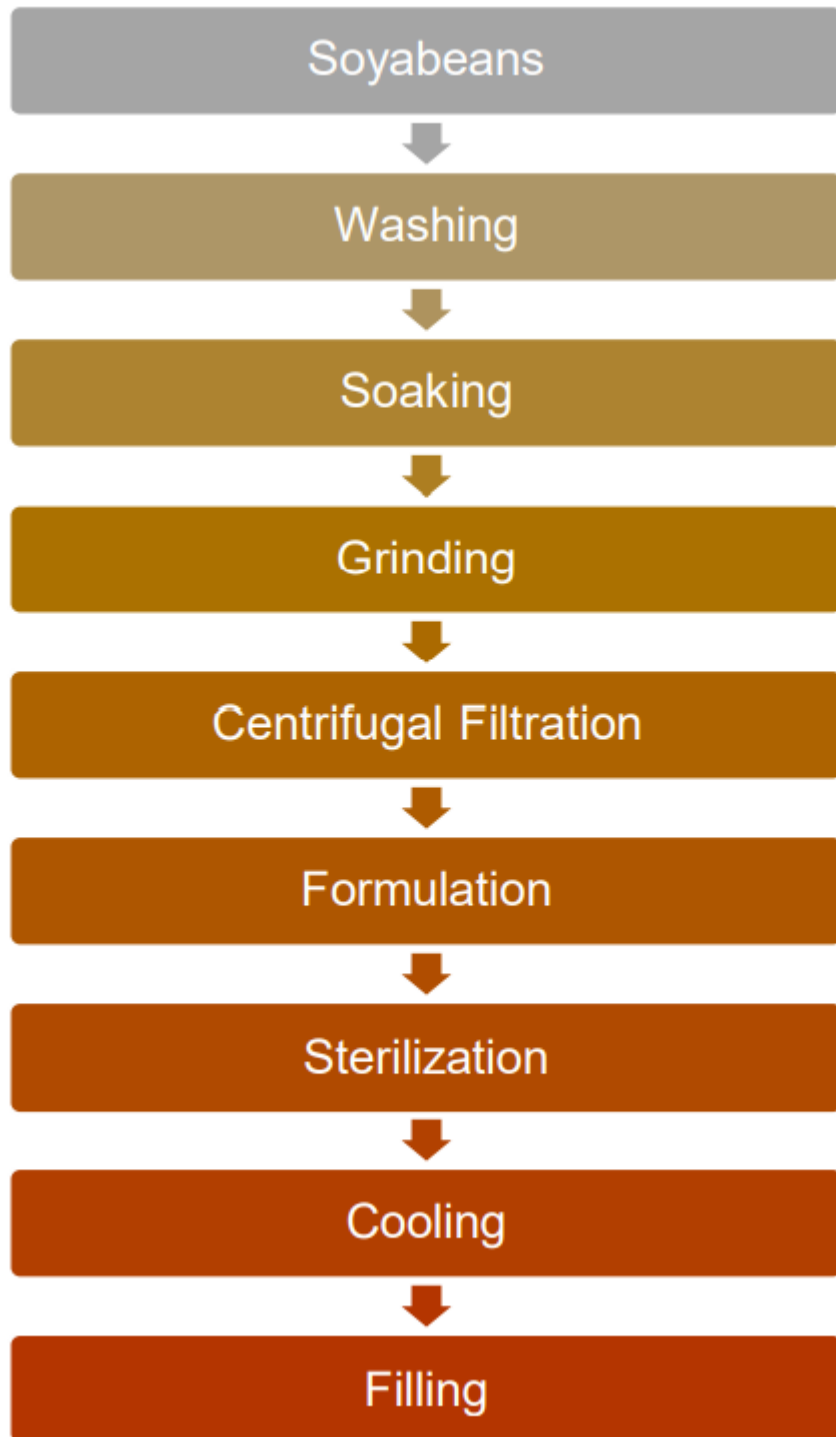
RAW MATERIAL

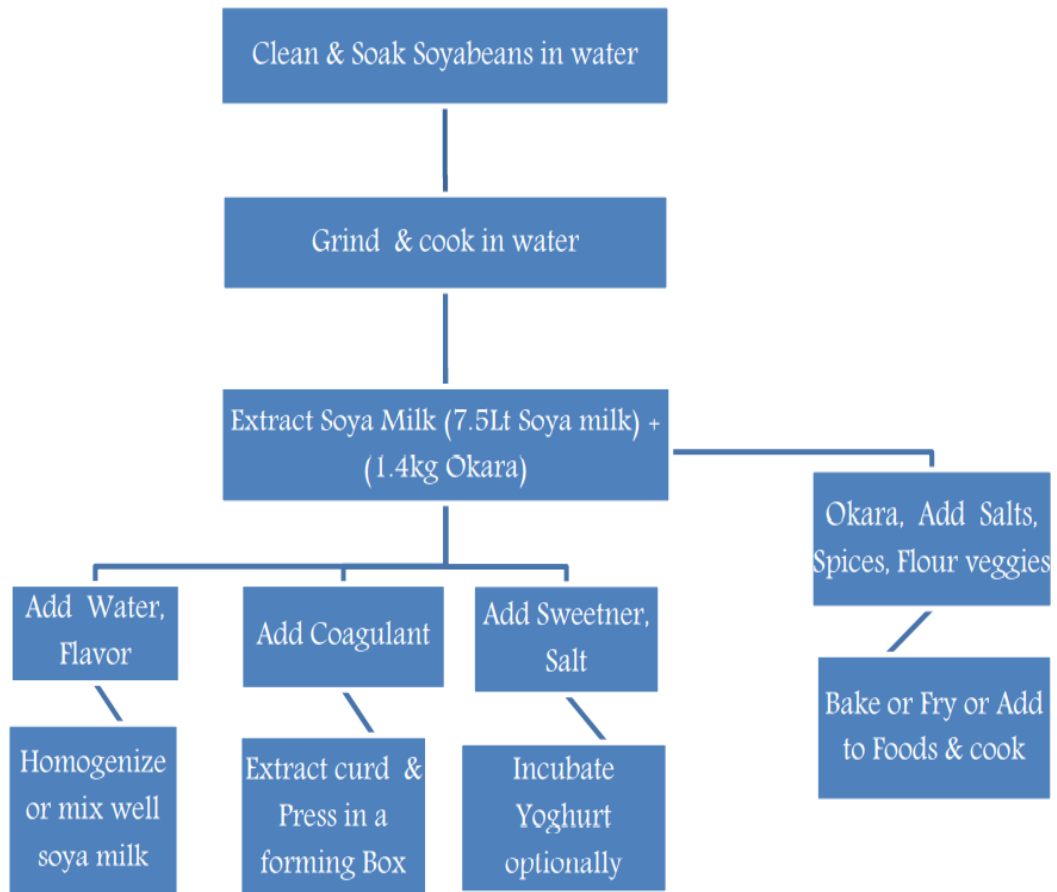
Basic Raw material requirement are as follows:

1. Soya bean
2. Chemicals, flavours, colour and other material etc.
3. Packaging material for milk ,Curd ,Paneer, Lassi etc.





MANUFACTURING PROCESS


Soya milk is made from whole soya beans or full-fat soya flour. The dry beans are soaked in water for a minimum of three hours up to overnight depending on the temperature of the water. The rehydrated beans then undergo wet grinding with enough added water to give the desired solids content to the final product which has a protein content of 1–4%, depending on the method of production. The ratio of water to beans on a weight basis is 10:1 for traditional soya milk. The resulting slurry or purée is brought to a boil in order to improve its taste properties by heat inactivating soybean trypsin inhibitor, improve its flavour, and to sterilize the product. Heating at or near the boiling point is continued for a period of time, 15–20 minutes, followed by the removal of insoluble residues (soya pulp fibre) by filtration. Processing requires the use of an anti-foaming agent or natural defoamer during the boiling step. Bringing filtered soya milk to a boil avoids the problem of foaming. It is generally opaque, white or off-white in colour, and approximately the same consistency as cow's milk. Raw soya milk may be sweetened, flavoured, and fortified with micronutrients. Once fully processed, soya paneer products are typically sold in plastic-coated cartons, such as tetra packs.





Soya processing unit

<p>SS Soya Bean Grinder and Milk separator</p>	<p>This instrument grinding row soya bean and converting in to liquid milk form</p>	
<p>Soya milk sterilizer</p>	<p>a) Boiling up to 100 °C by LPG. b) Soya milk auto transfer from milk tank.</p>	
<p>Steam Boiler</p>	<p>a) Creating steam for heat soya milk. b) Auto transfer to hear milk.</p>	
<p>Manual Press</p>	<p>a) Help to remove water form culture. b) Creating in Block form</p>	

<p>Vacuum pack Machine</p>	<p>a) Sucking excess air from packet during packing activity. b) Help to increase self-life.</p>	 A stainless steel vacuum pack machine on wheels. The machine has a control panel on the front with a pressure gauge, several buttons, and a digital display. A CE mark is visible on the top left of the machine's front panel. The machine is positioned against a red wall.
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CHAPTER – III

MARKET POTENTIAL

With the increasing health consciousness among the general people, the use of soybean is getting acceptance in the form of textured vegetable protein (popularly known as Soya baadi or Soya nuggets), Soya fortified wheat flour, Soya milk, Tofu and Soya curd etc. Being mainly the country of vegetarians, India has indeed a very great potential for Soya milk, paneer and curd. Experts predict that the Soya food industry will grow 20% annually over the next few years.

AVAILABLE MARKET LIKE:

- Hotels / restaurants
- Online food delivery
- Food kiosk / snacks hut
- Catering industry
- Hospital canteens
- Boys / girls mess
- Retail house hold market
- Super markets/stores
- Gym
- Sports training centers
- Pub bar & many more.

CHAPTER – IV

EXTENSION ACTIVITIES

1. Starting the Soybean processing business requires planning and preparation. Before starting a Mushroom production the entrepreneurs/ farmers are generally advised to undergo training. They can contact related training centers / Agriculture University etc. for the purpose. However availability of training facilities & resources are inadequate. Hence I will provide onsite training on Soybean processing business to farmers.
2. Consultancy will be provided for setting up of model of units of Soybean processing business .
3. I will take Initiatives to strengthen linkages between State Departments, Mushroom Development agencies, NGO's and farmers.
4. For farmers who have decided to avail loan from bank for units of Soybean processing business, assistance will be provided to prepare their bankable project report.
5. For the marketing of Soy products, farmers will be provided necessary support & guidance.
6. Nowadays internet has become important tool to get latest information. There are various websites available on Soybean processing business which provides useful content. This information will be shared to farmers.
7. Field visits of Soybean processing units growers will be arranged & research stations which will motivate them to adapt good mushroom production practices.

CHAPTER – V
SWOT ANALYSIS

STRENGTH	WEAKNESS
<ul style="list-style-type: none"> • Abundance availability of Soybeans in India. • Soy milk and other soy products are New and exciting concept. • Healthy alternative to dairy milk. • Recognized by the FDA for the role in supporting heart health. • Cheaper. • 50 % more calcium than dairy milk, Zero cholesterol, Lower calories, Less Fat. • Being an untouched market, there is a wide scope of growth. 	<ul style="list-style-type: none"> • First timer. • Low awareness of Soy milk and other soy products. • Not as trusted as dairy alternative. • Availability.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Growing trend in society to use healthy products. • Less numbers of competitors. • Can focus it as a nutrient rich beverage and products. • Rapid acceptance by health conscious people. • Can be launched in different flavors. • Easy promotion. 	<ul style="list-style-type: none"> • Difficult to break strong dairy culture in India. • New competitors entering field since organic eating is trendy. • Many myths surrounding the consumption of soy (estrogen in soy etc.). • Trust and personal selling relationship between of Indian families and milkmen.

A. BASICS AND PRESUMPTIONS

PARTICULARS	UNIT	QUANTITY
I. Technical Parameters		
1. Soya paneer preparation	kg	100
2. Batch per day	No	3
3. Batch size	Kg	33.3
4. Soyabean require	Kg	70
5. Total milk for 70 kg	Ltr's	490
II. Economic Parameters		
1. Cost of construction of room (8 x 4 ft)	Rs./sq.ft.	250
2. Cost of Soyabean	Rs./Kg	40
3. Cost of power for one unit	Rs./Unit	6
III income Norms		
1. Tofu market price	Rs./kg	120
2. Cost of Portion powder	Rs./kg	10

B. TOTAL COST OF PROJECT

PARTICULARS	UNIT	UNIT RATE Rs	QUANTITY	AMOUNT Rs.
I. Capital Cost				
1. Land and Site Development				
Land				Own
Site development	Ls.			10,000
2. Building				
Production Line shed	Sq.ft	250	320	80,000
Store Room	Sq.ft	250	80	20,000
3. Machinery & Equipment's	Ls.			4,50,000
4. Furniture	Ls.			5000

Total Cost for Project

5,65,000

I. Working Capital (One Batch requirement)

PARTICULARS	UNIT	UNIT RATE Rs	QUANTITY	AMOUNT Rs.
a. Soyabean	Kg.	40	70	2800
b. Fuel/LPG Gas	Rs./unit	60	02	120
c. Fuel/Power cost	Rs./Unit	06	05	30
d. Water, Chemicals	Rs./Lit	0.50	1000	500
e. Labour Charge	Rs./Hrs	30	16	480
f. Marketing + Transportation	Lumpsum			500
				TOTAL (B)4430

Total Cost for Project

Rs.

Total (A+B) = 5,69,430

C. MEANS OF FINANCE

Own Land

D. PROJECTED PROFITABILITY

(Value in Rs.)

PARTICULARS	UNIT	UNIT RATE	QUANTIT Y	IYEAR	IIYEAR	IIIYEAR	IVYEAR	VYEAR
I. INCOME								
Capacity utilized	%			60	100	100	100	100
Yield per Year	Kg.	120	36500	26,28,000	43,80,000	43,80,000	43,80,000	43,80,000

Soya processing unit

			TOTAL	26,28,000	43,80,000	43,80,000	43,80,000	43,80,000
II. EXPENDITURE								
1. Soyabean	Kg.	40(25550)	6,13,200	10,22,000	10,22,000	10,22,000	10,22,000	10,22,000
2. Chemical	Rs./Kg	100	6000	10,000	10,000	10,000	10,000	10,000
5. Packing material	Rs./Kg	1	21900	36500	36500	36500	36500	36500
7. Fuel/power cost, water	Rs./Kg	2	43800	73000	73000	73000	73000	73000
8. Labour charges	Rs./ Kg	2	43800	73000	73000	73000	73000	73000
9. Marketing expenses	Rs./ Kg	2	43800	73000	73000	73000	73000	73000
10. Transportation	Rs./ Kg	1	21900	36500	36500	36500	36500	36500
			TOTAL	7,94,400	13,24,000	13,24,000	13,24,000	13,24,000
III. NET INCOME				18,33,600	30,56,000	30,56,000	30,56,000	30,56,000

E. FINANCIAL ANALYSIS

PARTICULARS	I YEAR	II YEAR	III YEAR	IV YEAR	V YEAR	TOTAL
Capital costs	5,65,000					
Recurring costs	7,94,400	13,24,000	13,24,000	13,24,000	13,24,000	
TOTAL COST	13,59,400	43,80,000	43,80,000	43,80,000	43,80,000	
Benefit	12,68,600	30,56,000	30,56,000	30,56,000	30,56,000	
Depreciated value of buildings @10%					10000	
Depreciated value of equipments & furniture @15%					2,00,000	
TOTAL BENEFIT	12,68,600	30,56,000	30,56,000	30,56,000	32,66,000	

Soya processing unit

NET BENEFIT	90,800	13,24,000	13,24,000	13,24,000	11,14,000	
Discounting Factor @15%	0.87	0.76	0.66	0.57	0.5	
NPV cost at 15% DF	11,82,678	33,28,800	28,90,800	24,96,600	21,90,000	1,20,88,878
NPV benefits at 15% DF	10,90,996	23,22,560	20,16,960	17,41,920	16,33,000	88,05,436
NPW at 15% DF	32,83,442					
BCR at 15% DF	1.37					
IRR%	14.36					

F. TERM LOAN REPAYMENT

Rate of interest - % per annum :	12
Opening balance of term loan :	5,65,000

Year	Loan	Net Income	Principal	Interest	Total Repayment	DSCR
1	5,65,000	18,33,600	1,13,000	67,800	1,80,800	10.14
2	4,52,000	30,56,000	1,13,000	54,240	1,67,240	18.27
3	3,39,000	30,56,000	1,13,000	40,680	1,53,680	19.89
4	2,26,000	30,56,000	1,13,000	27,120	1,40,120	21.81
5	1,13,000	30,56,000	1,13,000	13,560	1,26,560	24.15
					Average DSCR	18.85