



***Hon. Balasaheb Thackeray Agri Business and
Rural Transformation(SMART) Project***

Detailed Project Report

Project Name: To Develop Maize Value Chain

Promoters

BR PATIL AGRO FARMER PRODUCER COMPANY LTD.,

A/P KANDE,

TALUKA- SHIRALA, DISTRICT. SANAGLI

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Part-1 Preliminary information of community based organization

1.1 General information of the organization: -

1	Name of community based organization	BR PATIL AGRO FARMER PRODUCER COMPANY LTD.,
2	Address	A/P.KANDE TAL.SHIRALA, DIST.SANGLI
3	Details of responsible persons	Mr.AbhijitBalsoPatil Designation : Chairman Mob. 9766431854 Email : abhijitpatilkande@gmail.com

1.2 Regarding registration of organization

1	Type of organization (should be marked ✓ in the right place)	Farmer Producer Company
2	Is the organization registered?	Yes
2.1	If yes, under what law	2013 Company act
2.2	Year and registration number of the organization	• Registration Number U01110PN2021PTC205955
3	Organization PAN	AAKCB2903L
4	Udyog Aadhar number	
5	Registered Capital of the Society (Rs. Lakhs)	1,00,00,000
6	Capital Accumulated Capital (in Rs. Lakhs)	1,00,00,000

1.3 Details of the members of the Board of Directors

Sr No	Director Name	Male/Female	Social Category	Designation	Land holding (Acres.)	Education	Pan Card	Aadhar Card Number	Contact Number
1	Abhijit BalsoPatil	M	OBC	Chairman	2.00	BA.	DPUPP0760J	7431 7080 8241	9766431854
2	RanjeetShahjiPatil	M	Gen.	Director	2.50	BCA	COAPP0187A	7196 1751 6843	9923357400
3	Satish PanditraoPatil	M	Gen.	Director	2.00	BA	GCRPP6961E	7811 9275 0441	9764221616
4	RekhataiBalsoPatil	F	Gen	Director	2.00	SSC	DEQPP6926B	8047 2730 3693	9766431854
5	Pravin BhimraoSawant	M	Gen.	Director	-	HSC	FLMPS4690L	8978 3673 8166	9325503834

1.4 Details of the members of the Board of Directors who have already undergone training in running the business.

Sr.No	Name of training	Duration (days)	Organizer	Main Topic	Names of participating members of the Board of Directors
1					
2					

1.5 Details of members / shareholders of community based organization (number)

Total Members	Female	Male	SC	ST	Marginal / marginal land holder (0-1 ha)	Short / small land holder (1-2 ha)	Medium land holder (2-5 ha)	farmers (More than 5 hectares)	Farmer on lease basis	Landless
260	55	205	10	0	240	5	0	0	0	15

1.6 Details of other participating organizations (If more than one organization is the promoter, details of other affiliated organizations should be given in the table below)

SrNo	Name of Organization	Address	Contact Person	Mobile	Number of Members
			-		

1.7 Details of immovable and movable property owned by the organization

Sr.No	Asset type	Unit	Total Unit	Market Value/Unit	Total Market Value (Rs.)
A	Immoveable Asset				
1	Tangible Fixed Asset	-			0
	Total				0
B	Movable Asset				
1	Inventories				0
2	Trade Receivables				0
3	Cash And Bank Balance				0
4	short term loan and advance				0
5	other current assets				0
	Total				0
	Grand Total				0

Note: In the above table, the various properties of the organization such as land, building, collection center, cleaning and grading machinery, process related machinery, other tools, equipment and machinery, warehouse, vehicle, furniture, information and technology related materials such as computer, printer etc.

1.8 Regarding business licenses from the organization (DML, Industry Support, Shop Act, and other business related licenses)

SrNo	Types of Licenses	Name of Concern Authority	License Number	Valid till
1.	Udyog Aadhar	MSME		

1.9 Current occupations, activities and participating farmers of the organization (previous financial year 2020 to 2021)

Sr.No	Business/Project	Number of Participated Farmers	
		Members of the Society	Non Members of the Society
A	Consolidation and sale of agricultural commodities		
1	Maize	260	100
2			
B	Primary Processing on Agricultural Products (Grain Hygiene and Grading)		
C	Fertilizer B - Seed and other inputs sold		
1			
2			
D	Seed production		
1			
2			
E	Others (e.g. process, direct sale, tool bank, etc.)		
1			
2			

1.10 Turnover of the last three years of the organization

Details	F.Y.2021-22	F.Y.2020-21	F.Y.2019-20
Annual Turnover (Rs. Lakhs)	6.98	-	-

Part 2 Crop selected for sub-project, value chain of farm produce available for sale

Crop: Maize:



Maize (*Zea mays* L.) is one of the most versatile emerging crop shaving wider adaptability under varied agro-climatic conditions. Globally, maize is known as queen of cereals because it has the highest genetic yield potential among the cereals. It is cultivated on nearly 190 m ha in about 165 countries having wider diversity of soil, climate, biodiversity and management practices that contributes 39 % in the global grain production. The United States of America (USA) is the largest producer of maize contributes nearly 36% of the total production in the world and maize is the driver of the US economy. In India, Maize is grown throughout the year. It is predominantly a kharif crop with 85 per cent of the area under cultivation in the season. Maize is the third most important cereal crop in India after rice and wheat. It accounts for around 10 per cent of total food grain production in the country. In addition to staple food for human being and quality feed for animals, maize serves as a basic raw material as an ingredient to thousands of industrial products that includes starch, oil, protein, alcoholic beverages, food sweeteners, pharmaceutical, cosmetic, film, textile, gum, package and paper industries etc.

Nutritional value of maize/corn is given in table

Content	Percentage dry matter basis
Starch	71 – 72
Proterin	9 – 10
Fat	4 – 45
Fiber	9 – 10
Sugar	2 – 3
Minerals (ash)	1.4

ORIGIN:

Central America and Mexico where many diverse types of maize are found are considered to be the primary centre of origin. It's production in India probably occurred about the beginning of the seventeenth century, during the early days of the East India Company

TYPES OF CORN:

1. **Zea mays indurata or 'flint corn'**: Kernel is soft and starchy in the center and completely enclosed by a very hard outer layer. The kernels are usually rounded but are some times short and flat. Colour may be white or yellow. This is the type most commonly cultivated in India.
2. **Zea mays indentata or 'Dent corn'**: Kernels have both hard and soft starches. The hard starch extends on the sides and the soft starch is in the center and extends to the top of the kernels. In the drying and shrinking of the soft starch, various forms and degrees of indentation result. This is the most common type of maize grown in U.S.A.
3. **Zea mays everta or 'Pop corn'** : It possess exceptional popping qualities. Size of the kernels is small but the endosperm is hard. When they are heated, the pressure built up within the kernels suddenly results in an explosion and the grain is turned inside out.
4. **Zea mays saccharata or 'Sweet corn'** : Kernels possess a considerable amount of sugar, which absorbs water, making the cells turgid. On drying, these cells collapse, making the grains shrivelled or wrinkled. It has sweeter taste than other corns.
5. **Zea mays amylacea or 'Soft corn'** :Kernels are soft and of all colours, but white and blue are the most common. They are like flint kernels in shape.
6. **Zea mays tunicata or 'Pod corn'**: The pod corns are characterized by having each kernel enclosed within a pod or husk. It is a primitive type of corn, having less importance.
7. **Zea mays CeratinaKulesh or 'Waxy Corn'** :The kernel when cut or broken gives a waxy appearance. It produces the starch similar to tapioca starch for making adhesive for articles.

Areas of Cultivation:

Major Maize growing states in India are Karnataka, Madhya Pradesh, Bihar, Tamil Nadu, Telangna, Maharashtra and Andhra pradesh.

India's Production:

Production of maize is estimated to be 21,810 thousand tonnes in 2015-16.

2.0 MAJOR PRODUCING STATES IN INDIA:

India is one of the major producing countries of maize. It is grown in almost all states of the country, prominently northern and western states. In the year

2002-03, Madhya Pradesh occupied the highest position in production of maize with 1.50 thousand tonnes of production (14.56%). Share of other states in production was Andhra Pradesh (14.47%), Karnataka (13.69%), Rajasthan (8.45%), Uttar Pradesh (8.16%), Gujarat (7.67%), Maharashtra (7.18%), Himachal Pradesh (4.66%), Jammu & Kashmir (4.56%), and Bihar (4.37%).

In regards to Area under Maize, during 2002-03, Rajasthan ranked first with 0.98 thousand hectares (15.58%), followed by Madhya Pradesh (13.51%), Uttar Pradesh (12.08%), Karnataka (10.33%), Andhra Pradesh (8.43%), Gujarat (7.31%), Maharashtra (5.88%), Jammu & Kashmir (5.15%), Himachal Pradesh (4.77%), and Bihar (4.13%). While productivity is concerned during 2002-03, Andhra Pradesh ranked first with 2825 Kg/ha, followed by Karnataka (2164 Kg/ha.), Punjab (2039 Kg./ha), Maharashtra (2004 Kg./ha.), West Bengal (1996 Kg./ha.). National Productivity was 1642 Kg./ha.

2.1 POST- HARVEST MANAGEMENT

3.0 POST-HARVESTLOSSES:

It is estimated that about 2.45 percent of maize is lost at farmers' level during harvesting, threshing, winnowing, transportation and storage.

TO MINIMISE POST HARVEST LOSSES, THE FOLLOWING MEASURES SHOULD BE FOLLOWED.

- ◆ Maize cultivated for obtaining kernels (grains) should be harvested when the kernels are matured with 25 to 30 percent moisture.
- ◆ Use proper method of harvesting.
- ◆ Dry the cobs immediately before threshing and kernels should be dried sufficiently before storage.
- ◆ Losses in threshing and winnowing should be avoided by using proper machineries.
- ◆ Follow sanitation during drying, packing and handling to avoid contamination of kernels and protect from insects, rodents and birds etc.
- ◆ Use proper techniques for cleaning and further processing.
- ◆ Adopt grading practices for proper evaluation and obtaining better price.
- ◆ Use strong, and free from infestation packaging material for storage and transport.

- ◆ Use proper scientific technique in storage for maintaining optimum moisture content.
- ◆ Use pest control measures (fumigation) before storage.
- ◆ Provide aeration to stored grain and stir grain bulk occasionally.
- ◆ Use proper techniques while handling (loading & unloading), good and fast transport to avoid losses during transport.

3.1 POST-HARVEST EQUIPMENTS:

To obtain good quality of maize grains, it is necessary to harvest the crop at proper time i.e. after attaining the full maturity. In regions where the maize is cultivated on small scale, harvesting is done by manual labourers. However, on large scale threshing and winnowing is done by machines.

The suitable machinery viz. Harvesters, threshers, winnowers etc. should be used for harvesting, threshing and winnowing.

POST-HARVEST EQUIPMENTS:

a) CIAE Multi-crop Thresher:

It consists of spike tooth cylinder, aspirator type blower and sieve shaker. Two top covers, three concaves, three sieves, variable cylinder speed (7-21m/s) are provided for threshing. It saves 26-39 percent labour and 22 percent on cost of operation compared to threshing by single crop thresher. Its threshing capacity is 1635 kg/hour.

B) SEMI-AXIAL FLOW MULTI CROPTHRESHER:

It consists of spike-tooth cylinder, aspirator type blower and sieve shaker. It works on axial flow principle but crop flow is restricted by inserting a semicircular plate between cylinder and thrower. It saves 27-40 percent labour and operating time and 19 percent on cost of operation compared to conventional spike tooth thresher. Its output capacity is 1350kg/hour.

C) CIAE HIGH CAPACITY MULTI-CROPTHRESHER:

It consists of a spike tooth cylinder, three aspirator blowers, cleaning sieves and automatic feeding and bagging systems. The thresher is provided with accessories such as extra pulleys, concaves and sieves for threshing different crops. It saves 50 percent labour and operating time and 54 percent cost of operation compared to conventional spike tooth thresher. Its output capacity is 2890kg/hour.

D) TUBULAR MAIZE SHELLER :

It is manual hand operated sheller suitable for shelling maize from dehusked cobs. Shelling is done by holding the Sheller in left hand and gradually inserting the cob in to the sheller by right hand with little forward and backward twist.

3.2 GRADING:

Grading is the process of sorting of produce according to the grades or classes. In case of maize, the quality factors such as moisture content, foreign matter, other food grains, admixture of other varieties, damaged grains, immature grains, weevilled and shrivelled grains are considered while grading. The farmers, in order to improve the quality of produce and obtain better price, clean the maize with sieves to remove the dust, broken grains and small size shrivelled grains etc. The buyers offer the price on the basis of visual inspection of the lot or available sample considering above mentioned quality factors.

3.2.1 GRADE SPECIFICATIONS:

i) Specifications under AGMARK:

Under the Agricultural Produce (Grading and Marking) Act 1937, the national standards for maize are notified, considering the quality factors like a) moisture, b) foreign matter, c) other food grains, d) admixture of different varieties, e) damaged grains, f) immature grains, and g) weevilled and shrivelled grains.

A) GENERAL CHARACTERISTICS :

Maize shall :-

- a) be the dried mature grains of *Zea mays* L.;
- b) be sweet, hard, clean, wholesome, uniform in size, shape, colour and in sound merchantable condition;
- c) be free from added colouring matter, moulds, weevils, obnoxious substances, discolouration, poisonous seeds and all other impurities except to the extent indicated in the schedule;
- d) Uric acid and aflatoxin shall not exceed 100 milligrams and 30 micrograms per kilogram respectively;
- e) be free from rodent hair and excreta;
- f) Comply with the restrictions in regard to pesticides/insecticides residue (Rule 65), poisonous metals (Rule 57), naturally occurring toxic substances (Rule 57-B) and other provisions prescribed under the Prevention of Food Adulteration Rules, 1955 amended from time to time.

Note : In foreign matter, the impurities of animal origin shall not be more than 0.10 per cent by weight.

B) SPECIAL CHARACTERISTICS

Grade designation	Maximum limits of tolerance (per cent by weight)							
	Moisture	Foreign matter		Other Edible Grains	Admixture of different varieties	Damaged Grains	Immature And shrivelled Grains	Weevilled Grains (Per cent by count)
		Organic	Inorganic					
Grade I	12.00	0.10	Nil	0.50	5.00	1.00	2.0	2.0
Grade II	12.00	0.25	0.1	1.00	10.00	2.00	4.0	4.0
Grade III	14.00	0.50	0.25	2.00	15.00	3.00	6.0	6.0
Grade IV	14.00	0.75	0.25	3.00	15.00	4.00	6.0	8.0

3.5 STORAGE:

Requirements for safe and scientific storage :

Following requirements should be considered for safe and scientific storage of maize:

- I **Selection of site:** The storage structure should be located on a raised well drained site. It should be easily accessible. The site should be free from water logging, dampness, excessive heat, insects, rodents, termites etc.
- II **Selection of storage structure:** The storage structure should be selected according to the quantity of maize or maize products to be stored and the period of storage. In godowns sufficient space should be provided between two stacks, between stacks and walls, so that proper aeration can be available.
- III **Cleaning and fumigation:** Before, storage of maize, godown/structure should be properly cleaned and fumigated. There should be no cracks, holes or crevices in the structure.
- IV **Drying and cleaning grains:** Before storage maize grains should be properly dried and cleaned to avoid quality deterioration.
- V **Cleaning of bags:** Always use new gunny bag. In case of second hand gunny bags, it should be disinfested by boiling in one percent Malathion Solution for 3 to 4 minutes and fully dried.
- VI **Separate storage of new and old stock:** to prevent contamination from the old stock to new stock, it is advised to store them separately.
- VII **Proper aeration:** Proper aeration should be provided during dry and clean weather but care should be taken to avoid aeration in rainy season to protect the stock from moisture.

VIII Cleaning of vehicles: The vehicles used for transportation of maize should be cleaned by phenyl to avoid infestation.

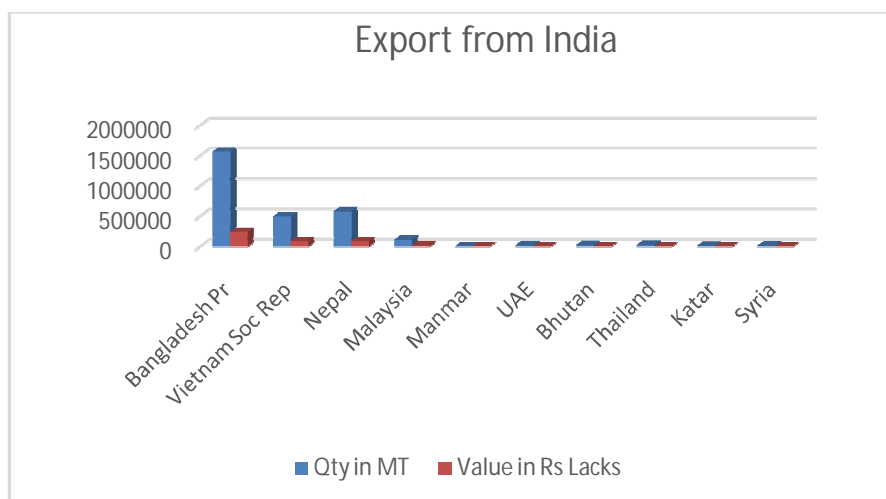
Regular inspection: To maintain proper health and hygiene of stock regular inspection of stored maize is necessary. Periodic fumigation should be carried out in case of long storage.

Exports:

The country has exported 28,79,202.93 MT of maize to the world for the worth of Rs. 4,675.78 crores/ 634.85 USD Millions in 2020-21.

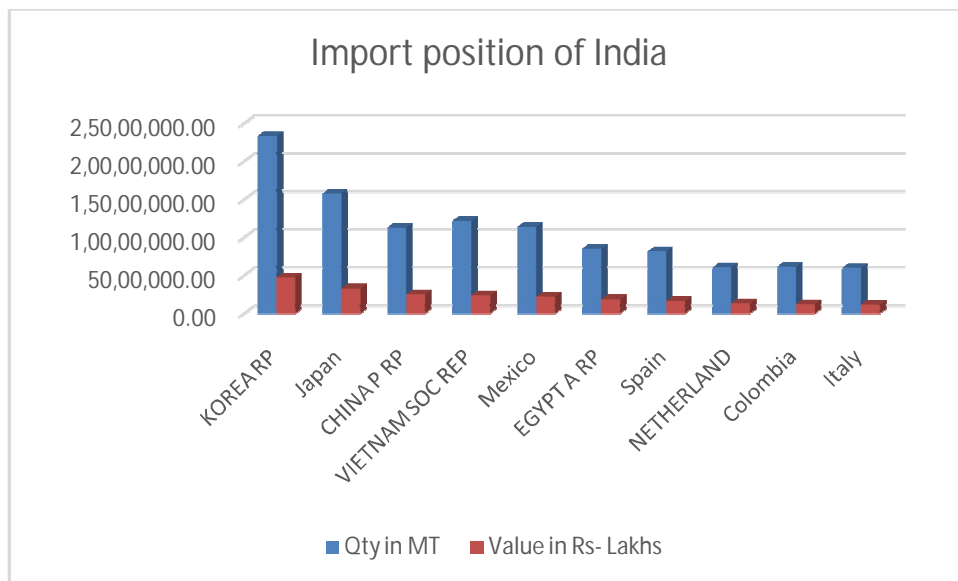
Major Export Destinations (2020-21) : Bangladesh Pr, Vietnam Soc. Rep., Nepal, Malaysia, Myanmar

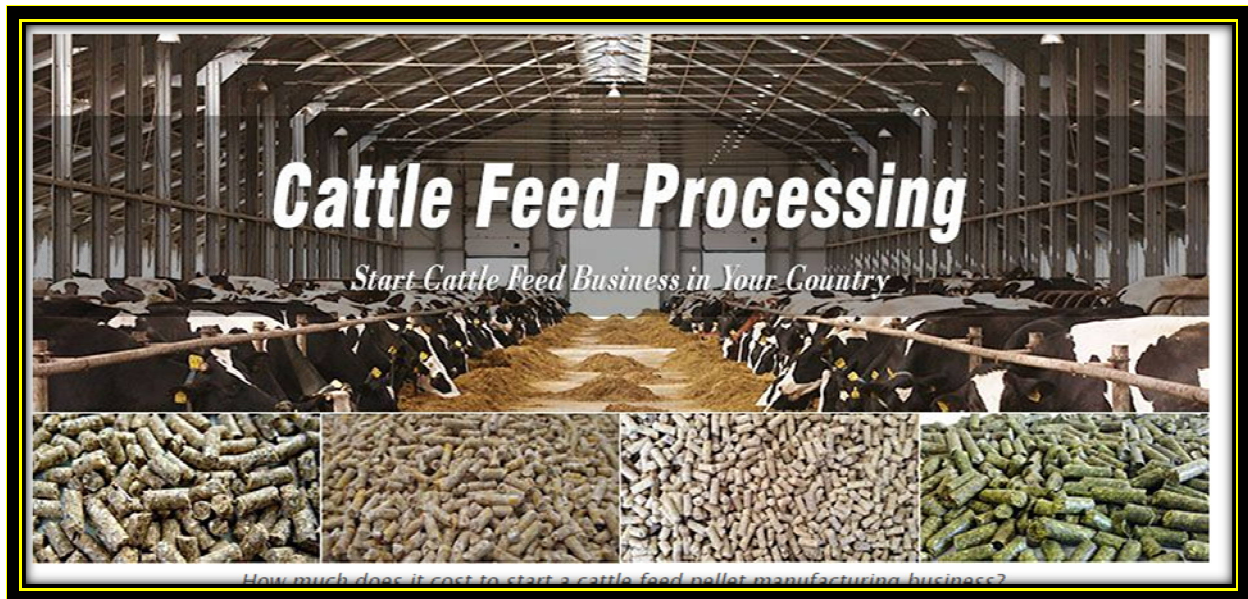
Sr.No	Country	Qty in MT	Value in Rs Lacks
1	Bangladesh Pr	1566667.93	242273.69
2	Vietnam Soc Rep	498322.20	87764.03
3	Nepal	581021.10	87505.74
4	Malaysia	112803.14	19738.58
5	Manmar	4753.10	6388.90
6	UAE	20433.92	3807.60
7	Bhutan	21963.46	3284.29
8	Thailand	24144.95	2976.63
9	Katar	15037.09	2716.14
10	Syria	18000	2673.47
	Total	2841146.89	459129.07



Import Position of India

2020				
Rank	Importin Country	Qty in MT	Value in Rs- Lakhs	Share(%)
1	KOREA RP	23,327,950.00	4,741,843.00	12.73
2	Japan	15,770,004.00	3,293,212.00	8.84
3	CHINA P RP	11,294,156.00	2,490,317.00	6.68
4	VIETNAM SOC REP	12,144,713.00	2,402,234.00	6.45
5	Mexico	11,390,068.00	2,206,737.00	5.92
6	EGYPT A RP	8,507,975.00	1,880,862.00	5.05
7	Spain	8,142,993.00	1,653,435.00	4.44
8	NETHERLAND	6,027,775.00	1,310,244.00	3.52
9	Colombia	6,162,363.00	1,221,505.00	3.28
10	Italy	5,994,603.00	1,197,357.00	3.21
	Total	108,762,600.00	22,397,746.00	





ABOUT ANIMAL FEED

Animal Feed is nothing but a food item that is consumed by the domestic animals in the course of Animal Husbandry. The commercial livestock farming success hugely depends on the constant best quality nutritious feeds supply. Thinking about how do I start an animal feed business as a small scale basis then don't worry StartupYo guides you about all the following details like where to get train for Animal feed making business, what are the legal permissions and registrations needed, how profitable is cattle feed production business, what are the machinery and manufacturing plant is need to set up, how is animal feed made, what are the raw materials required, what are the two types of animal feeds and many more detail

Four basic steps to producing animal food

1. Receive raw ingredients. Feed mills receive raw ingredients from suppliers. ...
2. Create a formula. Nutritionists work side-by-side with scientists to formulate nutritionally sound and balanced diets for livestock, poultry, aquaculture and pets. ...
3. Mix ingredients. ...
4. Package and label.

The main ingredients used in commercially prepared feed are the **feed grains**, which include corn, soybeans, sorghum, oats, and barley. Compound feed may also include premixes, which may also be sold separately.

These feeds generally consist of: **Agricultural products, such as vitamins, wheat, fruits, forage, minerals, corn, barley, distiller's grain, sorghum and vegetables.**

MAIN INGREDIENTS OF CATTLE FEED Grains: Maize, sorghum, wheat, rice, oats, barley, ragi, millets etc. Brans: De-oiled rice bran, rice polish, wheat bran, maize bran etc.

We can conveniently classify feeds into three main types: **(1) roughages, (2) concentrates, and (3) mixed feeds.** Roughages include pasture forages, hays, silages, and byproduct feeds that contain a high percentage of fiber.

Feed has six major components:

- Water.
- Carbohydrates.
- Fats.
- Proteins.
- Minerals.
- Vitamins.

Factors for Starting Cattle Feed Production Business Plan

1. The Target market. Analyse the potential of your selected production line thoroughly.
2. A Detailed Market Research. ...
3. Equipment and Personnel. ...
4. Location. ...
5. Raw Materials and Suppliers. ...
6. Feed Formula.





MARKET POTENTIAL OF ANIMAL FEED MAKING BUSINESS :

As compared to the traditional feed the market potential for the packaged feed is expected to grow at a huge price in future years. The per capita consumption of eggs, boiler meat, and milk is growing furiously. So the animal feed industry will undergo an exciting growth for the upcoming decade. Then a small scale cattle production business or animal feed making business is techno profitable projec

HOW PROFITABLE IS CATTLE FEED PRODUCTION BUSINESS?

The major portion of animal feed to poultry farming and cattle. The maximum share of cattle feed production and consumption is held by the southern parts of India. So, cattle feed production business is profitable.

HOW IS ANIMAL FEED MADE?

As per the formula, the manufacturing process is consists of size reduction and mixing of different ingredients. The preparation of Animal feed is quiet simple and following is the simple and easy way for the manufacturing of animal feed.

Firstly, you need to choose all the ingredients in the right ratio

Secondly, as per the mesh size, the particle size will be reduced by passing them through pulverize or disintegrator.

Thirdly, according to the formula, the various powdered ingredients will be weighted

After that, for blending uniformly they need to put into a ribbon blender

Then after, add the following raw materials like minerals mixes, molasses, and vitamins

Also, mix the above raw materials uniformly

Furthermore, to get in a pallet form extrude the materials

Additionally, then it is taken out which is obtained

Lastly, the animal feed product should be packed in gunny bags.

Note: The cattle formulation largely depends on the variety of the following: milk yield, cattle, and dairy ration, etc. The prevailing costs and the basic ingredients availability should be kept in mind while formulation the cattle feed which is very important .

WHAT ARE THE RAW MATERIALS REQUIRED?

Every different types of feed demand the formula of different mixing. The homemade animal feed is not that special of packaged animal feed. The quality of animal feed is more important in cattle feed production. To get to the long term success in this feed industry you need to maintain the quality of the product. The following are the raw materials that are required for the animal feed making business:

Firstly, Groundnut Extraction

Secondly, Maize

Thirdly, Cottonseed

After that, Salt

Then after, Minerals mixture

Also, Wheat bran

Furthermore, Rice bran extraction

Additionally, Damaged Wheat

Then, Molasses

After, Calcium Carbonate

Lastly, Vitamin Mixture

WHAT ARE THE TWO TYPES OF ANIMAL FEEDS?

There are generally 02 types of animal feeds and they are of the following:

Firstly, Fodder.

Secondly, Forage.

The above 02 types of animal feeds can explain briefly in the following:

Fodder :

The word fodder often refers to “feed” and the functions of fodder can explain briefly in the following:

Firstly, it is pleasant to taste.

Secondly, in their natural form, it ensures fresh nutrients.

Thirdly, it is easy for digestion.

Lastly, it keeps the animal’s health good.

Forage :

Forage is material of plant-like of the following: stems and plant leaves that are mostly consumed by the grazing livestock. The functions of forage can be explained briefly in the following:

Firstly, for rumen digestion, it supplies specifically valuable fiber.

Secondly, then other feeds being homegrown it is more sustainable and also economic.

Thirdly, it favors in ensuring the dilute nutrient sources.

Silage Making :



Silage is the material produced by controlled fermentation, under anaerobic conditions, of chopped crop residues or forages with high moisture contents. Silage is produced by the activities of naturally-occurring bacteria that convert some of the plant sugars into organic acids that preserve nutritional qualities.

The fodder crops, such as maize, sorghum, oats, pearl millet, and hybrid napier rich in soluble carbohydrates are most suitable for fodder ensiling. Quality of silage can be improved with the use of suitable additives such as molasses, urea, salt, formic acid etc.

Silage (/ˈsɑːlɪdʒ/) is a type of fodder made from green foliage crops which have been preserved by fermentation to the point of acidification. It can be fed to cattle, sheep and other such ruminants (cud-chewing animals). The fermentation and storage process is called ensilage, ensiling or silaging.

The fermentation process takes 10 days to 3 weeks for completion. Silages should not be fed until after this process is completed for the best milk production and feed intake. Thus, the recommendation is to wait at least 3 weeks before feeding new crop silages.

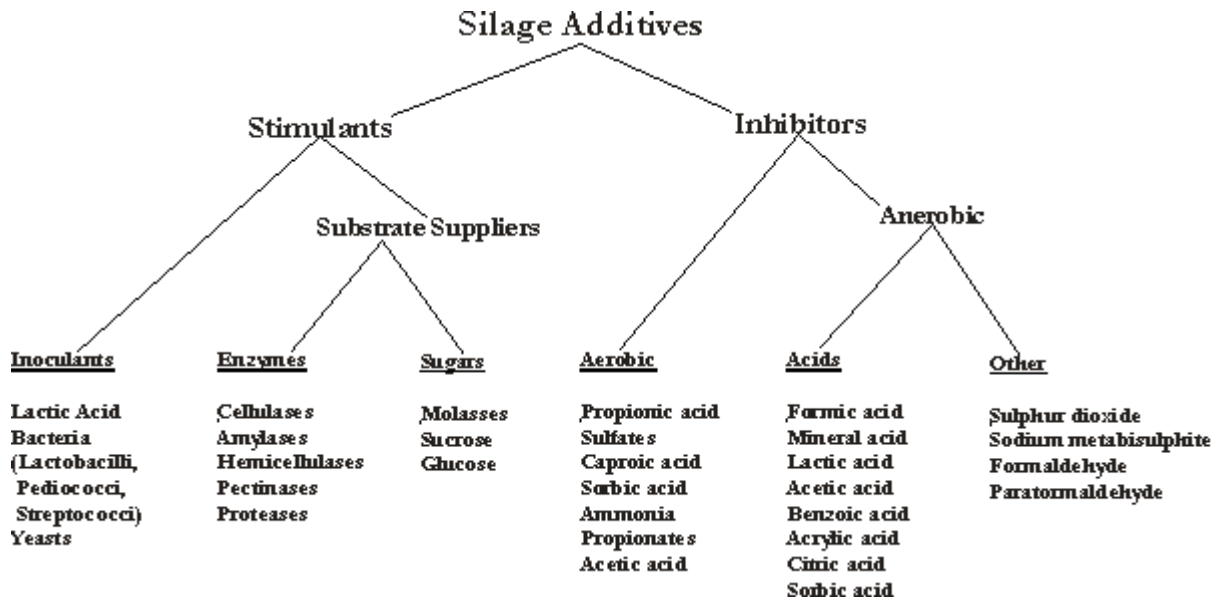
How long can silage be stored?



Silage keep well for three years if it's maintained in excellent condition. With an extended ensiling period, you'll want to have all the components of quality silage management in place. This means correctly harvesting, filling, packing and storing the forage

Compared to hay production, silage increases the potential yield of nutrients from available land, decreases feed costs, lowers harvest losses, and often increases forage quality. Silage can also reduce labor needs through greater mechanization of harvesting and feeding.

Silage has several advantages over hay as a mechanically harvested product. Silage has more nutrients preserved per acre because there is less field loss. Silage is also less affected by weather damage because the forage does not lie in the field drying



Haylage has a higher moisture content than hay and traditionally is wrapped in plastic, **intended to prevent the entry of air and limit damage by yeasts and moulds,**" he says.

2.1.1 Challenges in existing value chain of selected crops

1. Poor Storage infrastructure at farmer's end:

About 60-65% of the total Maize production is consumed domestically; 15-20% exported and the rest 20-25% is lost due to post-harvest damages.

2. Transportation Normally Onion & Maize are transported in Puck up , Tractor to APMC

3. Poor financial position of farmers- most of the farmers are small and marginal farmers who lack trading expertise and market knowledge and hardly have any holding capacity/ risk bearing capacity.

4. Concentration of trading - most of trading is in the hands of commission agents and traders wherein traders buy small lots from market yards and pool the produce for sorting and grading at their packing houses and market different grades to different markets all over India and abroad.

5. Too many middlemen- There are too many middlemen in the markets and not all are necessary. They have thrived because of the inefficiencies of the APMCs. Ideally, the commission agent acts as facilitator between farmers and wholesaler and ensures that the farmers receive their sale price. Many onion traders play multiple roles of commission agents cum wholesalers, and even railway agents.

6.Open Auction: The open market auctions somehow did not appear transparent in terms of fair price discovery, and indicated some sort of collusion between traders to keep the prices low. It took less than 8 seconds for a trade to happen,

2.1.2 **Potential remedies to address above issues in value chain**

1)**Storage structure to be made available:** For Onion development of Storage Structure. In case of maize, Warehouse construction is solution for storage.

2)**Developing direct linkage with buyers or processor industry:** By reducing middleman and connecting with institutional buyer for sale of agro product as per desired specification will reduce no of middleman and it will directly impact on saving of money of farmers.

3) **Training & Visits:** continuous training to BoD& farmers will increase efficiency of work. Visiting excellent practices in farming and post- harvest operations also very important.

4) **Digital Marketing:** FPC are entering business so still not adopted branding and digital marketing strategies for marketing of agri commodities. To adopt IT technology and doing digital marketing also help to build business.

5)**Mechanization:** Due to labor shortage it is very difficult to do harvesting on time. With the help of machines like maize harvester or other machines in post harvest will reduce time of harvesting.

6)**Inputshop:** farmers take seed, pesticide, fertilizers from Agri input shop in village, most of the time on credit. But if FPC will set up own input shop then 10-15% money of farmers will be saved and same money will be rotated in FPC.

2.1 Details of major crops selected for sub-project and their sales (average of last three years)

Sr.No	Crop Name	Area under crops of farmers in the organization (ha.)	Average productivity (tons per hectare)	Total Production (Tons)	Home use seeds etc. Excluding commodities available for sale (tons)	Agricultural commodities sold through aggregation by organization (ton)	Agricultural commodities (tons) sold by members individually in other markets besides consolidation through organization
1	Maize	196	6	1176	118	47	1011

2.1.1 Details of agri-products sold by consolidating organization :- (Average of last three years)

Sr.No	Sales arrangements	Commodities (MT)
1	Process entrepreneur	47MT
2	Exporter	-
3	Organised Retail Chain	-
4	Other direct sales license holder (DML)	-
5	Others-APMC	1011

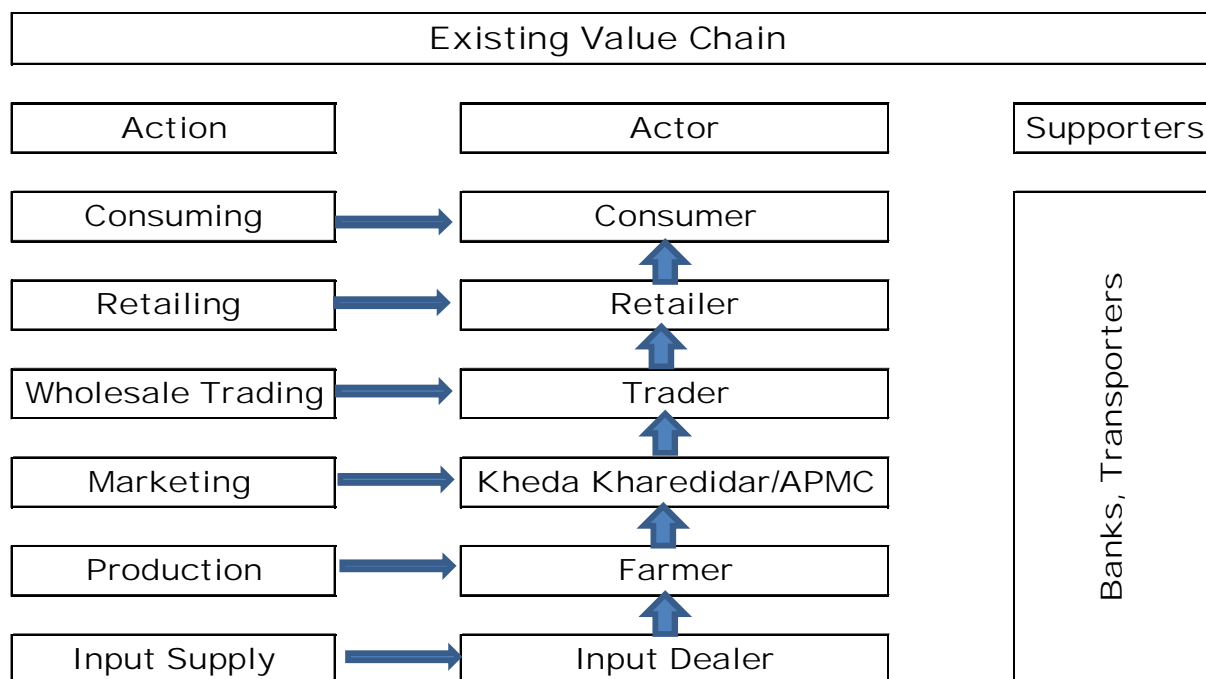
2.2. Details of value chain of major crops :- (Value chain is the chain of all functions and all the components that make it work from production to consumption of this commodity.)

2.2.1 What is the current maximum value chain of the selected crop in the project area and what percentage of it is available for sale (marketable surplus)?

(How to write a value chain is explained in the form.)

90% of the manufactured goods are available for sale.

2.2.2 Current value chain problems of selected crops: -



Challenges in existing value chain

1. Lack of soybean storage
2. Transportation is not available
3. Arbitrators buy at a lower price

2.2.3 Measures to solve the problems in the current value chain: -

1. Warehousing is required considering the fluctuations in the market
2. The goods of the members will be collected and sent to 'Rajaram Salvex' and some goods will be sent to the new oil mill of the company.
3. Shopping center

2.3 Has the organization surveyed alternative buyers / markets for sale of agricultural products? Yes / No

2.3.1 If Yes, Mention Details: Bhairvnath Dudh Utpadak Sahakari Society, Sagav

2.3.2 Details of potential buyers / markets from this

Sr.No	Name of the buyer / market organization	Address	Contact Number	Email id	Type of farm produce
1	Bhairvnath Dudh Utpadak Sahakari Society	A/p Sagav, Taluka Shirala, Dist. Sangali	Mob.7447708415	-	Cattle Feed

Part 3 Proposed Sub-Project Plan 3

1. Name of the proposed sub-project -To Develop Maize value chain

- Maize aggregation, processing and TMR preparation
- Silage Making

2. Type of sub-project (Mark the appropriate option)

2.1 Productive Partnership Sub Project ✓

3. Objectives of the proposed sub-project: -To develop Maize Value chain with the help of Buyer-BhairvnathDudhUtpadakSahakari Societywith minimum stakeholders in value chain.

Output Expected:

- Maize growers should get good market price.
- To increase women's participation in Value chain
- To serve shareholders with minimum cost

4. Location of sub-project (village, taluka, district, distance from taluka and district headquarters, details if district / state / national highway) A/P Kande, Survey no.152-2-2 Taluka Shirala(from 11km)

The sub-project will be implemented in how many villages. : - 22

Information on the infrastructure currently available for the proposed sub-project

Sr. No	Details	Description
1	Sub-project location	1. Village: Kande 2. Gram Panchayat: - Kande 3. Taluka: -Shirala 4. District: -Sangli 5. State: - Maharashtra
2	Latitude and longitude of the village	Latitude 16.919829301739085 - Longitude 74.11619693040848
3	How much land is required for the proposed sub-project?	12000 Sqft
4	Does the selected site belong to the organization?	Yes/No If yes, survey / group no. - Latitude ----- Longitude -----
5	A) Is the place fixed if the place is to be taken by lease agreement? Details if yes B) Class of landlord A) Are there any encroachments on the land?	Yes / No Survey / Group No. 152-2-2 The term of the lease agreement is 29 years Latitude 16.919829301739085 - Longitude 74.11619693040848 General / Imav / B.J./A.J./A.J. Yes / No (Certificate of DIU Officer.)
	The current use of the proposed site.	Under the crop Dump Industrial

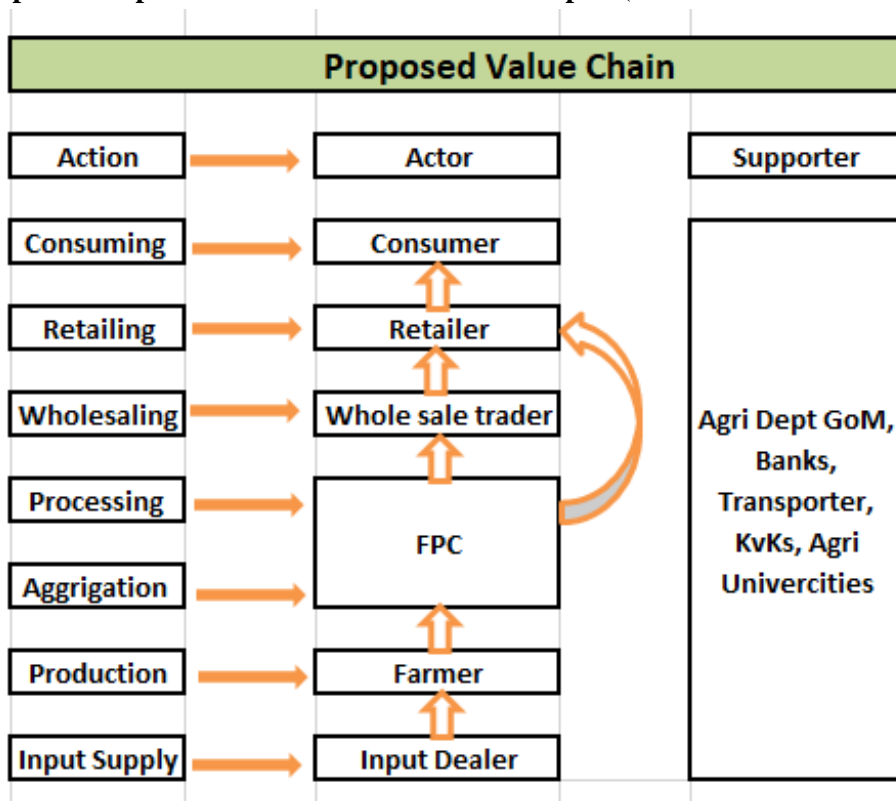
6	If the site for the sub-project is determined by the organization's ownership / lease agreement	
6.1	Is there a power supply? Details if yes	No Whose name is the power connection? Type of power connection: Single phase / Three phase What a capacity -
6.2	Does the proposed sub-project require water supply? If yes, details of availability	Yes / No What is the facility - is the regional water supply tap connection How many months water is available 12-months
6.3	Is transportation available for the site selected for the proposed project?	Yes/No

1. The organization plans to consolidate selected agricultural products in the next 5 years

1. Warehouse ready to store purchased goods
2. Soybean processing industry

Sr. No	Name of the farm Produce	Quantity of Annual Commodity Purchase (MT)									
		2022To 2023		2023To2024		2024To 2025		2025To2026		2026To2027	
		Produc tion (MT)	%	Produc tion (MT)	%	Produc tion (MT)	%	Producti on (MT)	%	Producti on (MT)	%
1	Maize	1163	100%	1221	105%	1279	110%	1337	115%	1395	120%

1. Proposed crop wise value chain of selected crop: - (How to write value chain is explained in the form.)



1. Details of the buyer selected to develop the value chain

9.1 Details of the MOU signed by the purchasing

Sr.No	Details	Description
1	Name of the buyer organization	BhairvnathDudhUtpadakSahakari Society
2	Address & Contact Info.	A/p Sagav, Taluka Shirala, District Sangali
3	Name, designation, contact number and e-mail of the person responsible for the buyer	Sanjay BaburaoKambale Sectary Mob. 7447708415
4	Type of buyer organization	1. Process Entrepreneur 2. Exporter 3. Registered buyers 4. Retail Organizations / Companies (Malls) e.g. D-Mart, Reliance E. 5. Other
5	Is the buyer registered?	Yes
5.1	Registration / License Number	369 25591 / 1973
6	PAN Number	
7	Annual average requirement of agricultural commodities belonging to the purchasing organization	3,000 M.T

8	Planning of purchasing farm produce from community based organization of purchasing organization (Year 20-- to -)	Crop Name	Year	Production(tonne)
		Cattle Feed (Maize)	2022-23	2000 M.Tn
9	Annual Turnover Amount Rs. Lakhs (for last three years)			
		FY-2020-213.73 crores		
		FY-2021-224.43 crores		

8.2 Quality criteria of agricultural commodities to be procured

Sr.No	Name of the Agree product	Criteria for purchase of agricultural commodities	Terms / Conditions of Transfer of Agricultural Commodities
1	Maize	Truck load should be completed at FPC warehouse	10% moisture Yellow color, clean, granular, Nutritional value as per standards

8.3 Method of fixing the price of agricultural commodities to be purchased

As premarket rate

Details of the responsibility of the organization and the buyer for developing the value chain of the selected crop

Responsibility of the CBO	Buyer's responsibility
1. Supply goods as per norms	1. Procurement of goods as per prescribed criteria
2. Do the transportation yourself	2. Payment of purchased goods at market price

1. Proposed business / undertaking

Sr.No	Business / Project	Duration of business year (days)	Remark
A	Components of post-harvest technology		
1	Maize Processing	6 Months	
B	Secondary process components		
1	Silage Processing	6 Months	
C	For quality finished product		
1			
D	Components for sales management		
1	Godown	12 Months	
2	Transportation		
E	Other Machinery		

1. What is the uniqueness and innovation of this sub-project?

We have more than 260 farmers working together in FPC. Our Maize quantity is very good i.e our negotiation power is increasing day by day due to increase in shareholder farmers. Our plus point is our Buyer is fixed. We want to grow with Maize crop by developing value chain. We will aggregate Maize, grade it, prepare the TMR and sale to buyer as well as shareholder farmers.

2. Details of construction, machinery and other materials required to run the proposed business / venture

1.Land and Building

Sr. No.	Particular	Unit	No. of Unit	Rate per unit	Amount (Rs.)
1	Godown 750 MT	Nos	1	9,212,532	9,212,532

2. Machinery and Equipment

Sr. No.	Description	Capacity	No. Required	Rate	Amount (Rs.)	Total HP
1	Cattle Feed Unit					
1	Cattle Feed Plant - Capacity 2000Kg/Hrs.	Unit1			-	
a]	Grinding Section				-	
i	Bucket elevator made with Heavy Duty M.S Sheet	Nos	1	280,000	280,000	2.00
ii	Grinder 2Ton/Hrs to Convert material into powder Form. (For 3mm Screen 2Ton/Hrs; For 1.5mm Screen 1.6 Ton/Hrs.)	Nos	1	290,000	290,000	30.00
b]	Mixing Section				-	
i	Bucket elevator made with Heavy Duty M.S Sheet	Nos	1	280,000	280,000	2.00
ii	Mixing Machine 2Ton is Used for mix the material properly (500Kg/Batch & Batch Time 30 Min.)	Nos	1	280,000	280,000	15.00
iii	Storage bean 1 Ton		1	160,000	160,000	
c]	Palleting Section					
i	Bucket elevator made with Heavy Duty M.S Sheet	Nos	1	280,000	280,000	2.00
ii	Pallet Machine 1Ton/Hrs with Conditioner 2HP (Palleting is process in which mixed feed powder form is converted into pallets by mechanical comperssion in combination with moisture and heat. Process is achived by a set of roll and die and passed into die holes to makepallets.)	Nos	1	1,200,000	1,200,000	90.00
d]	Boiler	Nos	1	380,000	380,000	
e]	Screw Feeder	Nos	1	150,000	150,000	1.00
f]	Conditioner	Nos	2	120,000	240,000	2.00
g]	Cooler	Nos	1	390,000	390,000	5.00
h]	Vibro Screen	Nos	1	245,000	245,000	1.50
i)	Bagging Hopper	Nos	1	360,000	360,000	
j]	Auto Bagging	Nos	1	580,000	580,000	
k]	2 Ton Structure	Nos	1	640,000	640,000	
l]	Control Panel & Wiring Cabeling	Nos	1	350,000	350,000	
m]	Installation Charges	Nos	1	350,000	350,000	
n]	Transport Charges	Nos	1	40,000	40,000	
o]	12% GST on above				779,400	
	Cattle Feed Unit Cost				7,274,400	150.50

2	Silage Unit					
a]	Sai Gokul SK 85 -A 10 HP, Power Operated Chaff Cutter Machine	Nos	1	138,880	138,880	10.00
b]	Mini Silage Baler MSB500 AT PRO	Nos	1	1,176,000	1,176,000	2.50
	Silage Unit Cost				1,314,880	12.50
3	Solar Panel unit with Assosaries 110 KVA	Unit1	1	3,200,048	3,200,048	
4	New 200KVA Distribution Transformer with HT Line work	200 KVA	1	1,248,440	1,248,440	
	Sub Total				13,037,768	163.00

3.Vehicle

Sr. No.	Particular	No. Required	Rate	Amount (Rs.)
1	Sonalika RX55 55 HP With all Accessories	1	930,000	930,000
2	Trolly	1	215,000	215,000
	Total			1,145,000

4.Preliminary Expenses

318430

Grand Total				23,713,730
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3. Mention the benefits of working together with community based organizations and buyers

Sr.No	Community based organization The resulting benefit	Occurring to the buyer Advantage	members Advantages
	<ul style="list-style-type: none"> Fixed Buyer will solve searching for buyer and avoid cheating from middle man Reduction in payment risk 	<ul style="list-style-type: none"> Large quantities of graded soybean will get at one place as per order whole year. Sure supplier 	<ul style="list-style-type: none"> Sure Market Extension- Guidance for production. Input cost is low as compare to others

14. What efforts be made to increase women's participation in planned business projects?

- 1) Our Project is related to Womens only because we are preparing animal food and animal rearing is done by women's in rural area.
- 2) We will give discount in animal feed to women farmers
- 3) We will give special trainings toWomen farmers regarding animal health camps, feeding to animals etc

Part-IV Planning for sub-project implementation

4.1 Important works in implementation phase and its schedule.

Sr.No	Important Work	Year 1 (Quartely)				Year 2 (Quartely)				Year 3 (Quartely)			
		1	2	3	4	1	2	3	4	1	2	3	4
A	Construction												
1	Godown												
2	Fabrication and Furniture												
3													
B	Purchase of Machinery and assembling												
1	Machinery												
2	IT & its infrastructure												
3													
C.	Capacity building&Training												
1	PreliminaryExpenses												
2													
3													
D	Operating a business												
1													
2													
3													

Note: Considering the smoothness of the work in the implementation phase, plan of work and order of priority should be decided.

Part-5 Expenditure for sub-project (sub-project budget) and financial analysis

5.1 Expenditure for sub-project (sub-project budget) and details of source of funds

5.1.1 Sub-project cost (sub-project budget)

Sr. No.	Particular	Amount (Rs.)
1	Land and Building	9,212,532
2	Machinery and Equipment	13,037,768
3	Furniture and Fixture	-
4	IT & It Infrastructure	-
5	Vehicle	1,145,000
6	Preliminary Expenses	318,430
7	Working Capital	8,451,396
Total		32,165,126

5.1.2 Details of source of funds

Sr. No.	Particular	Bank Loan (%)	Amount (Rs.)
1	Govt. Grant under SMART Project		14,228,238
2	Bank Finance - Long Term Loan (= Total Project Cost- Smart Grant - Own Contribution)		8,299,806
3	Own Contribution (=Fixed Assets*10%)+Working Capital)	5%	9,637,083
Total			32,165,126

5.2 Economic analysis

5.2.1 Project Cost:

Sr. No.	Particular	Amount (Rs.)	Grant (%)	Grant Amount (Rs.)
1	Land and Building	9,212,532	60%	5,527,519
2	Machinery and Equipment	13,037,768	60%	7,822,661
3	Furniture and Fixture	-	60%	-
4	IT & It Infrastructure	-	60%	-
5	Vehicle	1,145,000	60%	687,000
6	Preliminary Expenses	318,430	60%	191,058
7	Working Capital	8,451,396		
Total		32,165,126		14,228,238

Capex:-

1.Land and Building

Sr. No.	Particular	Unit	No. of Unit	Rate per unit	Amount (Rs.)
1	Land	Sq. ft.			Lease
2	Godown 500 MT	Nos	1	9,212,532	9,212,532
	Total				9,212,532

2. Machinery and Equipment

Sr. No.	Description	Capacity	No. Required	Rate	Amount (Rs.)	Total HP
A	Custom Hiring				-	
1					-	
2					-	
					-	
	Subtotal				-	-
B	Cattle Feed Unit					
1	<u>Cattle Feed Plant - Capacity 2000Kg/Hrs.</u>	Unit1			-	
a]	Grinding Section				-	
i	Bucket elevator made with Heavy Duty M.S Sheet	Nos	1	280,000	280,000	2.00
ii	Grinder 2Ton/Hrs to Convert material into powder Form. (For 3mm Screen 2Ton/Hrs; For 1.5mm Screen 1.6 Ton/Hrs.)	Nos	1	290,000	290,000	30.00
b]	Mixing Section				-	
i	Bucket elevator made with Heavy Duty M.S Sheet	Nos	1	280,000	280,000	2.00
ii	Mixing Machine 2Ton is Used for mix the material properly (500Kg/Batch & Batch Time 30 Min.)	Nos	1	280,000	280,000	15.00
iii	Storage bean 1 Ton		1	160,000	160,000	
c]	Pelleting Section					
i	Bucket elevator made with Heavy Duty M.S Sheet	Nos	1	280,000	280,000	2.00
ii	Pallet Machine 1Ton/Hrs with Conditioner 2HP (Pelleting is process in which mixed feed powder form is converted into pallets by mechanical compression in combination with moisture and heat. Process is achieved by a set of roll and die and passed into die holes to make pallets.)	Nos	1	1,200,000	1,200,000	90.00
d]	Boiler	Nos	1	380,000	380,000	
e]	Screw Feeder	Nos	1	150,000	150,000	1.00
f]	Conditioner	Nos	2	120,000	240,000	2.00
g]	Cooler	Nos	1	390,000	390,000	5.00
h]	Vibro Screen	Nos	1	245,000	245,000	1.50
i]	Bagging Hopper	Nos	1	360,000	360,000	
j]	Auto Bagging	Nos	1	580,000	580,000	
k]	2 Ton Structure	Nos	1	640,000	640,000	

l]	Control Panel & Wiring Cabeling	Nos	1	350,000	350,000	
m]	Installation Charges	Nos	1	350,000	350,000	
n]	Transport Charges	Nos	1	40,000	40,000	
o]	12% GST on above				779,400	
	Cattle Feed Unit Cost				7,274,400	150.50
2	Silage Unit					
a]	Sai Gokul SK 85 -A 10 HP, Power Operated Chaff Cutter Machine	Nos	1	138,880	138,880	10.00
b]	Mini Silage Baler MSB500 AT PRO	Nos	1	1,176,000	1,176,000	2.50
	Silage Unit Cost				1,314,880	12.50
3	Solar Panel unit with Assosaries 110 KVA	Unit1	1	3,200,048	3,200,048	
4	New 200KVA Distribution Transformer with HT Line work	200 KVA	1	1,248,440	1,248,440	
	Sub Total				13,037,768	163.00
C	Cleaning & Grading				-	
1					-	
	Sub Total				-	-
D	Other				-	
2					-	
	Sub Total				-	
	Grand Total				13,037,768	163.00

3.Furniture and Fixture

Sr. No.	Particular	No. Required	Rate	Amount (Rs.)
1				-
2				-
3				-
	Total			-

4.IT & It Infrastructure

Sr. No.	Particular	No. Required	Rate	Amount (Rs.)
1				-
2				-
	Total			-

5.Vehicle

Sr. No.	Particular	No. Required	Rate	Amount (Rs.)
1	Sonalika RX55 55 HP With all Accessories	1	930,000	930,000
2	Trolley	1	215,000	215,000
	Total			1,145,000

6.Preliminary Expenses

Sr. No.	Particular	Amount (Rs.)
1	Land Lease Registration	41,000
2	Computer 2 Nos (Intel Core I3 4th Gen.)	38,000
3	Printer Epson L3250 1 Nos.	17,600
4	Tally Software	21,830
5	Land Development including Electricity & Water etc.	200,000
	Total	318,430

Admin Expenses

Sr. No.	Particulars	Unit	No.of Unit	Unit Cost	Y1	Y2	Y3	Y4	Y5	Y6	Y7
1	Accountant	No.	1	15,000	180,000	189,000	198,450	208,373	218,791	229,731	241,217
2	Watchmen	No.	2	9,000	216,000	226,800	238,140	250,047	262,549	275,677	289,461
3	Telephone and internet Exp	Months	12	1,500	18,000	18,900	19,845	20,837	21,879	22,973	24,122
4	Office Electricity Exp	Months	12	1,200	14,400	15,120	15,876	16,670	17,503	18,378	19,297
5	Printing & Stationary	Months	12	2,500	30,000	31,500	33,075	34,729	36,465	38,288	40,203
6	Land Lease	Months	12	2,000	24,000	25,200	26,460	27,783	29,172	30,631	32,162
7	Misc.expenses	Months	12	1,000	12,000	12,600	13,230	13,892	14,586	15,315	16,081
8	Audit and Legal Compliances expenses	Lumsum	1	50,000	50,000	52,500	55,125	57,881	60,775	63,814	67,005
9	Repair & Maint to Machinery	Lumsum	1	50,000	50,000	52,500	55,125	57,881	60,775	63,814	67,005
					-	-	-	-	-	-	-
					-	-	-	-	-	-	-
					-	-	-	-	-	-	-
					-	-	-	-	-	-	-
					-	-	-	-	-	-	-
	Total Admin Expense				594,400	624,120	655,326	688,092	722,497	758,622	796,553

5.2.2 Depreciation forecast

Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Assets							
Building							
Asset Value	9,212,532	8,920,495	8,628,457	8,336,420	8,044,383	7,752,346	7,460,308
Depreciation	292,037	292,037	292,037	292,037	292,037	292,037	292,037
Accumulated Depreciation	292,037	584,075	876,112	1,168,149	1,460,186	1,752,224	2,044,261
Net Fixed Assets	8,920,495	8,628,457	8,336,420	8,044,383	7,752,346	7,460,308	7,168,271
Plant and Machinery							
Asset Value	13,037,768	12,212,477	11,387,187	10,561,896	9,736,605	8,911,314	8,086,024
Depreciation	825,291	825,291	825,291	825,291	825,291	825,291	825,291
Accumulated Depreciation	825,291	1,650,581	2,475,872	3,301,163	4,126,454	4,951,744	5,777,035
Net Fixed Assets	12,212,477	11,387,187	10,561,896	9,736,605	8,911,314	8,086,024	7,260,733
Furniture and Electrification							
Asset Value	-	-	-	-	-	-	-
Depreciation	-	-	-	-	-	-	-
Accumulated Depreciation	-	-	-	-	-	-	-
Net Fixed Assets	-	-	-	-	-	-	-
Vehicle							
Asset Value	1,145,000	1,008,974	872,948	736,922	600,896	464,870	328,844
Depreciation	136,026	136,026	136,026	136,026	136,026	136,026	136,026
Accumulated Depreciation	136,026	272,052	408,078	544,104	680,130	816,156	952,182
Net Fixed Assets	1,008,974	872,948	736,922	600,896	464,870	328,844	192,818
IT Infrastructure							
Asset Value	-	-	-	-	-	-	-
Depreciation	-	-	-	-	-	-	-
Accumulated Depreciation	-	-	-	-	-	-	-
Net Fixed Assets	-	-	-	-	-	-	-
Gross Fixed Asset	23,395,300	22,141,946	20,888,592	19,635,238	18,381,884	17,128,530	15,875,176
Total Depreciation	1,253,354	1,253,354	1,253,354	1,253,354	1,253,354	1,253,354	1,253,354
Accumulated Depreciation	1,253,354	2,506,708	3,760,062	5,013,416	6,266,770	7,520,124	8,773,478
Net Fixed Assets	22,141,946	20,888,592	19,635,238	18,381,884	17,128,530	15,875,176	14,621,822

**Above working as per Straight Line Method & As per companies Act*

5.2.3 Amortization of Preliminary and Pre-Operation Expenses

Year	Initial account	Rate of amortization per year	Amortization amount	Last Account (Initial Account – Amortization Amount)
Year 1	318,430	20%	63,686	254,744
Year 2	254,744	20%	63,686	191,058
Year 3	191,058	20%	63,686	127,372
Year 4	127,372	20%	63,686	63,686
Year 5	63,686	20%	63,686	-
Total			318,430	

5.2.4 Bank loan repayment details

Loan Amount (Rs)	8,299,806
Interest Rate /PA	8.75%
Loan Tenure in years	5
Moratorium Period (In Months)	6
EMI (Rs)	186,493

Year	Particulars	Opening Balance	Interest	Principal Repayment	EMI	Closing Outstanding
Year 1	Month 1	8,299,806	60,519	-	60,519	8,299,806
	Month 2	8,299,806	60,519	-	60,519	8,299,806
	Month 3	8,299,806	60,519	-	60,519	8,299,806
	Month 4	8,299,806	60,519	-	60,519	8,299,806
	Month 5	8,299,806	60,519	-	60,519	8,299,806
	Month 6	8,299,806	60,519	-	60,519	8,299,806
	Month 7	8,299,806	60,519	125,974	186,493	8,173,832
	Month 8	8,173,832	59,601	126,892	186,493	8,046,940
	Month 9	8,046,940	58,676	127,817	186,493	7,919,122
	Month 10	7,919,122	57,744	128,749	186,493	7,790,373
	Month 11	7,790,373	56,805	129,688	186,493	7,660,685
	Month 12	7,660,685	55,859	130,634	186,493	7,530,051
Year 2	Month 13	7,530,051	54,907	131,586	186,493	7,398,464
	Month 14	7,398,464	53,947	132,546	186,493	7,265,918
	Month 15	7,265,918	52,981	133,512	186,493	7,132,406
	Month 16	7,132,406	52,007	134,486	186,493	6,997,920
	Month 17	6,997,920	51,027	135,467	186,493	6,862,454
	Month 18	6,862,454	50,039	136,454	186,493	6,725,999
	Month 19	6,725,999	49,044	137,449	186,493	6,588,550
	Month 20	6,588,550	48,042	138,452	186,493	6,450,099
	Month 21	6,450,099	47,032	139,461	186,493	6,310,638
	Month 22	6,310,638	46,015	140,478	186,493	6,170,160
	Month 23	6,170,160	44,991	141,502	186,493	6,028,657
	Month 24	6,028,657	43,959	142,534	186,493	5,886,123
Year 3	Month 25	5,886,123	42,920	143,573	186,493	5,742,550
	Month 26	5,742,550	41,873	144,620	186,493	5,597,930
	Month 27	5,597,930	40,818	145,675	186,493	5,452,255
	Month 28	5,452,255	39,756	146,737	186,493	5,305,518
	Month 29	5,305,518	38,686	147,807	186,493	5,157,711
	Month 30	5,157,711	37,608	148,885	186,493	5,008,826
	Month 31	5,008,826	36,523	149,970	186,493	4,858,856

	Month 32	4,858,856	35,429	151,064	186,493	4,707,792
	Month 33	4,707,792	34,328	152,165	186,493	4,555,627
	Month 34	4,555,627	33,218	153,275	186,493	4,402,352
	Month 35	4,402,352	32,100	154,393	186,493	4,247,959
	Month 36	4,247,959	30,975	155,518	186,493	4,092,441
Year 4	Month 37	4,092,441	29,841	156,652	186,493	3,935,788
	Month 38	3,935,788	28,698	157,795	186,493	3,777,994
	Month 39	3,777,994	27,548	158,945	186,493	3,619,049
	Month 40	3,619,049	26,389	160,104	186,493	3,458,945
	Month 41	3,458,945	25,221	161,272	186,493	3,297,673
	Month 42	3,297,673	24,046	162,447	186,493	3,135,225
	Month 43	3,135,225	22,861	163,632	186,493	2,971,593
	Month 44	2,971,593	21,668	164,825	186,493	2,806,768
	Month 45	2,806,768	20,466	166,027	186,493	2,640,741
	Month 46	2,640,741	19,255	167,238	186,493	2,473,504
	Month 47	2,473,504	18,036	168,457	186,493	2,305,047
	Month 48	2,305,047	16,808	169,685	186,493	2,135,361
Year 5	Month 49	2,135,361	15,570	170,923	186,493	1,964,439
	Month 50	1,964,439	14,324	172,169	186,493	1,792,270
	Month 51	1,792,270	13,069	173,424	186,493	1,618,845
	Month 52	1,618,845	11,804	174,689	186,493	1,444,156
	Month 53	1,444,156	10,530	175,963	186,493	1,268,193
	Month 54	1,268,193	9,247	177,246	186,493	1,090,948
	Month 55	1,090,948	7,955	178,538	186,493	912,410
	Month 56	912,410	6,653	179,840	186,493	732,569
	Month 57	732,569	5,342	181,151	186,493	551,418
	Month 58	551,418	4,021	182,472	186,493	368,946
	Month 59	368,946	2,690	183,803	186,493	185,143
	Month 60	185,143	1,350	185,143	186,493	0

Closing Stock

Particulars		Y1	Y2	Y3	Y4	Y5	Y6	Y7
Opening Stock								
Agri Input			-	-	-	-	-	-
Trading			-	-	-	-	-	-
Grain Processing			6,077,031	6,699,927	7,369,919	8,090,161	8,864,003	9,695,003
Horticulture Processing			-	-	-	-	-	-
Total			6,077,031	6,699,927	7,369,919	8,090,161	8,864,003	9,695,003
Closing Stock								
Agri Input	5%	-	-	-	-	-	-	-
Trading	5%	-	-	-	-	-	-	-
Grain Processing	5%	6,077,031	6,699,927	7,369,919	8,090,161	8,864,003	9,695,003	10,586,944
Horticulture Processing	5%	-	-	-	-	-	-	-
Total		6,077,031	6,699,927	7,369,919	8,090,161	8,864,003	9,695,003	10,586,944

Working Capital

Sr. No.	Particulars	Duration (In days)	Amount (Rs.)						
			Y1	Y2	Y3	Y4	Y5	Y6	Y7
A	Accounts Receivables (Debtors)								
1	Agri Input	14	-	-	-	-	-	-	-
2	Custom Hiring	14	-	-	-	-	-	-	-
3	Cleaning & Grading	14	-	-	-	-	-	-	-
4	Feed Mill	14	4,707,985	5,449,015	5,993,478	6,578,791	7,207,679	7,883,036	8,607,937
5	Warehouse	14	-	-	-	-	-	-	-
6	Processing Unit - Horti Commodity	14	-	-	-	-	-	-	-
	Subtotal		4,707,985	5,449,015	5,993,478	6,578,791	7,207,679	7,883,036	8,607,937
B	Closing Stock		6,077,031	6,699,927	7,369,919	8,090,161	8,864,003	9,695,003	10,586,944
	Total		10,785,016	12,148,942	13,363,397	14,668,953	16,071,682	17,578,040	19,194,881
C	Accounts Payable & Accrued Expenses (Creditors)								
1	Agri Input	7	-	-	-	-	-	-	-
2	Custom Hiring	7	-	-	-	-	-	-	-
3	Cleaning & Grading	7	-	-	-	-	-	-	-
4	Feed Mill	7	2,330,916	2,569,835	2,826,818	3,103,076	3,399,892	3,718,631	4,060,745
5	Warehouse	7	2,704	2,839	2,981	3,130	3,287	3,451	3,624
6	Processing Unit - Horti Commodity	7	-	-	-	-	-	-	-
	Total		2,333,620	2,572,674	2,829,800	3,106,206	3,403,178	3,722,083	4,064,369
D	Working Capital		8,451,396	9,576,268	10,533,597	11,562,747	12,668,504	13,855,957	15,130,512
	Own Contribution	100%	8,451,396	9,576,268	10,533,597	11,562,747	12,668,504	13,855,957	15,130,512

5.2.6 Projected Profit & Loss Statement

Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Revenue							
Facility 1 - Cleaning & Grading	-	-	-	-	-	-	-
Facility 2 - Processing Unit- Feed Mill	122,743,905	142,063,617	156,258,529	171,518,483	187,914,495	205,522,022	224,421,224
Facility 3 - Warehouse	-	-	-	-	-	-	-
Facility 4 - Custom Hiring	-	-	-	-	-	-	-
Facility 5 - Agri Input Centre	-	-	-	-	-	-	-
Facility 6 - Processing Unit - Horti Commodity	-	-	-	-	-	-	-
Total Revenue	122,743,905	142,063,617	156,258,529	171,518,483	187,914,495	205,522,022	224,421,224
Variable Cost							
Facility 1 - Cleaning & Grading	-	-	-	-	-	-	-
Facility 2 - Processing Unit- Feed Mill	115,463,588	133,375,637	146,728,393	161,082,986	176,506,217	193,069,064	210,846,930
Facility 3 - Warehouse	141,000	148,050	155,453	163,225	171,386	179,956	188,953
Facility 4 - Custom Hiring	-	-	-	-	-	-	-
Facility 5 - Agri Input Centre	-	-	-	-	-	-	-
Facility 6 - Processing Unit - Horti Commodity	-	-	-	-	-	-	-
Total Variable Cost	115,604,588	133,523,687	146,883,846	161,246,211	176,677,604	193,249,020	211,035,883
Fixed Cost							
Facility 1 - Cleaning & Grading	-	-	-	-	-	-	-
Facility 2 - Processing Unit- Feed Mill	900,000	945,000	992,250	1,041,863	1,093,956	1,148,653	1,206,086
Facility 3 - Warehouse	180,000	189,000	198,450	208,373	218,791	229,731	241,217
Facility 4 - Custom Hiring	-	-	-	-	-	-	-
Facility 5 - Agri Input Centre	-	-	-	-	-	-	-
Facility 6 - Processing Unit - Horti Commodity	-	-	-	-	-	-	-
Admin Expenses	594,400	624,120	655,326	688,092	722,497	758,622	796,553
Total Fixed Cost	1,674,400	1,758,120	1,846,026	1,938,327	2,035,244	2,137,006	2,243,856
Total Cost	117,278,988	135,281,807	148,729,872	163,184,539	178,712,847	195,386,026	213,279,740

Profit Before Depreciation ,Interest and Tax	5,464,917	6,781,810	7,528,658	8,333,945	9,201,648	10,135,996	11,141,484
Depreciation	3,592,610	2,970,663	2,468,801	2,061,389	1,728,796	1,455,872	1,230,830
Amortization	63,686	63,686	63,686	63,686	63,686	-	-
Profit Before Interest and Tax	1,808,621	3,747,460	4,996,170	6,208,870	7,409,166	8,680,125	9,910,655
Interest on Term loan	712,320	593,989	444,234	280,837	102,555	0	0
Profit Before Tax	1,096,301	3,153,472	4,551,936	5,928,033	7,306,611	8,680,125	9,910,655
Less. Tax	285,038	819,903	1,183,503	1,541,289	1,899,719	2,256,832	2,576,770
Profit After Tax	811,263	2,333,569	3,368,433	4,386,744	5,406,892	6,423,292	7,333,884
Less: Dividend	202,816	583,392	842,108	1,096,686	1,351,723	1,605,823	1,833,471
Cumulative Profit	811,263	3,144,832	6,513,265	10,900,009	16,306,901	22,730,193	30,064,078
Profit After Tax & Dividend	608,447	1,750,177	2,526,325	3,290,058	4,055,169	4,817,469	5,500,413

5.2.7 Cash Flow Statement Projection

Sn	Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
1	Operating Profit							
	Total Revenue	122,743,905	142,063,617	156,258,529	171,518,483	187,914,495	205,522,022	224,421,224
2	Equity/ Share capital	9,637,083						
	Reinvestment							
3	Grant	14,228,238						
4	Long Term Loan	8,299,806						
5	Increase in Short Term Loan	-	-	-	-	-	-	-
6	Increase in account payable	2,333,620	239,054	257,125	276,406	296,972	318,904	342,287
	Sub Total (A)	157,242,651	142,302,671	156,515,655	171,794,890	188,211,468	205,840,926	224,763,511
	Cash Outflow (Rs.)							
1	Capital Expenditure							
A	Land and Building	9,212,532						
B	Machinery and Equipment	13,037,768						
C	Furniture & Fixture	-						
D	It Infrastructure	-						
E	Vehicle	1,145,000						
F	Preliminary Expenses	318,430						
2	Operational Expenditure							
A	Variable Cost	115,604,588	133,523,687	146,883,846	161,246,211	176,677,604	193,249,020	211,035,883
B	Fixed Cost	1,674,400	1,758,120	1,846,026	1,938,327	2,035,244	2,137,006	2,243,856
3	Loan Repayment							
	LTL - Principal	769,755	1,643,928	1,793,682	1,957,079	2,135,361	(0)	(0)
	LTL - Interest	712,320	593,989	444,234	280,837	102,555	0	0
	STL - Principal							
	STL - Interest	-	-	-	-	-	-	-
4	Tax	285,038	819,903	1,183,503	1,541,289	1,899,719	2,256,832	2,576,770
5	Increase in account Receivable	4,707,985	741,030	544,462	585,313	628,888	675,357	724,901
6	Increase in Closing Stock	6,077,031	622,896	669,993	720,242	773,842	831,000	891,940
7	Dividend	202,816	583,392	842,108	1,096,686	1,351,723	1,605,823	1,833,471
	Sub Total (B)	153,747,663	140,286,944	154,207,855	169,365,985	185,604,935	200,755,038	219,306,822
	Net Cash Flow (A-B)	3,494,988	2,015,727	2,307,800	2,428,905	2,606,533	5,085,888	5,456,689
	Opening Cash and Bank		3,494,988	5,510,715	7,818,515	10,247,420	12,853,953	17,939,840
	Cumulative Cash Balance	3,494,988	5,510,715	7,818,515	10,247,420	12,853,953	17,939,840	23,396,529

5.2.8 Balance Sheet Statement Projection

Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
ASSETS							
Current Assets							
Cash and Bank Balance	3,494,988	5,510,715	7,818,515	10,247,420	12,853,953	17,939,840	23,396,529
Accounts Receivables	4,707,985	5,449,015	5,993,478	6,578,791	7,207,679	7,883,036	8,607,937
Other Current Assets	6,077,031	6,699,927	7,369,919	8,090,161	8,864,003	9,695,003	10,586,944
Total Current Assets	14,280,005	17,659,657	21,181,912	24,916,372	28,925,635	35,517,880	42,591,410
Gross Fixed Assets	23,395,300	19,802,690	16,832,027	14,363,225	12,301,836	10,573,040	9,117,168
Less: Depreciation	3,592,610	2,970,663	2,468,801	2,061,389	1,728,796	1,455,872	1,230,830
Net Fixed Assets	19,802,690	16,832,027	14,363,225	12,301,836	10,573,040	9,117,168	7,886,339
Preliminary & Pre- operative Expenses	254,744	191,058	127,372	63,686	0	0	0
TOTAL ASSETS	34,337,439	34,682,742	35,672,510	37,281,895	39,498,675	44,635,048	50,477,748
LIABILITIES & SHAREHOLDERS EQUITY							
CURRENT LIABILITIES							
Short Term Debt (Working capital loan)	0	0	0	0	0	0	0
Accounts Payable & Accrued Expenses	2,333,620	2,572,674	2,829,800	3,106,206	3,403,178	3,722,083	4,064,369
Other Current Liabilities							
Total Current Liabilities	2,333,620	2,572,674	2,829,800	3,106,206	3,403,178	3,722,083	4,064,369
Secured Long Term Debt	7,530,051	5,886,123	4,092,441	2,135,361	0	0	0
Differed Tax Liabilities							
TOTAL LIABILITIES	9,863,671	8,458,797	6,922,240	5,241,567	3,403,178	3,722,083	4,064,369
Share capital	9,637,083	9,637,083	9,637,083	9,637,083	9,637,083	9,637,083	9,637,083
Smart Grant -in-Aid	14,228,238	14,228,238	14,228,238	14,228,238	14,228,238	14,228,238	14,228,238
Reserves and Surplus							
Add: Opening Balance (P/L Account)	0	608,447	2,358,624	4,884,948	8,175,007	12,230,176	17,047,645
Profit & Loss) During the Year	811,263	2,333,569	3,368,433	4,386,744	5,406,892	6,423,292	7,333,884
Appropriation - Dividend	202,816	583,392	842,108	1,096,686	1,351,723	1,605,823	1,833,471
Total Reserves	608,447	2,358,624	4,884,948	8,175,007	12,230,176	17,047,645	22,548,058
TOTAL EQUITY	24,473,768	26,223,944	28,750,269	32,040,327	36,095,497	40,912,966	46,413,379
TOTAL LIABILITIES & EQUITY	34,337,439	34,682,742	35,672,510	37,281,895	39,498,675	44,635,048	50,477,748

5.2.9 Key financial indicators

Sr. No.	Financial ratio	Estimated	Result	Permissible limit
1	Break Even Point (BEP)	47.38%	Project Viable	BEP shall be 40% to 60%
2	Avg. Return on Capital Employed Average (ROCE)	18.11%	Project Viable	ROCE for the project shall be more than 12%
3	Internal Rate of Return (IRR)	12.60%	Project Viable	The project internal rate of return shall be more than 12%
4	Net present value (at a discount rate of 10 per cent)	2,243,093	NPV is high and positive at a conservative project life of 5 years	With a discount rate of 10% and a span of 7 operational years, the NPV should be positive
5	Payback period	4.72	Project Viable	The Pack Back Period (Project/ Equity) shall be less than 7 years
6	Debt Service Coverage Ratio (DSCR)	2.56	Project Viable	DSCR shall be more than 2 for better performing project.

About Maize Business:-

1 Details of members and non- members

Particulars	No.
Total No. of Members Cultivating Grain Crops	260
Total No. of Non- members Cultivating Grain Crops	60
Total	320
Average Land Holding per Member (Acres)	1.00
Total Cultivated Land under grain Crop(Acres)	320

2 Statement Showing Area, production, productivity and marketable Surplus of Crops

Season	Crop	Cultivation In (%)	Total Land under Cultivation (In Acres)	Yield/Acres (In Quintals)	Total Production (In Quintals)	Consumption in (%)	Marketable Surplus (In Quintals)
Kharif	Maize	70%	224	25	5,600	10%	5,040
	Red Gram/Tur	0%	-	-	-	0%	-
	Paddy/Rice	0%	-	-	-	0%	-
	Green Gram/ Moong	0%	-	-	-	0%	-
	Soyabean	0%	-	-	-	0%	-
	Black Gram/Udid	0%	-	-	-	0%	-
	Bajra	0%	-	-	-	0%	-
	Jawar	0%	-	-	-	0%	-
	Sunflower	0%	-	-	-	0%	-
Area Under Rabbi Cultivation (In Acres)	60%	192					
Rabbi	Maize	75%	144	30	4,320	10%	3,888
	Bengal Gram/Channa	0%	-	-	-	0%	-
	Jawar	0%	-	-	-	0%	-
	Maize	0%	-	-	-	0%	-
	Safflower	0%	-	-	-	0%	-
		0%	-	-	-	0%	-
Area Under Summer Cultivation (In Acres)	50%	160					
Summer	Maize	75%	120	25	3,000	10%	2,700
		0%	-	-	-	0%	-
		0%	-	-	-	0%	-
		0%	-	-	-	0%	-

3 Quantity of Marketable Surplus Produce Considered for Processing Business

Particulars	100%	105%	110%	115%	120%	125%	130%
	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Kharif							
Maize	5,040	5,292	5,544	5,796	6,048	6,300	6,552
Red Gram/Tur	-	-	-	-	-	-	-
Paddy/Rice	-	-	-	-	-	-	-
Green Gram/ Moong	-	-	-	-	-	-	-
Soyabean	-	-	-	-	-	-	-
Black Gram/Udid	-	-	-	-	-	-	-
Bajra	-	-	-	-	-	-	-
Jawar	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-
Rabbi							
Maize	3,888	4,082	4,277	4,471	4,666	4,860	5,054
Bengal Gram/Channa	-	-	-	-	-	-	-
Jawar	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
Summer							
Maize	2,700	2,835	2,970	3,105	3,240	3,375	3,510
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

Facility 2 - Grain Processing Unit - Feed Mill

1. Producers/ Capacity Utilization

Capacity:- 45 Qtl per hrs.

Working No. of Hours:- 8 hrs

Products	Qty Kg
Cattle Feed	2000
Silage	2500
Total Qty in KG	4500

Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
No. of Operation Days	182	191	200	209	219	228	237
Maize (kharif)	5,040	5,292	5,544	5,796	6,048	6,300	6,552
Maize (Rabbi)	3,888	4,082	4,277	4,471	4,666	4,860	5,054
Maize (Summer)	2,700	2,835	2,970	3,105	3,240	3,375	3,510
-	-	-	-	-	-	-	-
Total Quantity to be Processed	11,628	12,209	12,791	13,372	13,954	14,535	15,116
Quantity for Processing	100%	100%	100%	100%	100%	100%	100%
Maize (kharif)	5,040	5,292	5,544	5,796	6,048	6,300	6,552
Maize (Rabbi)	3,888	4,082	4,277	4,471	4,666	4,860	5,054
Maize (Summer)	2,700	2,835	2,970	3,105	3,240	3,375	3,510
-	-	-	-	-	-	-	-
Output (KG)							
Maize	11,628	12,209	12,791	13,372	13,954	14,535	15,116
Other ingredients (Refer Annex 1)	27,132	28,489	29,845	31,202	32,558	33,915	35,272
Cattle Feed	38,760	40,698	42,636	44,574	46,512	48,450	50,388
Maize Fodder for Silage (Refer Annex 1)	53,933	56,630	59,327	62,023	64,720	67,417	70,113
Packaging (In Kg)	50						

2. Profit and loss of Grain Processing Unit - Feed Mill

Particulars	Unit	Rate	100%	105%	110%	116%	122%	128%	134%
			Y1	Y2	Y3	Y4	Y5	Y6	Y7
Revenue									
Products									
Cattle Feed	50Kg	1,315	96,841,860	112,119,938	123,345,311	135,412,922	148,378,930	162,303,007	177,248,545
Silage	50Kg	250	25,618,365	29,659,999	32,629,538	35,821,882	39,251,885	42,935,335	46,888,999
			-	-	-	-	-	-	-
Solar Panel	72,000	3.94	283,680	283,680	283,680	283,680	283,680	283,680	283,680
Revenue			122,743,905	142,063,617	156,258,529	171,518,483	187,914,495	205,522,022	224,421,224
Expenses									
Variable Cost									
Maize Seeds	Quintals	2,200	25,581,600	28,203,714	31,024,085	34,055,985	37,313,514	40,811,656	44,566,328
Other ingredients	Quintals	1,996	54,167,100	59,719,228	65,691,151	72,110,968	79,008,538	86,415,589	94,365,823
Maize Fodder	Quintals	150	8,515,800	9,388,670	10,327,536	11,336,818	12,421,210	13,585,698	14,835,582
Culture for Silage	Quintals	15	80,900	89,192	98,112	107,700	118,001	129,064	140,938
Electricity Charges	973	9.48	1,679,463	1,851,608	2,036,769	2,235,817	2,449,678	2,679,335	2,925,834
Packaging Expenses		70	12,977,076	14,307,226	15,737,949	17,275,976	18,928,460	20,703,004	22,607,680
Transportation Charges		100	18,538,680	20,438,895	22,482,784	24,679,965	27,040,658	29,575,719	32,296,686
Add: Opening Stock				6,077,031	6,699,927	7,369,919	8,090,161	8,864,003	9,695,003
Less: Closing Stock			6,077,031	6,699,927	7,369,919	8,090,161	8,864,003	9,695,003	10,586,944
Total Variable Cost			115,463,588	133,375,637	146,728,393	161,082,986	176,506,217	193,069,064	210,846,930
Fixed Cost									
Machine Operator	2	15,000	360,000	378,000	396,900	416,745	437,582	459,461	482,434
Labour	5	9,000	540,000	567,000	595,350	625,118	656,373	689,192	723,652
Fixed Cost			900,000	945,000	992,250	1,041,863	1,093,956	1,148,653	1,206,086
Total expenses			116,363,588	134,320,637	147,720,643	162,124,849	177,600,173	194,217,717	212,053,016
Operating Profit			6,380,317	7,742,980	8,537,886	9,393,635	10,314,323	11,304,305	12,368,208

Annex 1

Cattle Feed - Ingredients recipe

Sr. No.	Description	Qty (Kg)	Rate/Kg	Amount
1	Cotton DOC	205	37	7,585
2	DORB	100	12	1,200
3	Huller	100	7	700
4	Maize Seeds	300	22	6,600
5	Rice Polish	120	12	1,440
6	Fat Bypass	8	80	640
7	Salt	25	5	125
8	L.S.P	22	3	55
9	Molasis	80	8	640
10	Urea	15	6	90
11	Premix	25	60	1,500
	Total	1,000		20,575

Particulars	Qty (Kg)	Cont. %	Amount	Rate Per Kg	Rate Per Qtl
Other ingredients	700	70%	13,975	19.96	1,996.43
Maize Seeds	300	30%	6,600	22.00	2,200.00
Total	1,000	100%	20,575	20.58	2,057.50

For Cattle Feedworking

Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Maize Seeds	11,628	12,209	12,791	13,372	13,954	14,535	15,116
%	30%	30%	30%	30%	30%	30%	30%
Other Indigriants	27,132	28,489	29,845	31,202	32,558	33,915	35,272
%	70%	70%	70%	70%	70%	70%	70%
Total	38,760	40,698	42,636	44,574	46,512	48,450	50,388

For Silage from fodder working

Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Maize Seeds	11,628	12,209	12,791	13,372	13,954	14,535	15,116
%	17%	17%	17%	17%	17%	17%	17%
Maize Fodder	56,772	59,611	62,449	65,288	68,126	70,965	73,804
%	83%	83%	83%	83%	83%	83%	83%
Total	68,400	71,820	75,240	78,660	82,080	85,500	88,920

(-) Moisture Loss 5%	2,839	2,981	3,122	3,264	3,406	3,548	3,690
Net Weight	53,933	56,630	59,327	62,023	64,720	67,417	70,113

Cultures ingredients	5,393	5,663	5,933	6,202	6,472	6,742	7,011
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Facility 3 – Warehouse

1 Capacity Utilization

Capacity 750 MT

No.of Month 12

Particular	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Capacity Utilisation	80%	85%	90%	95%	100%	100%	100%
Total Quantity Stored per Annum	7,200	7,650	8,100	8,550	9,000	9,000	9,000

2 Profit and loss of Warehouse

			100%	105%	110%	116%	122%	128%	134%
Particulars	Unit	Rate	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Revenue									
Cattle Feed & Silage									
Storage Charges per MT per Month		-	-	-	-	-	-	-	-
Total Revenue			-	-	-	-	-	-	-
Expenses									
Variable Cost									
Dunnage	MT	6	18,000	18,900	19,845	20,837	21,879	22,973	24,122
Fumigation	MT	7	63,000	66,150	69,458	72,930	76,577	80,406	84,426
Electricity		5,000	60,000	63,000	66,150	69,458	72,930	76,577	80,406
Total Variable Cost			141,000	148,050	155,453	163,225	171,386	179,956	188,953
Fixed Cost									
Warehouse Supervisor	1	15,000	180,000	189,000	198,450	208,373	218,791	229,731	241,217
Total Fixed Cost			180,000	189,000	198,450	208,373	218,791	229,731	241,217
Total Expenses			321,000	337,050	353,903	371,598	390,178	409,686	430,171
Operating profit			(321,000)	(337,050)	(353,903)	(371,598)	(390,178)	(409,686)	(430,171)

Executive Summary:

- 1) BR Patil FPC have 260 farmers shareholders**
- 2) Maize is major crop in this area**
- 3) FPC supporting to shareholders in terms of seed, pesticides and fertilizers in competitive rate to bring cost of production down.**
- 4) FPC supplying Maize to Bhairavnath Sahkari Doodhutpadak Sangh in small quantity but with the help of SMART Project FPC will prepare TMR and sale to buyer as well as shareholder farmers.**
- 5) With the help of SMART Project, FPC is planning to set up Feed Processing Plant and due to this intervention farmers will get benefited and soybean value chain will get developed.**

Part 6: Assumptions

6.1 : Assumptions

Assumptions required for financial analysis of each business. This information should be filled in by the applicant in the form of business. (For each business / facility included in the sub-project, the following information should be filled in independently.

1. General information about the facility / business

Sr.No	Particulars	Details
1	Business/Project Name	Maize Processing
2	Space required for installation of the facility	
3	Capacity of the facility	45Qt/Hr
3.1	How many hours a day will this facility be working?	8Hrs/Per Day
4	Capital investment for machinery and other equipment	13,037,768
5	Investment for building construction and other areas (as per construction budget)	9,212,532
6	How many days of the year will this facility be working?	

2. Details of revenue received from the above facility.

Sr.No.	Name of Product	Unit	Wholesale Price (Rs .---- / Unit)
1	Cattle Feed	50kg /Bag	Rs.1315
2	Silage	50kg /Bag	Rs.250

3. Cost of raw material required for the facility.

Sr.No	Name of Crop	Purchase price (quintal / Rs.)	Remark
1	Maize	Rs.2200	
2	Fodder	Rs.150	

4. Expenditure on the salary of a managerial employee

Sr.No	Designation	Nons	Salary/Month	Remark
1	Accountant	1	Rs.15,000	
2	Watchman	2	Rs.9,000	

5. Expenditure on essential workers

Sr.No	Type of Laborers	Nos	Wedges / per day	Remark
1	Skilled	2	Rs.500/day	
2	Partial Skilled			
3	Unskilled	5	Rs.300/day	

6. Cost of rent required for the facility

Sr.No	Particulars	Amount/Month	Remark
1	Rent	Rs.2000/Month	
2	Others		

7. Expenses on electricity bill for running the facility

Sr.No	Combined horsepower of all machinery and equipment	Unit usage per hour	Cost per unit is Rs	Remark
1	163	8	9.48	

8. Cost of maintenance and repair of the facility

Sr.No	Particulars	Details	Remark
1	Machinery, building, equipment etc. Maintenance and repair	Rs. 50000/P.A.	

9. Other consumables required for product manufacture

Sr.No	Consumables(Others)	Unit	Total Required Units	Cost/Unit	Remark
1			-		
2					
3					

10. Expenditure on packaging materials

Sr.No	Type of material	The size of the material	Unit	Cost/Unit	Remark
1	Bag	50 Kg.	Nos	70	

11. Expenses on storage of goods

Sr.No	Farm Product Name	Total storage period (months)	Storage rate Rs. / Per quintal per month	Remark
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1		-		

12. Details of other expenses

Sr.No	Particulars	Rs/Month	Remark
		-	

6.2 Other assumptions

1. Year wise participation of the members of the organization in business
2. Production forecasts for different years
3. Average Depreciation - Machinery Materials, - 6.33% Building, - 3.17% IT Infra. - 10%
4. 12% interest rate on long term and short term loans
5. Electricity, insurance
6. Amount of sales facilitation
7. Income tax on taxable amount

Part-7.

SOCIAL ACTION PLAN¹

1. Name of Nodal Person of CBO for implementation and reporting of Social Action Plan: Mr. Abhijeet Patil

Particulars	Yes/No	If Yes, Specify
2. Information of Sub-project Implementation Area		
Does the subproject area fall under Scheduled V ² (Tribal) Area?	No	
Does the subproject area have Particularly Vulnerable Tribal Groups ³ (PVTGs)?	No	
Does the subproject fall under Left Wing Extremism ⁴ area (LWE)?	No	
Does the subproject district fall under Aspirational District ⁵ ?	No	
3. Compliance with Negative List		
Does this Subproject involve compulsory acquisition of private land?	No	
Does this Subproject involve purchase of private land?	No	
Does this Subproject involve physical relocation of people, houses, shops, buildings etc.?	No	
Does this Subproject involve closure of access to common routes, facilities and resources?	No	
Does this Subproject involve activities that adversely impact local livelihoods and businesses?	No	
Does this Subproject cover Indigenous Peoples villages/territories' (villages with scheduled tribe population and designated Schedule V areas) where free, prior, and informed consultations have not been done?	No	
Does this Subproject cover Indigenous Peoples villages/territories (Villages with scheduled tribe population and Schedule V areas) where evidence for broad community support has not been obtained or is not available?	No	
Does this Subproject involve any activities that could negatively affect the social, cultural and religious beliefs, practices and livelihoods of indigenous peoples (tribal people)?	No	
Does this Subproject involve activities that could adversely affect cultural property, including archaeological and historical sites?	No	
Does this Subproject involve any activities that could potentially use forced labour ⁶ or child labour ⁷ and other labour-exploitative practices?	No	
Does this Subproject involve deep excavation works, hazardous chemicals, explosives, submergence, dangerous sites which threaten the health and safety of workers and local communities?	No	
Does the subproject involve any hazardous work for labour during construction work?	No	
Does this Subproject involve any activities that could harm the health, safety and wellbeing of women, girls and children?	No	
4. SubProject Implementation		
4.1 Measures for Social Inclusion		

¹ Following the Environment and Social Management Framework of the SMART <https://www.smart->

mh.org/smart/aboutsmart2 List of tribal districts & blocks (Scheduled V Area) is available at <https://cdnbbsr.s3waas.gov.in/s3c8758b517083196f05ac29810b924aca/uploads/2019/11/2019112132.pdf>

3 *Particularly Vulnerable Tribal Groups-Katkaria(Kathodia),Kolam,MariaGond*

4 *Left Wing Extremism districts Chandrapur, Gadchiroli, Gondia*

5 *Aspirational Districts Nandurbar, Washim, Gadchiroli, Osmanabad*

6 *Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty*

7 *A child under the age of 14 will be considered as child labor. A child over the minimum age of 14 and under the minimum age of 18 may be employed or engaged in connection with the Project only under the following specific conditions: The work is not hazardous in nature and is likely to jeopardize the child's health, safety, or morals. An appropriate risk assessment is conducted prior to work commencing. The Borrower conducts regular monitoring of health, working conditions, hours of work, and the likelihood of potential threat to the child's overall development.*

Whether CBO will take measures for the inclusion of vulnerable households, including SC, ST, Women Headed household, tenant farmers, returnee migrants and other vulnerable workers in Subproject activities?		
4.2 Tribal Development Plan (For the Subprojects from Schedule V Area)		
Whether free, prior and informed consultations with Tribal community has been conducted?	NA	
Whether the consent of Tribal Community for Project Implementation has been obtained?	NA	
Whether the access and benefits of project activities/facilities to Tribes will be ensured?	NA	
4.3 Land		
Whether own 7/12 extractor registered Lease Agreement for rent/lease of private land for 29 years has been attached?	Yes	
Whether non encroachment certificate of land has been attached? (by relevant authority like DIU Head/Gram panchayat/Talathi etc.)	Yes	
4.4 Labour mitigation measures during civil & Implementation work		
Whether CBO will take measures for safeguarding health and safety facilities for workers (when camps are set up)? (e.g. enough space for living, hygiene facility, drinking water. Separate washroom for male & female, crèche/shed for children, training/awareness on The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013, mechanism to address sexual violence etc.)	Yes	Stay arrangement, good food and good water for drinking. Support for education of children's
Whether CBO will take measures to address risks related with influx of migrant labour from outside? (e.g. measures to prevent crime, communicable diseases, gender base violence, child labour, accidents, etc.)	Yes	1. Educate on the root causes of violence. ... 2. Develop an action plan. ... 3. Involvement of local Police officers in fourth night trainings
Whether CBO will take measures to record and address incidents of gender-based violence and sexual harassment?	Yes	Involvement of local Police officers in fourth night trainings
4.5 Measures of Health and Safety		
Whether CBO will take measures on Community Health and Safety? (e.g. measures to prevent accident, physical injury, sexual exploitation of community member, etc.)	Yes	Sign boards and Diversion boards to minimize accidents and physical injuries 2. It will be ensured that, nearby public water resources will not be polluted by construction debris, human fecal matter, or any other harmful substances. 3. It will be ensured that, noise levels will be minted as per standards. 4. Cleanliness in the project area.
Whether CBO will take measures on Occupational Health and Workers Safety? (e.g. measures to prevent on site accident, physical injury, sexual exploitation of workers, etc.)		CBO will ensure the following health and safety measures Health related measures 1. Provision of safe drinking water facility 2. Separate washroom facility for women and men with water facility 3. Availability of first aid kits 4. Keeping cleaning facility like broom,

<p style="text-align: center;">1</p>	<p>spittoons , hand washing facility</p> <p>5. Sitting facility for workers</p> <p>6. Maintenance of waste management system like dustbin, dust collector, composting bin</p> <p>7. Availability of crèches facility</p> <p>8. Periodically health check-up / vaccination (as per requirement) of employees and labors, information notice of certain diseases, Provision of safety equipment's like helmet, safety goggles, gumboot, hand gloves, and fire extinguisher available.</p> <p>2. Provision of masks and earplugs.</p> <p>3. ISign boards mentioning danger accident prone areas, Diversion boards to avoid traffic, and Speed Breakers to minimize accidents.</p> <p>4. Provision of lifting machines, chains, ropes, and pulley for loading and lifting.</p> <p>5. Facility of mobile trolley and adjustable mobile ramp, ladder for loading and lifting works.</p> <p>6. Power backup</p> <p>Measures on prohibition of sexual harassment at work place.</p> <p>1. Awareness training for workers on Sexual Harassment of Women at Work Place Act, 2013 (PoSH Act 2013).</p> <p>2. During operation of cleaning grading of onion unit in case of more than 10 workers, Internal Complaint Committee will be formed.</p> <p>Other measures</p> <p>1. No child labor engagement</p> <p>2. No bonded labor</p> <p>3. Equal wages for men and women employee for same work.</p> <p>4. Pay wages as per the Minimum Wages Act</p> <p>5. Maintenance of safety records (Maintaining accident and measures data in separate record.)</p> <p>6. Insurance of workers against injury</p> <p>7. Maintenance of solid waste and by-product management facility-composting/vermicomposting unit.</p>
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		8. Training of employees on stacking 9. Training of employees on goods handling and storing. 10. Allotment of a designated parking space (Raw and processed produce) Fire drills at least once a year.
Whether CBO will take Safety measures on COVID-19. (Social distancing, use of Mask, etc.)		Will ensure the use of Mask, Hand sanitizers, maintain social distancing. Will strictly follow the Govt. guidelines issued from time to time.

5. Sub-project Targets:

Sr. No.	Particulars	Current Status (Baseline of CBO)	Proposed target in the Sub-project
	Social Inclusion & Gender Integration targets⁸ (%)		
a	Total No. of Farmers/Members	260	500
b	No. of Small and marginal Beneficiaries (& their %)	240 (92%)	480 (96%)
c	No. of Women Shareholders (& their %)	55 (21.15%)	200 (40%)
d	No. of Women Board of Directors (& their %)	1 (20%)	2 (40%)
e	No. of Schedule Tribes (& their %)	0	0
f	No. of Schedule Caste (& their %)	10 (3.8%)	30 (6%)
g	No. of Tenants (& their %)	0	00
h	No. of Landless (& their %)	0	0
i	No. of Women having land title (7/12) (& their %)	0	30 (6%)

8 As per the Social Inclusion & Gender Strategy of the Project, out of total beneficiary of the project, 80% will be small & marginal farmers, minimum 30% will be Women beneficiary, minimum 6% will be Schedule Tribes, minimum 7% will be Schedule Caste beneficiary. Also CBO should have minimum 20% Women Board of Directors.

Part 8: Environmental Action Plan

The Environmental Action Plan (EAP) will provide guidance to the CBOs in minimization/mitigation of potential environmental risks/impacts of the agricultural and animal husbandry value chain development activities of the subproject. The environmental baseline information for providing suggestions to CBOs for bringing out performance improvements in the activities of the subproject are collected as per the below-mentioned tables:

1. Name of CBOs Nodal Person for implementation and reporting of Environmental Action Plan:
Mr. Abhijeet Patil :-9766431854

2. Information related to Environmental Compliance according to the ESMF Report¹:

A. For Agriculture Value chain Development Subprojects			
Sr. No	Will the Subproject Activity	Yes/No	If Yes, Specify
1.	Be located within or near environmentally sensitive areas like Protected/Reserve Forests ² , Wetlands, Special area for protecting biodiversity, Cultural heritage site?	No	
2.	Cause ecological degradation resulting from modification of non-agricultural lands to agricultural lands?	No	
3.	Have risk of deforestation?	No	
4.	Affect the indigenous floral (plant) and faunal (animal) biodiversity?	No	
5.	Be located in a site vulnerable to major natural disasters or induced hazards such as Landslides, Flooding, Storm, Earthquakes, etc.	No	
6.	Involves use of pesticides banned by Govt. of India ³ , pesticides listed in Class Ia, Ib, Class II of World Health Organization (WHO) ⁴	No	
7.	Involves use of uncertified seeds or banned crop varieties?	No	
8.	Involves burning of Crop Residue/Stubble on the farmland?	No	
9.	Involves disposal of agricultural production/processing waste and waste water without treatment in the surrounding environment (land, water bodies, water drainage lines, etc.)?	No	
10.	Are the agricultural commodities sent for testing of their Maximum Residue Level (MRL) (mg/kg) values in laboratories?	No	
11.	Involves use of polluting and non PUC certified vehicles like trucks, vans, tempos, reefer van, etc.	NO	
12.	Have approach to pucca roads for doing transportation planning?	Yes	Road touch side
B. For Animal Husbandry Value chain Development Subprojects			
1.	Involves rearing/grazing of small ruminants (goat, sheep) and poultry birds in the forest areas?	NA	
2.	Involves introduction of exotic animal breeds in the	NA	

¹ Please refer to the SMART Project's Environmental and Social Management Framework (ESMF) report: https://www.smart-mh.org/cdn//2019/08/190818171526_405e4be8b9d3ce2374fe29ce1561a62b.pdf

² List of protected areas of Maharashtra- http://www.wiienvs.nic.in/Database/Maharashtra_7829.aspx

³ List of Pesticides banned by the Govt. of India:
http://ppqs.gov.in/sites/default/files/list_of_pesticides_which_are_banned_refused_registration_and_restricted_in_use_01.07.2021.pdf

⁴ List of Pesticides banned by the World Health Organization (WHO): <https://www.iloencyclopaedia.org/part-ix-21851/minerals-and-agricultural-chemicals/item/318-the-who-guidelines-to-classification-of-pesticides-by-hazard-part-1>

	Subproject?		
3.	Are animal waste management and disposal practices being introduced?	NA	
4.	Involves use of banned veterinary drugs in the livestock rearing ⁵ ?	NA	
5.	Involves operating slaughter house without Abattoir (Slaughterhouse) waste and Effluent (wastewater) Treatment Plant (ETP) facility ⁶ ?	NA	
6.	Likely to cause risk to community's health due to transmission of diseases from the livestock to humans?	NA	

3.Environmental Baseline Information and related Safeguard Targets for the Subproject

Sr. No	Agricultural practices implemented in the sub-project	Details	Pre-project (basic)	Proposed targets in the subproject
A. Sub-projects for agricultural value chain development				
1.	Average use of chemical fertilizers -NPK	Kg/H	100N, 280P,100K	70N, 200P,70K
2.	Recommended amount of chemical fertilizer applied area	He.		
3.	Areas using less chemical fertilizers than recommended	He.	100	80
4.	Areas using more chemical fertilizers than recommended	He.	10	2
5.	Areas used in the Integrated Nutrient Management (INM) system	He.	18	50
6.	Average use of agrochemicals - Pesticides, fungicides and herbicides	Lt/He.	0.5	0.3
7.	Recommended dose of pesticide applied area	He.		
8.	Areas using less pesticides than recommended	He.	100	80
9.	Areas using more pesticides than recommended	He.	10	2
10.	Areas used in the Integrated Pest Management (IPM) system	He.	18	50
11.	Area where crop residues are burned	He.	0	0
12.	Compost, manure etc. Recycled area of crop residue for preparation	He.	0	0
13.	Area under organic farming	He.	0	0
14.	The following areas are in the world best agricultural system (GAP)	He.	0	0
B.Sub-project for poultry rearing in goat and backyard				
15.	Types of Animal Feeding Methods - Mokatcharan / Semi-BandiSthacharan	-	N.A.	N.A.
16.	Areas used as animal manure	Kg/He	N.A.	N.A.
17.	Animals have been vaccinated / Animals have not been vaccinated (Yes / No)(-	N.A.	N.A.
C.Valid Pollution Control (PUC) Certificate (is / is not)				
		-	N.A.	N.A.

⁵List of veterinary drugs banned by the Govt. of India: https://www.nhp.gov.in/Complete-list-of-344-drugs-banned-by-the-Ministry-of-Health-Family-welfare_pg

⁶Slaughterhouse waste and waste water management document: <https://cpcb.nic.in/openpdf.php?id=TGF0ZXN0RmlsZS8xNzVfMTUxMTI2NDE0MV9tZWRRpYXBob3RvODkzOS5wZGY=>

3. Environmental Safeguards Inclusion Targets for the Subproject

Sr. No.	Particulars of the Target	Current/Baseline Condition in the Subproject	Target to be Achieved in the Subproject
1.	No. of farmers of CBOs trained in IPM and INM practices (and their %) ⁷	18	200
2.	No. of IPM and INM demonstrations at the field level given to the CBO members for the subproject related agri-commodities (and their %) ⁸	18	200
3.	% of the area of CBOs brought under IPM in the subproject ⁹	6%	60%
4.	% of the area of CBOs brought under INM in the subproject ⁹	2%	60%
5.	No. of farmers of the CBOs trained in the Climate SMART Technologies/Practices (CSTs) ¹⁰ best suited to the given subproject	0	100
6.	Number of CSTs Adopted in the Subproject ¹¹	0	60 %
7.	Land area (ha.) brought under CSTs in the Subproject ¹²	0	60%

4. Guidelines for Achievement of the Environmental Safeguards Targets

- 1) As per the SMART project's Environmental and Social Management Framework (ESMF) report recommendations, none of the subproject activities should fall under Negative (non-eligible) list of the project activities given in the point no. 3.9, pg no. 48 of the ESMF report. All the subproject activities should be implemented in accordance with the provisions and mitigation measures given in the ESMF report.
- 2) For requirement of Organic (NPOP- National Programme for Organic Production) and/or GLOBAL Good Agricultural Practice (G.A.P.) group certification, project's financial support of up to 60 % can be availed by the subproject CBOs. The remaining 40 % of certification cost will be required to be raised by the CBOs themselves.
- 3) All the new machineries to be purchased using project's resources should be energy efficient, vehicles should be Bharat State VI complaint and fuel use efficient, tractors should be Bharat Stage (CEV/TREM) IV – V and above, and hold valid PUC certificate.

1. As per the recommendations of the Smart Project Environment and Social Management Plan, no (ESMF) sub-project should be included in the negative list given on point 3.9, page 48.

2. Training on Integrated Food Management (INM) and Integrated Pest Management (IPM) use will be imparted to all (100%) community based organizations through the sub-project at the Value Chain Development School (VCDS) of the project. By the end of the sub-project, 50% of the sub-project area will be brought under IPM.

3. For the requirement of Organic (National Program for Organic Production) and / or Global Best Practices (GAP) group certification, up to 60% of the project funding can be provided to the community based organization through the sub-project. The remaining 40% of the cost will have to be borne by the community based organization itself.

4. All new machinery procured using project resources should be energy efficient, Vehicle-Bharat Stage-VI, Tractor-Bharat Stage (CEV / Term) IV-V and the vehicle must have valid PUC certificate.

Website: https://www.smart-mh.org/cdn/2019/08/190818171526_405e4be8b9d3ce2374fe29ce1561a62b.pdf

⁷100 % farmers of the subproject's CBOs should be trained in the INM and IPM in the project's Value Chain Development School (VCDS).

⁸100 % IPM and INM demonstrations at the field level should be carried out for all the subproject related agri-commodities in the demonstration plots of the VCDS.

⁹ At least 50 % of the subproject area of the CBOs should be brought under the IPM and INM practices by the end of the subproject.

¹⁰ The 10 Nos. of Climate SMART Technologies/Practices are use of renewable (solar) energy, Organic certification, Global G.A.P. certification, Good Animal Husbandry Practices (GAHP), productive use of crop residue i.e., mulching, vermicomposting, etc. IPM, INM, use of renewable/energy efficiency in the warehouse, introduction of climate hardy seed varieties, use of Information and Communications Technology (ICT) for climate change risk management.

¹¹ At least 03 Nos. of best suited CSTs applicable to the given subproject out of the total 10 Nos. of CSTs mentioned in the point no. 10 above should be adopted in the subproject.

¹² At least 100 ha. area under the given subproject should be brought under the "Climate Smart Agriculture" by the use of at least 03 Nos. of CSTs best suited to the given subproject.

