SUPPORTED BY

Hon. Balasaheb Thackeray Agribusiness and Rural Transformation (SMART) Project

Full Project Proposal (FPP)

OF

SOYA-BEAN TRADING AND PROCESSING UNIT

FOR

SITAMAI AGRO PRODUCER COMPANY LIMITED

PREPARED BY

CS. ANIKET KOKANE

ANIKET KOKANE & ASSOCIATES
COMPANY SECRETARIES

***Sangli Office*: 2nd Floor, Govind Plaza, Opp. Entrance of Sangli District Court, Vijaynagar, Sangli - 416416**

Contact: 7057174555 **Email: csaniketkokane@gmail.com**

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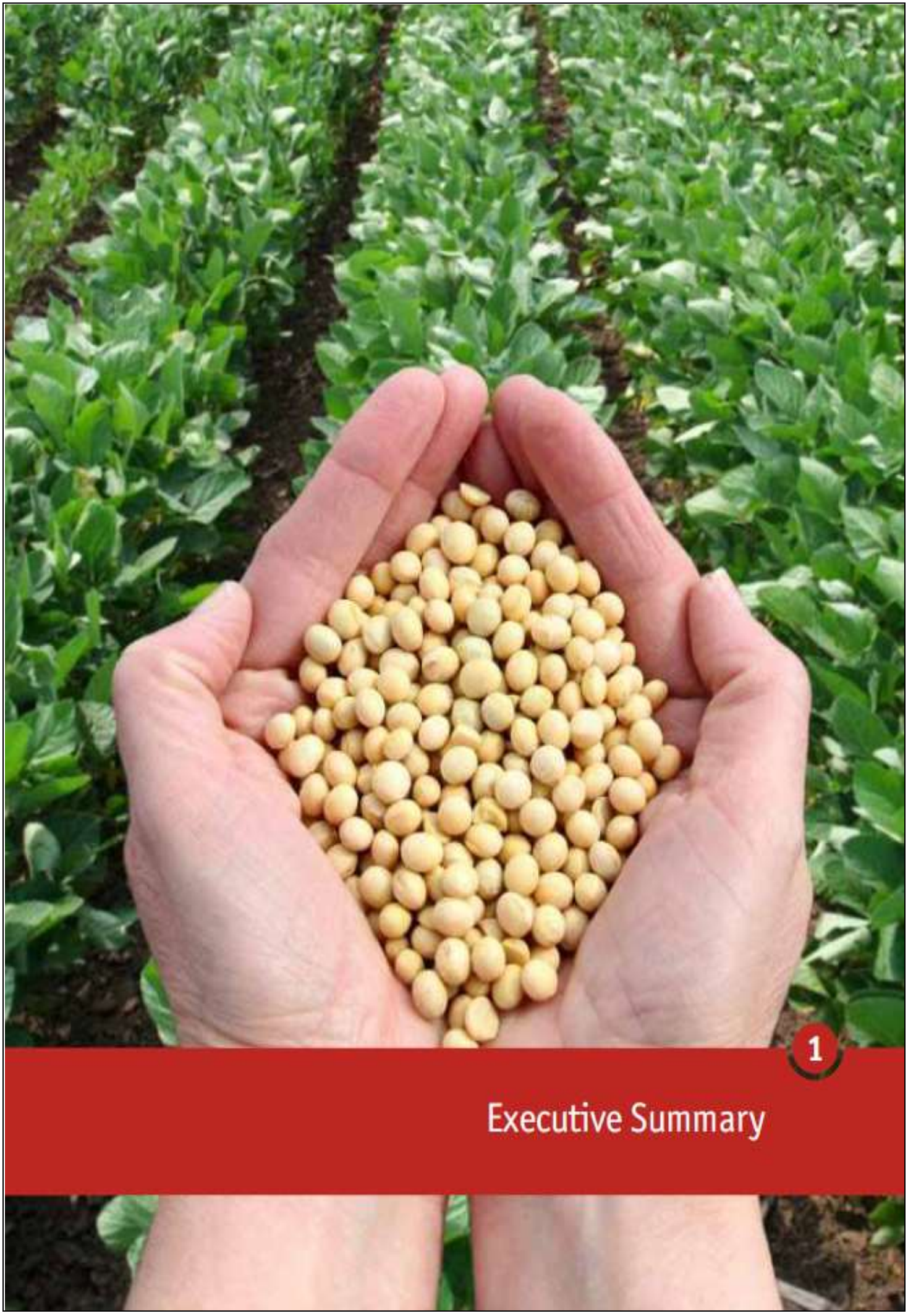

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Executive Summary

Maharashtra is the first state in India to implement projects under the Public-Private Partnership for Integrated Agriculture Development (PPPIAD) scheme. In 2012, the State Department of Agriculture rolled out projects focusing on improving value chains for crops as well as developing integrated value chains for specific crops through public private collaboration and co-investment. In the first year the partnership was rolled out with the aim of reaching out to at least 200,000 farmers in the state.

FICCI undertook the evaluation of Soybean project implemented by ADM in year 2012-13 and 2013-14. The objectives of the study were to assess the outcomes in terms of increase in productivity of Soybean, improvement of farm incomes; document the processes of linkage of farmers with input and output markets; and to identify the processes that enable a successful partnership between the Government, private industry and farmers.

The project on Soybean aimed at improving the standard of living of small and marginal Soybean growing farmers by enabling/empowering them to be self-reliant through supply of high yielding planting materials, providing agronomic support, assisting in adopting advanced agri practices, providing market linkages, and sharing experiences of research and development in Soybean cultivation.

ADM has set up a very efficient and meaningful extension program over the past 8-9 years in Latur to disseminate new technologies to small and marginal farmers. Careful observation of several initiatives reveals that these efforts were not beneficial merely in terms of productivity but helped farmers with agri input, resource conservation, better extension services and market linkages. The results of this highly successful farmer program are evident in the fact that the Soybean acreage has grown from 7,000 ha in 2001 to 3.80 lakh hectares in year 2014-15 (Kharif season).The yield per hectare of soybean increased to 1.8 MT / Ha against the national average of 1.2 MT/ Ha.

Approx. 88, 350 farmers are engaged with ADM in PPPIAD project. ADM adopted the strategy of continuous interaction with farmers and FPOs to design various components of the project. This strategy helped in providing solutions to the ground level problems at farmers end. Empowering women with knowledge on Soybean cultivation is one of the distinct features of project.

The project has been able to enhance the productivity of Soybean by (a) distributing certified varieties of high yielding varieties of Soybean such as DS 228 and MAUS 71 which gave incremental yield of 20-30% (806 qtl of certified seed distributed in year 2013-14) (b) training and skill development of farmers and FPOs for seed production programme (total 418 ha of area is covered under seed production programme in year 2013-14) (c) providing end to end mechanized solutions for soybean cultivation which led to 25% increase in yield for Soybean crop.

Regular advise on extension services by ADM officials at each ADM Extension centres known as KVKs (Krishi Vigyan Kendras) has contributed to the adoption of best practices in Soybean cultivation. Some of the major initiatives taken under front line demonstrations include (a) educating farmers about soil test based fertilizer application (b) seed treatment prior to sowing etc. ADM has also facilitated SMS service to more than 3000 lead farmers. Training farmers on seed production was one of the major initiatives under extension programme.

There is a well-defined institutional mechanism created both at the Government and at the company level to oversee the implementation and monitoring the progress of the project with periodic reporting and assessment across all levels. PPPIAD project has created a framework where the Government and the private company have worked in tandem, supporting the development of the back end supply chain along with providing the market linkage opportunities to the Soybean growing farmers.

Based on the interactions during primary survey, two important initiatives which had tremendous impact on strengthening value of Soybean are as under:

- Labor consists 30%of the total cost of Soybean cultivation for a one acre land. Mechanization is a logical choice when the country is looking for ways of managing agriculture labor concerns. Introduction of new farm implements in Soybean cultivation which led to end to end mechanized solutions led to net saving of 30% in Soybean cultivation, 25% increase in yield and saving of Rs. 640 per acre in cost of seed. Two FPOs (Farmer Producer Organizations) formed for establishing custom hiring centres for Soybean cultivation were very efficient. There is need to promote soybean variety fit for mechanical harvesting. The financial support provided by ADM and State Govt. of Maharashtra was very instrumental in success of this pilot on farm mechanization in Soybean.

- Creation of market linkages by (a) Direct procurement programme by way of creating ADM kissan cards for each farmer (b) and connecting farmers to Commodity exchange were very impactful. Farmers saves 2% cost by selling directly to ADM. 104810.4 MT of Soybean was procured by ADM in year 2013-14 (from Oct'13 to Sept'14) and 78612.95 MT (from Oct'12 to Sept '13) under direct procurement programme. Pilot project on warehousing cum marketing of Soybean through spot exchange has been able to raise farmers income by 35%.

It was felt that the project has further scope of strengthening Soybean value chain by (a) creation of more FPOs (b) incentivizing FPOs to undertake activities such as custom hiring centre and seed production programme (c) convergence among State Govt of Mahrashtra, Universities, industry and FPOs regarding supply of breeder seed and building strategies for conversion of breeder to foundation and certified seeds. Connecting farmers to Commodity

exchange, scientific storage under Maharashtra state warehousing corporation and linking farmers to banks as all farmers who transact with ADM now hold bank account and have improved marketability of Soybean under PPPIAD project. This should be promoted in big way.

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The Soyabean, Its History and Its Opportunities

Soybeans are often called the “miracle crop.” They are the world’s foremost provider of vegetable protein and oil. The bushy, green soybean plant is a legume related to peas, groundnuts (peanuts) and alfalfa. Soybeans are included in the category of oilseed, which is a generic reference to crops with seeds that can produce edible and/or non-edible oil in economic quantities. The most versatile of the world’s major crops, soybeans can be grown in a wider variety of soil and climatic conditions than any other major world crop. Consequently, soybeans are the most widely grown oilseed in the world. In the last 20 years, scientists have learned how to extract a much wider variety of byproducts from soybeans that are proving beneficial in animal feed, human food and industrial applications.

As early as 5,000 years ago, farmers in China grew soybeans. In 1804, a Yankee clipper ship from China brought soybeans to the U.S. And in 1829, U.S. farmers first grew soybeans. They raised a variety for soy sauce. During the Civil War, soldiers used soybeans as “coffee berries” to brew “coffee” when real coffee was scarce. In the late 1800s, significant numbers of farmers began to grow soybeans as forage for cattle.

In 1904, at the Tuskegee Institute in Tuskegee, Alabama, George Washington Carver began studying the soybean. His discoveries changed the way people thought about the soybean; no longer was it just a forage crop. Now its beans provided valuable protein and oil.

By 1929, U.S. soybean production had grown to 9 million bushels. That year, soybean pioneer William J. “Bill” Morse left on a two-year odyssey to China during which he gathered more than 10,000 soybean varieties for U.S. researchers to study. Some of these varieties laid the foundation for the rapid ascension of the U.S. as the world leader in soybean production.

Prior to World War II, the United States imported 40 percent of its edible fats and oil. At the start of the war, this oil supply was cut. Processors in the U.S. turned to soybean oil for their supply. By 1940, the U.S. soybean crop had grown to 78 million bushels harvested on 5 million acres.

In the early 1950s, soybean meal became available as a low-cost, high protein feed ingredient, triggering an explosion in U.S. livestock and poultry production. The U.S. soybean industry began to look at ways to expand export markets. In 1956, the American Soybean Association (ASA), in cooperation with the USDA-Foreign Agricultural Service, opened its first international office in Japan. Today, ASA-International Marketing promotes U.S. soybean and soy product exports in more than 80 countries.

In the past 30 years, the geography of U.S. soybean production and processing has changed. Production in the southern U.S. has declined due to a history of lower than average yields and competition from more profitable crops. This decline has been more than made up by expansion northward and westward, as new seed varieties requiring less growing time and tolerant of drier conditions were developed. Illinois and Iowa are the largest producing states. Northern states such as Minnesota, Nebraska, South Dakota and North Dakota, once considered too far north for soybean production, are now among the top 10 producing states.

Between 1976 and 2005, soybean plantings in the U.S. increased by 50 percent and national average soybean yields increased almost as much. Yield growth is attributed to improved seed varieties, new agronomic practices such as no-till farming and the impact of biotechnology-enhanced seeds that are tolerant of key herbicides.

The market for soybeans has gone global. Soybeans have long been used in food products in Japan. By the 1960s, a small but growing livestock industry in Japan began to use soybean meal as a protein and energy source. Rather than pay relatively higher ocean freight costs for the meal and soybean oil, a Japanese soy processing industry began to expand with imports of whole soybeans from the U.S.

Soybean use in Europe grew slowly in the 1960s and 1970s, but by the 1980s demand for soy meal and soy oil pushed growth in processing capacity. The largest concentration of capacity sprang up in the Rotterdam/Amsterdam/Ghent range that is the downstream terminus of

Europe's inland waterway and river system. Products could move upstream by barge to feed manufacturers and edible oil users.

One characteristic of developing economies is that consumer demand for meat and poultry goes up as the population benefits from economic growth. So in the 1980s and 1990s, meat and poultry consumption in countries like China, South Korea, Mexico, Indonesia, Turkey and the Philippines climbed. And as local meat production struggled to keep up with the new consumers, demand for soybean products and capacity to produce them soared as well. Now, a thriving soybean processing industry has arisen throughout Asia and has spread to the Middle East, North Africa and throughout the Americas.

The use of soybean products for feed and food has continued to expand worldwide. China quadrupled its soybean processing capacity in just five years, beginning in 1998. Recent years have seen the increases in world soybean production and world soybean demand keep pace with one another.

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Overview Of Soyabean: India & World

Soybean has an important place in world's oilseed cultivation scenario, due to its high productivity, profitability and vital contribution towards maintaining soil fertility. The crop also has a prominent place as the world's most important seed legume, which contributes 25% to the global vegetable oil production, about two thirds of the world's protein concentrate for livestock feeding and is a valuable ingredient in formulated feeds for poultry and fish.

About 85% of the world's soybeans are processed annually into soybean meal and oil. Approximately 98% of the soybean meal is crushed and further processed into animal feed with the balance used to make soy flour and proteins. Of the oil fraction, 95% is consumed as edible oil; the rest is used for industrial products such as fatty acids, soaps and biodiesel.

The major soybean producing nations are the United States, Brazil and Argentina. The three countries dominate global production, accounting for 80% of the world's soybean supply. Global production of Soybean has grown at a CAGR of 2.78% from 215.69 million metric tons in 2004-05 to 283.79 million metric tons in 2013-14.

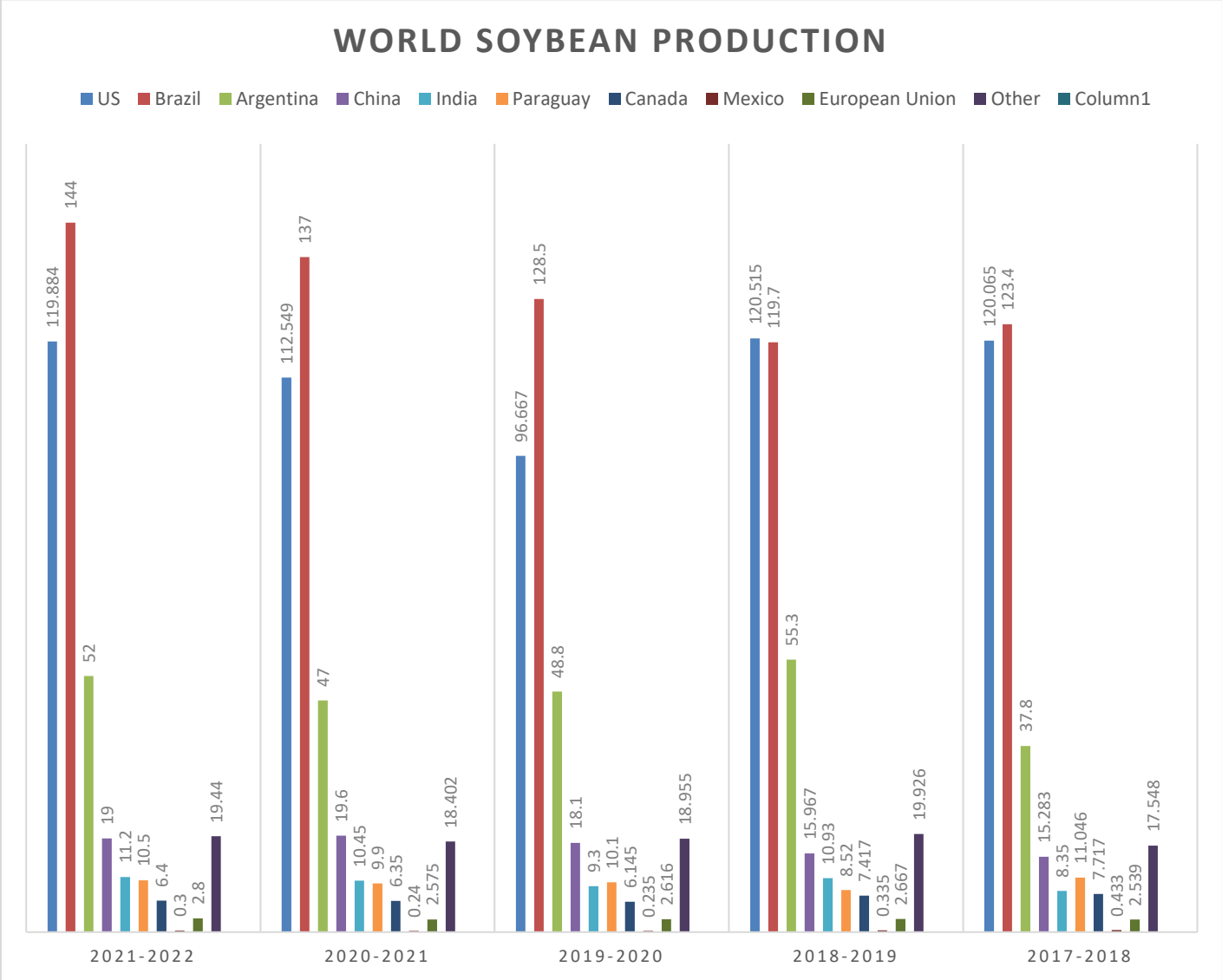
World soyabean production in 2019-20 is estimated as 333.67 million tonnes from a total area of 120.50 million hectares. Brazil ranks first in soyabean production with 114.27 million tonnes followed by United States of America (96.79 million tonnes), Argentina (55.26 million tonnes), China (15.73million tonnes) and India (13.27 million tonnes) accounting for 34.25, 29.01, 16.56, 4.00 and 3.98 percent of world production. India ranks fourth in area with 11.34 million hectares (28.02 million acres) accounting for 9.41% of the world area and fifth in production with 11.22 million tonnes in 2019-20.

The major soyabean growing states are Madhya Pradesh, Maharashtra, Rajasthan, Karnataka, and Telangana. According to the first advance estimates 2021-22 of Ministry of Agriculture,

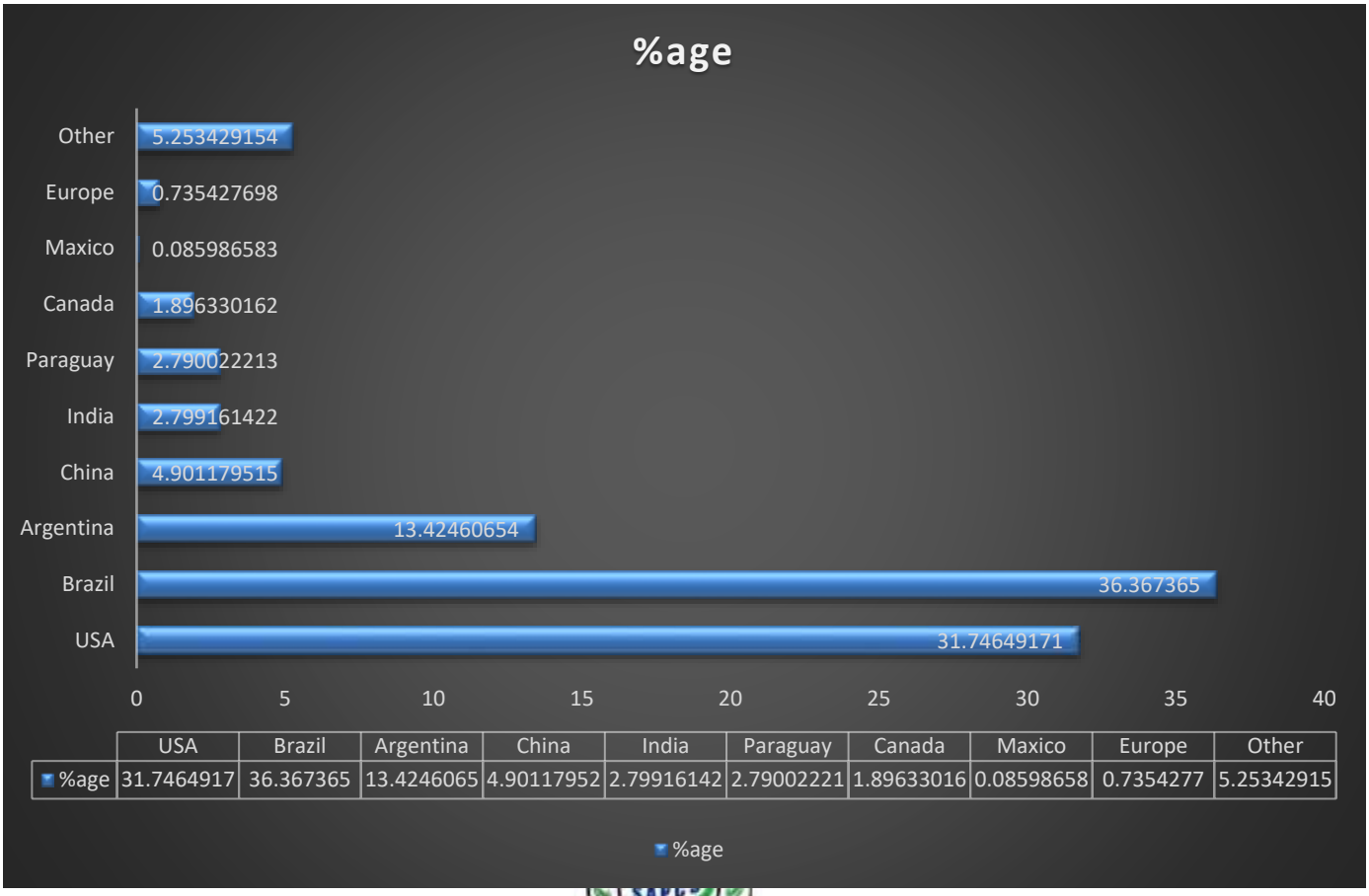
Soybean production is estimated at 127.20 lakh tonnes as compared to 128.97 lakh tonnes in 2020-21.

WORLD SOYBEAN PRODUCTION: Fig 3.1

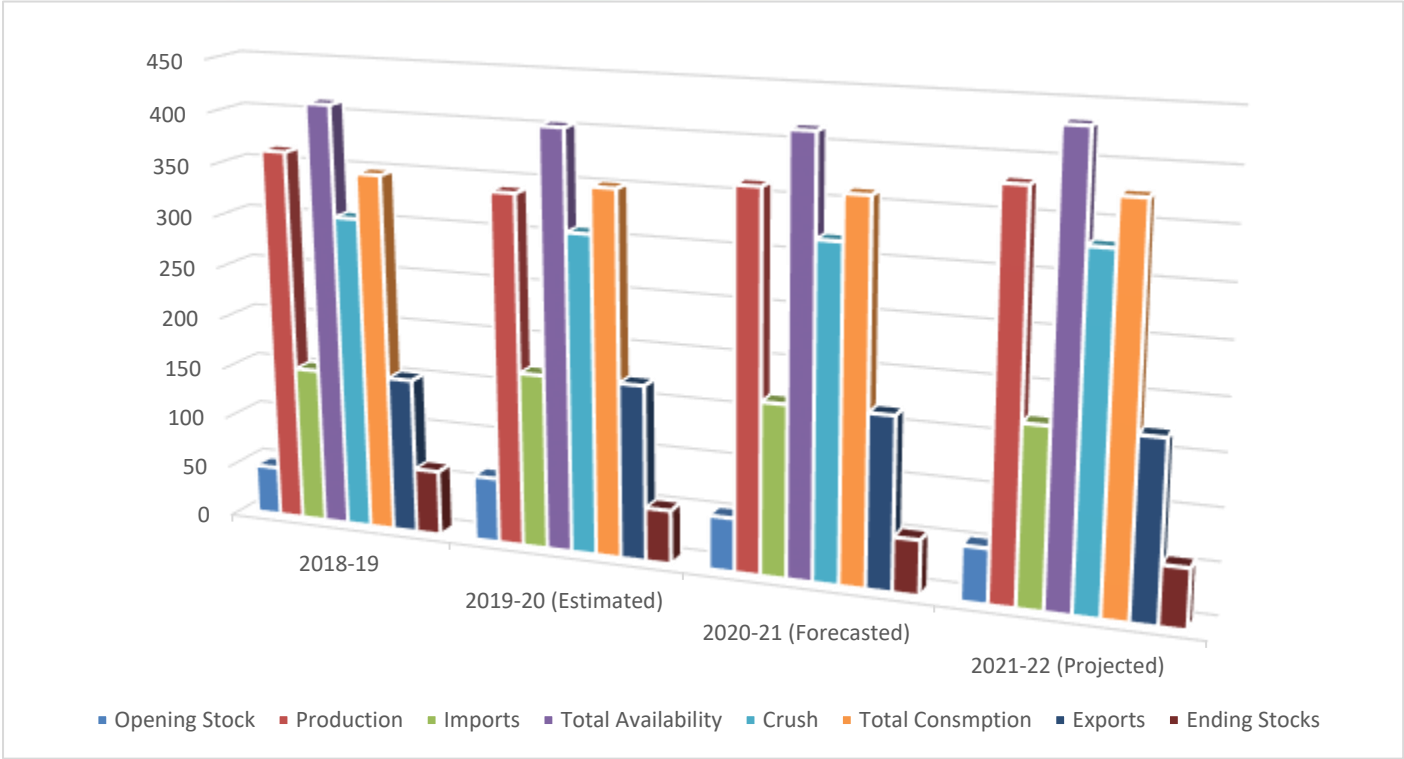
In Million Metric Tons



PERCENTAGE SHARE OF WORLD PRODUCTION: Fig 3.2



GLOBAL SOYABEAN SUPPLY AND DEMAND (IN MILLION TONNES): Fig 3.3

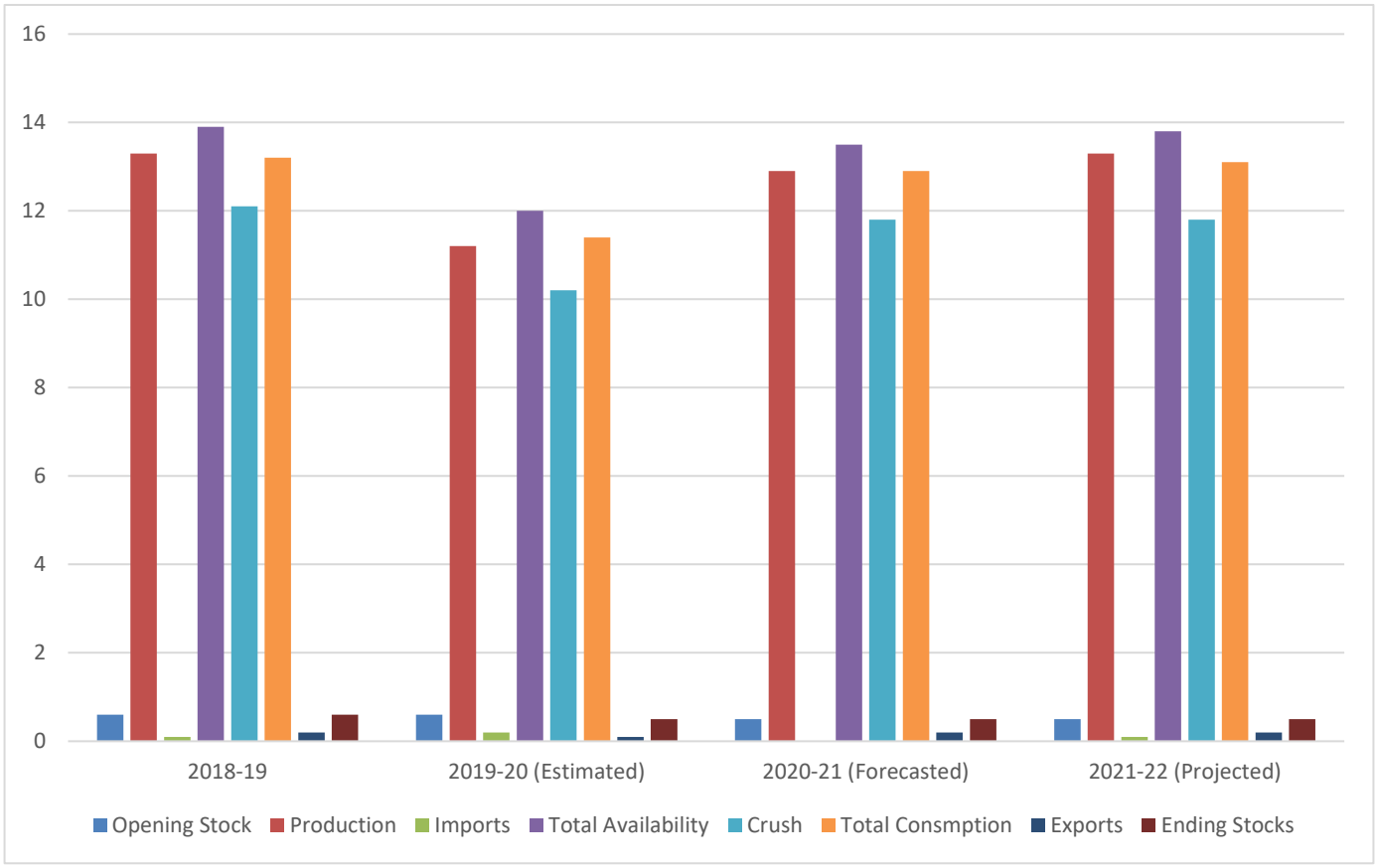


SOYABEAN: INDIAN ECONOMY

Soybean contributes significantly to the Indian edible oil pool. Presently soybean contributes 43 % to the total oilseeds and 25% to the total oil production in the country. Currently, India ranks fourth in respect to production of soybean in the world. The crop helps earn valuable foreign exchange (Rs. 62000 millions in 2012-13) by way of soya meal exports.

Soybean has largely been responsible in uplifting farmer's economic status in many pockets of the country. It usually fetches higher income to the farmers owing to the huge export market for soybean de-oiled cake. While on one hand production of Soybean in India has increased at a CAGR of 9.60 per cent from 6.87 million tonnes in 2004-05 to 15.68 million tonnes in 2012-13. On the other hand Soybean meal consumption has also increased at a CAGR of 10.82 per cent over the last eleven years from 1365 thousand million tonnes in 2004-05 to 4225 thousand million tonnes in 2014-15. Therefore to keep pace with the increasing demand it is imperative to increase the productivity level of Soybean in the country. The graph below shows that there is ample scope for improvement of productivity of Soybean crop in India when compared to other benchmark countries.

INDIAN SOYABEAN SUPPLY AND DEMAND (IN MILLION TONNES): Fig 3.4



IMPORTANCE OF SOYABEAN: MAHARASHTRA

Production of soybean in India is dominated by Maharashtra and Madhya Pradesh which contribute to 89 per cent of the total Soybean production in country

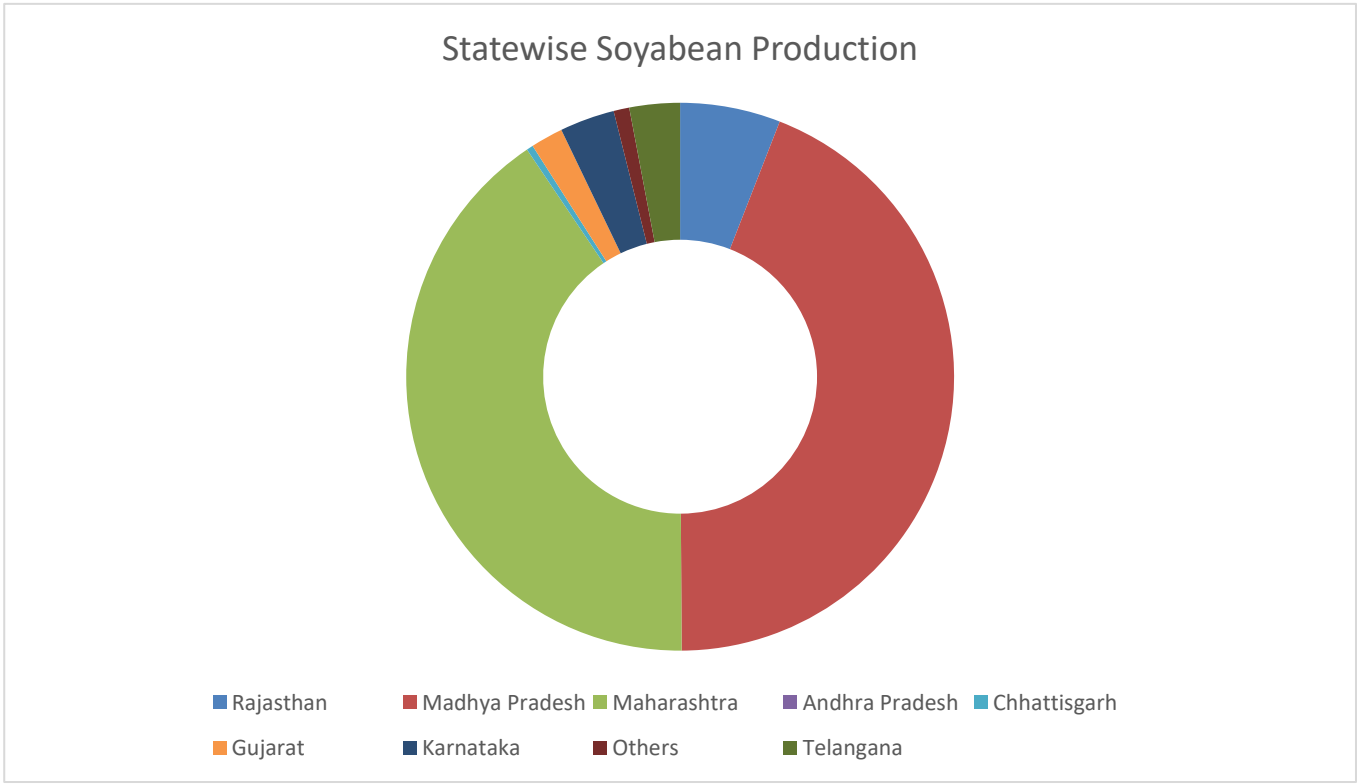
India has the fifth largest vegetable oil economy in the world. After cereals, oilseeds are the second largest agricultural commodity, accounting for the 14% of the gross cropped area in the country. However, country meets its edible oil demand through imports, which accounts for almost 50% of requirement. The per capita consumption of the vegetable oil is increasing very rapidly due to increase in population and improved economic status of the population. The demand has increased to about 12.6 kg/year compared to4 kg/year in 1961 and the projected demand for the year 2020 and 2050 is 16.443 and 19.16 kg/year respectively. To meet this demand, the country will require nearly 25.26 and 35.90 million tons of edible oil. In this scenario, soybean has played and will play a pivotal role in the future.

Production of soybean in India is dominated by Maharashtra and Madhya Pradesh which contribute 89 per cent of the total production. Rajasthan, Andhra Pradesh, Karnataka, Chhattisgarh and Gujarat contribute the remaining 11 per cent production.

Statewise Production Chart of Soyabean in India.

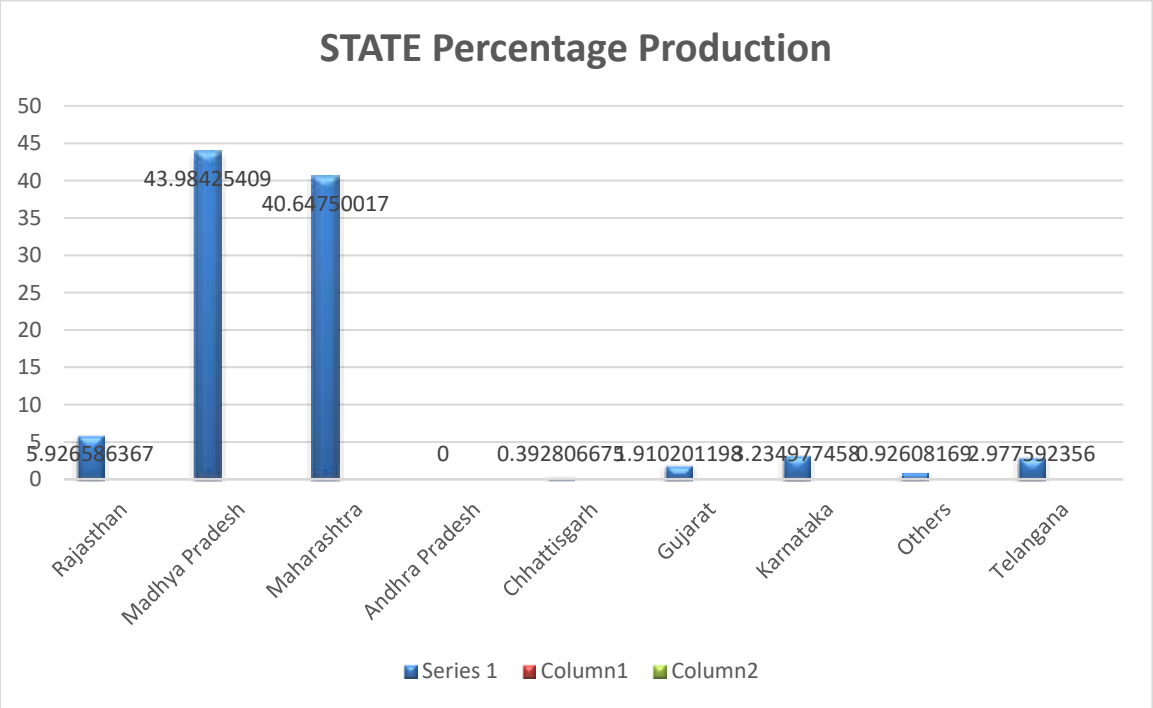
Sr. No	State	Kharif 2021		
		Sowing Area	Expected Yield	Estimated Production
	Rajasthan	9.253	761	7.046
	Madhya Pradesh	55.687	939	52.292
	Maharashtra	43.848	1102	48.325
	Andhra Pradesh	-	NAN	-
	Chhattisgarh	0.513	910	0.467
	Gujarat	2.237	1015	2.271
	Karnataka	3.827	1005	3.846
	Others	1.129	975	1.101
	Telangana	3.488	1015	3.54
	Grand Total	**119.982**	**991**	**118.888**

STATEWISE PRODUCTION SHARE: Fig 3.5



PERCENTAGE SHARE OF STATE PRODUCTION: Fig 3.6

Sr. No	State	Percentage %
1	Rajasthan	5.926586
2	Madhya Pradesh	43.98425
3	Maharashtra	40.6475
4	Andhra Pradesh	-
5	Chhattisgarh	0.392807
6	Gujarat	1.910201
7	Karnataka	3.234977
8	Others	0.926082
9	Telangana	2.977592



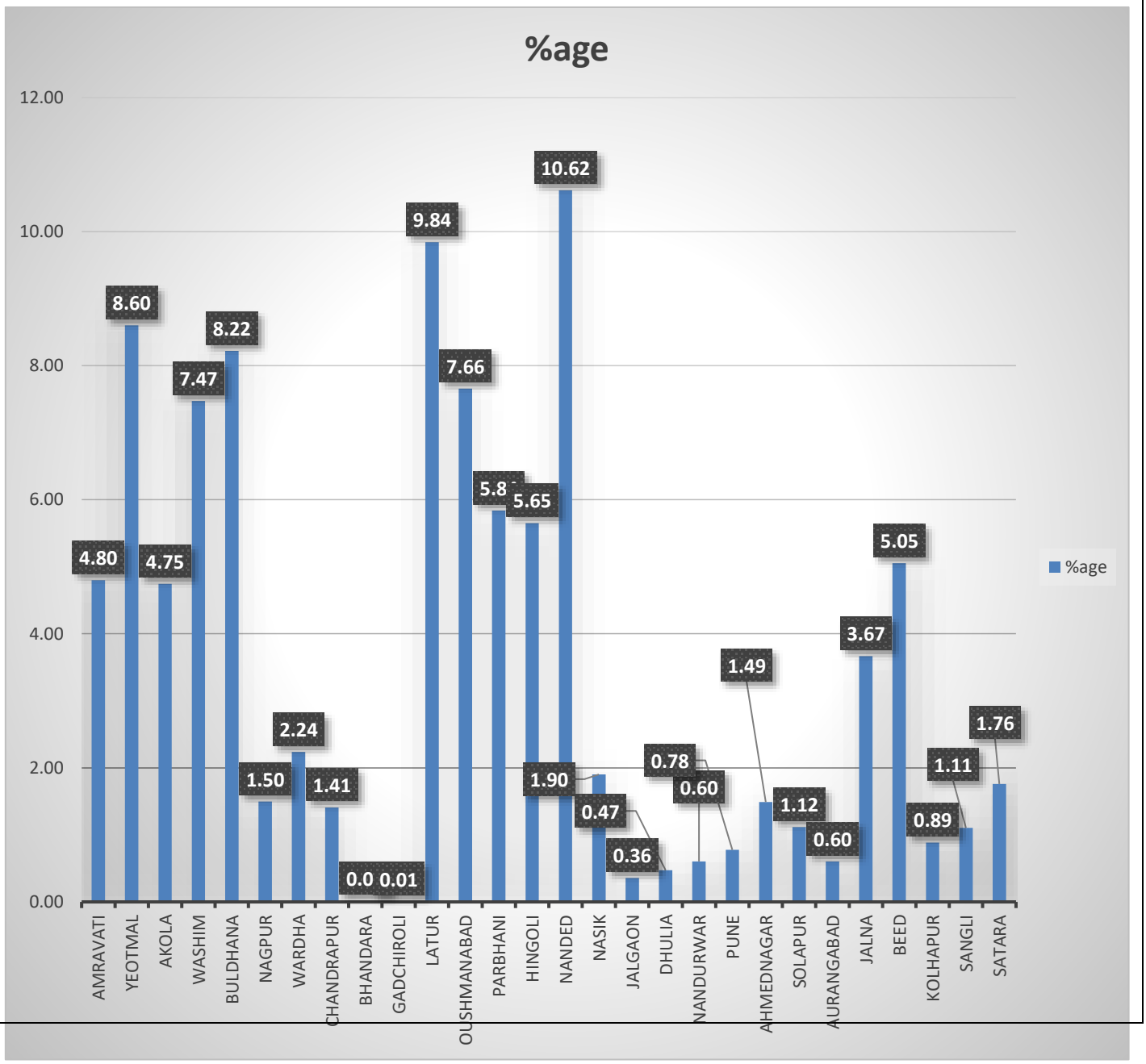
From the above figures we can clearly state that Maharashtra and Madhya Pradesh are highest production states of soybean in India.

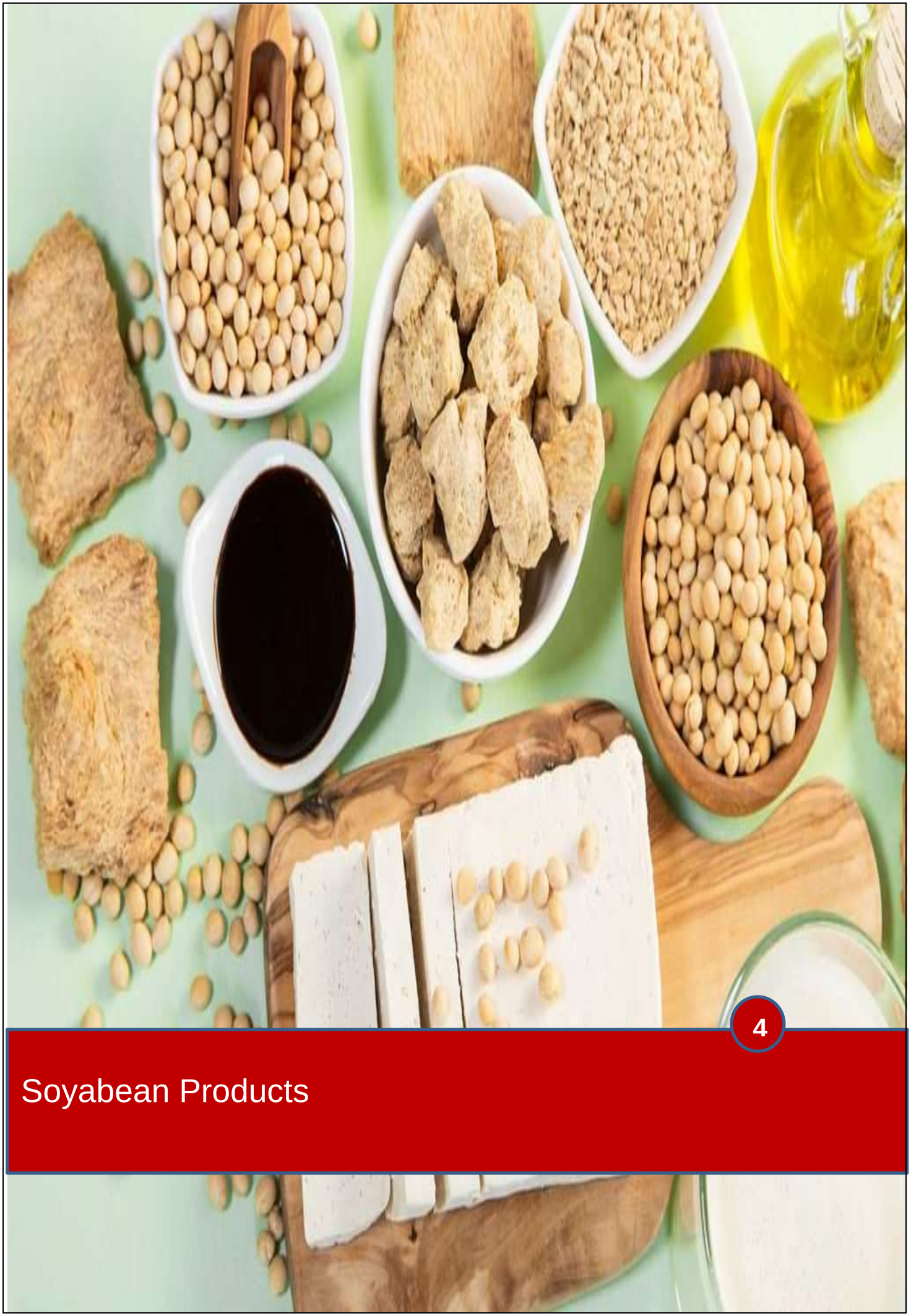
PRODUCTION SHARE OF MAHARASHTRA STATE DISTRICT WISE PRODUCTION:

Sr. No	State	Kharif 2021		
		Sowing Area	Expected Yield	Estimated Production
1	Amravati	**2.32**	1000	**2.32**
2	Yeotmal	**3.421**	1215	**4.157**
3	Akola	**2.185**	1050	**2.294**
4	Washim	**2.948**	1225	**3.611**
5	Buldhana	**3.454**	1150	**3.972**
6	Nagpur	**0.888**	814	**0.723**
7	Wardha	**1.108**	976	**1.081**
8	Chandrapur	**0.846**	805	**0.681**
9	Bhandara	**0.008**	875	**0.007**
10	Gadchiroli	**0.003**	1000	**0.003**
11	Latur	**4.154**	1145	**4.757**
12	Oushmanabad	**3.541**	1045	**3.701**
13	Parbhani	**2.351**	1200	**2.821**
14	Hingoli	**2.239**	1220	**2.731**
15	Nanded	**4.24**	1210	**5.131**
16	Nasik	**0.897**	1025	**0.919**
17	Jalgaon	**0.17**	1018	**0.173**
18	Dhulia	**0.229**	996	**0.228**
19	Nandurwar	**0.285**	1025	**0.292**
20	Pune	**0.362**	1036	**0.375**
21	Ahmednagar	**1.454**	1025	**1.491**

22	Solapur	**0.532**	1015	**0.54**
23	Aurangabad	**0.284**	1025	**0.291**
24	Jalna	**1.745**	1015	**1.772**
25	Beed	**2.479**	985	**2.442**
26	Kolhapur	**0.41**	1044	**0.428**
27	Sangli	**0.497**	1074	**0.534**
28	Satara	**0.798**	1065	**0.85**
		43.848	**1102**	**48.325**

PERCENTAGE SHARE OF STATE PRODUCTION: Fig 3.7





4

Soyabean Products

Soyabean is the cheapest and best health food. Soya products are becoming popular throughout the world due to their good nutritional values and medicinal qualities. Soya products are high in proteins, low in fat and carbohydrate and contains no cholesterol. It is an excellent food for babies, children, elderly people and pregnant & lactating women since it contains vegetable protein which is very nutritious and easy to digest. Besides possessing high nutritional values, soya products are best for people suffering from diabetes and lactose-intolerance. It can be said that soyabean is valuable gift of mother nature to human being. Due to all these benefits soya products are becoming popular throughout the world.

The key benefits of soya products are its high protein content, vitamins, minerals and insoluble fibre. The soya bean has been now transformed into number of popular food based products. It is a good source of many minerals.

Soya food products are becoming popular throughout the world due to their good nutritional values and medicinal qualities. Soya food products are high in proteins, low in fats and carbohydrate and contains no cholesterol. It is an excellent food for babies, children, elderly people and pregnant & lactating women since its contains vegetable protein which is very nutritious and easy to digest.

Soyabean is a predominant ingrident in the food industry. The soy market includes meat alternatives, dairy alternatives, grains, snacks, cereals, meal replacement, protein powders and formulas.

The below are food products of soyabean:

1. **EDAMAME (GREEN SOYABEANS):**

   These are soybeans harvested when the beans are green and sweet tasting. They are usually located in the frozen section of the supermarket, and are available either in the pod or shelled. They cook quickly and can be eaten cold or warm, but not with the pod. Shelled beans can easily be added to salads, soups, pasta. They could be snacked on the go. One can eat them right out of the pod. Edamame are also a healthy substitute for popcorn and chips

2. **SOYABEANS (DRY SOYABEANS):**

   They are a species of legume native to East Asia. They can be found as canned or dry in black and white varieties. Their characteristic beany flavor and the presence of anti-nutritional factors are the main reasons for the non utilization of soybean at domestic level in rural and urban areas. A study conducted on making soybeans completely free from the inhibitor with simple and inexpensive methods of heat treatment which can be adopted at home level revealed that pressure cooking or twelve minutes of roasting at 85 to 90 degrees or boiling the beans for 20 minutes was found sufficient for complete inactivation of the inhibitors.

3. **SOYA FLOUR:**

   In recent times soy foods such as soy milk, soy ‘paneer’ or soy cottage cheese, soy cheese, nuggets find a good place in the market. But in India most of them are beyond the reach of common man due to higher prices. In such a case soy flour becomes a common inexpensive variant that can be easily used to prepare traditional recipes, roti blends, biscuits/snacks, germinated soy bread, fermented products, supplementary foods and therapeutic foods.

4. **SOYA NUGGETS & GRANULES**:

Soy is processed to make soy nuggets and granules. These are creamish in color and easy to digest as compared to beans and flour. These just have to be soaked in warm water before use and therefore have a varied application. They could be added to curries, cutlets, parathas, stir fries, pulavs and various other recipes.

5. **SOYA NUTS:**

Soy nuts are produced when whole soybeans are soaked and then baked until browned. Roasted soy nuts are available in most grocery stores and are great for snacking.

6. **SOY MILK:**

Soybeans, soaked, ground, strained and fermented produce a fluid called soybean milk, which is a good substitute for dairy milk. It is rich in protein and calcium. It can be used in place of cow's milk for cooking and drinking. One can easily make smoothies, soups, or sauces using it. Soymilk comes in non-refrigerated recyclable boxes found on grocery shelves. Soy milk comes in chocolate, vanilla or plain flavors too. It also can be found in single serving sizes which makes it a great on-the-go snack and needs no refrigeration before opening. Soy milk stands out as it is easy to digest, high on protein and enriched with calcium, vitamin D and B12 which are some of the most essential nutrients for health.

7. **SOY YOUGART:**

Soy yogurt is made from soymilk. Fermentation improves the nutritive value of the product. Yogurt's creamy texture makes it an easy substitute for sour cream, cream cheese or dairy yogurt. Soy yogurt is rich in protein, calcium, and is a source of probiotics.

8. **TOFU**:

Very similar to cottage cheese, known as soybean curd, tofu is a soft cheese-like food made by curdling fresh hot soymilk with a coagulant. Tofu is a neutral-flavored product

and easily absorbs the flavors of other ingredients with which it is cooked. Tofu can be used instead of cottage cheese in any recipe. Tofu is found in water packed tubs in the refrigerated section or on grocery shelves of supermarkets. Silken tofu, which is smooth and creamy, can be used in place of cream in soups, as a substitute for mayonnaise or sour cream in salad dressings and dips. Soft tofu is moist and firmer than silken tofu. It can be substituted for soft cheese. Firm and extra firm tofu will hold its texture and shape and can be used in place of meat in salads, for stir fries, Chinese curries, fajitas etc. Unlike cottage cheese it has a greater amount of protein and nil cholesterol.

9. **TEMPEH**:

Whole soybeans, sometimes mixed with another grain such as rice or millet, are fermented into a rich cake with a smoky or nutty flavor called as Tempeh. Tempeh is sold in vacuum packed rectangular shaped cakes/patties. Tempeh can be used in stir-fries or pasta dishes. It can also be grilled or baked and used for sandwiches and salads. It is a good source of protein, calcium, and probiotics.

10. **MISO**:

It is a smooth paste, made from soybeans and/or grains such as rice or barley, with salt and a mold culture, aged in cedar vats for one to three years. Miso is the main ingredient in the traditional Japanese soup. Miso can be found in many grocery stores and it can be used as a soup base, in salad dressings, and sandwich spreads.

11. **SOY SAUCES:**

Soy sauce is one of the most common soy products available. This dark brown liquid with a salty taste is made by fermenting soybeans. Shoyu and tamari are common varieties of soy sauce and are typically available in different levels of darkness. A 1-teaspoon serving of tamari has 4 calories and 335 milligrams of sodium. Vegetable, meat and tofu dishes often call for soy sauce, but it is even used in some cookie recipes.

12. **SOYBEAN OIL:**

According to The United Soybean Board, most margarines, shortenings and salad dressings contain soybean oil. In addition, most of the "vegetable oil" you see in the grocery store is pure soybean oil. The American Heart Association lists soybean oil as a safe fat for maintaining health and longevity. A 1-teaspoon serving of soybean oil has 40 calories, 4.5 grams of fat and less than 1 gram of saturated fat. Soybean oil is mostly flavorless, making it a non-intrusive ingredient in most dishes.

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Soyabean: Advantages & Dis-advantages

Soybeans are essentially legumes that are used for producing oil, food, and animal feed. Soybeans are very popular in Asian cuisine, especially soy products like tofu and tempeh. They are also one of the most important crops in the world due to their high-quality protein content and other additional nutritional benefits.

Soybeans are also a sustainable crop, because they have one of the highest yields per acre among any plant on earth. Botanically, soybeans are a type of legume. They grow in pods and can be harvested throughout the whole year. Soybeans can be used for human consumption, but they're best known as a source of high-quality animal feed and biofuel. In this article, we shall explore the advantages and disadvantages of soybean.

ADVANTAGES OF SOYBEANS

Soybeans are the most widely consumed legume in the world, and they come with their own set of pros and cons. The best time to eat soybeans is in their immature form, green soybeans. Soybean milk is another favourite for vegans who are allergic to dairy milk. Soybean oil is also a healthier alternative to coconut oil because it has no saturated fats. So while not all soybeans are perfect, the ones that are green provide a healthy source of protein, vitamins, and minerals. Other advantages of soybeans are as follows:

1. **High Fibre:**

   Soy contains a lot of fibre. There are health benefits to consuming foods high in fibre such as lower cholesterol, better bowel function and weight management.

2. **High in protein:**

   Soybean is a rich source of protein. It has all the essential amino acids that our body needs. Soybeans are an excellent vegetarian protein choice because it also contains

healthy fats and carbs. Soybean is also full of selenium, iron, calcium, zinc, magnesium, vitamin K, B vitamins and omega-3 fatty acids.

3. **Low in saturated fat:**

   Soybean offers a healthier and leaner alternative to meat. It contains no cholesterol and is also high in protein, calcium, and iron. Moreover, soybean is great for making tofu and other soy-based products which are higher in protein than milk or eggs.

4. **No cholesterol:**

   Soybeans do not contain any cholesterol, which makes them an excellent food choice for people with heart disease. Soybeans are also high in fibre, which helps to lower cholesterol levels. One cup of soybeans has 11 grams of protein, which provides almost 50 percent of the daily requirement for this nutrient. Soy also contains multiple vitamins and minerals that are essential to good health.

5. **No lactose:**

   Lactose intolerance is the inability to digest lactose, which is found in dairy products. If you are lactose intolerant, then soybean will not bother you. It is also high in protein and has a very low fat content. Hence, consuming soybean leads to a lower risk of developing allergies and the growing industry for soybean makes it more readily available than ever before.

6. **Has omega-3 fatty acids:**

   Omega-3 fatty acids are important for the development of a healthy brain and retina, and may help prevent heart disease. Soy also contains isoflavones which may play a role in cancer prevention and treating osteoporosis, and has properties that can protect the kidneys from getting damaged.

7. **Has antioxidants:**

   Soybean is a rich source of antioxidants, which are compounds that scavenge free radicals in the body and neutralise their damaging effects. They also contain polyphenols, which may prevent breast cancer and reduce the risk of other cancers, heart disease, and diabetes.

8. **Has phytoestrogens:**

   Soybeans are rich in phytoestrogens, compounds that have the potential to be powerful cancer preventatives and protect against disease. Soybeans are also high in fibre, and their protein content is comparable to animal sources. They're a good source of vegetable protein, too.

DISADVANTAGES OF SOYBEANS

Soybeans are a great source of protein and fat, but some people avoid them because they contain phytic acid and goitrogens. Phytates and goitrogens may interfere with mineral absorption and thyroid function, respectively. Soybeans also contain oxalic acid that can cause kidney stones in some people. Other disadvantages of soybeans are as follows:

- **Maybe carcinogenic:**

  Soy is also produced by GMO plants, which are often criticised for their negative environmental effects. Recent studies have suggested that as much as 50% of all soy sold today may contain high levels of carcinogens.

- **Could cause chronic inflammation:**

  A study found that consumption of soybean oil was associated with an increased risk of chronic inflammation. Because inflammation can lead to a long list of health problems, this could have a huge effect on your overall health.

- **Can cause mineral deficiencies:**

  Soybean can cause mineral deficiencies when consumed in large quantities. The soybean is composed of phytic acid – or phytates – which keeps the minerals from being absorbed. You will also be eating more fat if you eat too much soybean because it has too many omega oils in it.

- **Contains goitrogens:**

  Soybean also contains goitrogens which can disrupt your thyroid function, increase your cholesterol levels, and lower your immune system defences.

- **May prevent protein from being digested:**

  Soybean contains isoflavones, which are structurally similar to oestrogen. These chemicals bind to uterine cells and prevent the body from absorbing protein. Oestrogen also binds to these cells so that it can't be used by the body either. This leaves the body with one less form of fuel, which can lead to fatigue and low energy levels.

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Comparison Table for Table Advantages and Disadvantages of Soybeans

Advantages	Disadvantages
Has phytoestrogens, which are known to be beneficial for health	May prevent protein from being digested
Has antioxidants which can help rid the body of free radicals	Could cause gas
Has omega-3 fatty acids	Contains goitrogens
No lactose, hence it is suitable for lactose-intolerant people	Can cause mineral deficiencies
Low in saturated fat	Could cause chronic inflammation
No cholesterol	Maybe carcinogenic
High in protein	
High Fibre	

6

Soyabean: Industry Overview

The soya products market in india is growing at a higher rate which is prompting companies to become more active. The global textured soy protein market to exhibit a CAGR of 7.9% during the paired 2019-2024.

Soyabean meal market is segmented on the basis of process of production as normal soyabean meal, de-hulled (min 50% protein) hipro soyabean meal and DE hulled (min 48%) Hipro Soyabean meal, defatted soya flour toasted and de fatted soya flakes toasted are available in the market.

As per recent world agricultural supply and demand estimates report, soyabean meal production of india is estimated lower at 7.76 million tons for 2019-20 compared to previous year record i.e. 7.85 million tons. However, it is higher from 6.16 million tons in 2017-18 season. India may export 1.90 million tons soya meal in 2019-20 lower from 2.30 million tons in previous year. Domestic consumption of the country may stand at 5.80 million tons i.e. higher from 5.48 million tons in 2018-19. Soya meal exports have been reported down in August 2019 to 699.212 tons from a six month high of 879.319 tons in July 2019 and 761.899 tons exported in August 2018.

In India, area under soyabean during 2019-20 was 135.05 lakh tonnes as against 132.68 during 2018-19. Among the state , Madhya Pradesh stood first with 55.687 sowing and 52.292 yield followed by Maharashtra 43.848 sowing and 48.325 yield and other states list.

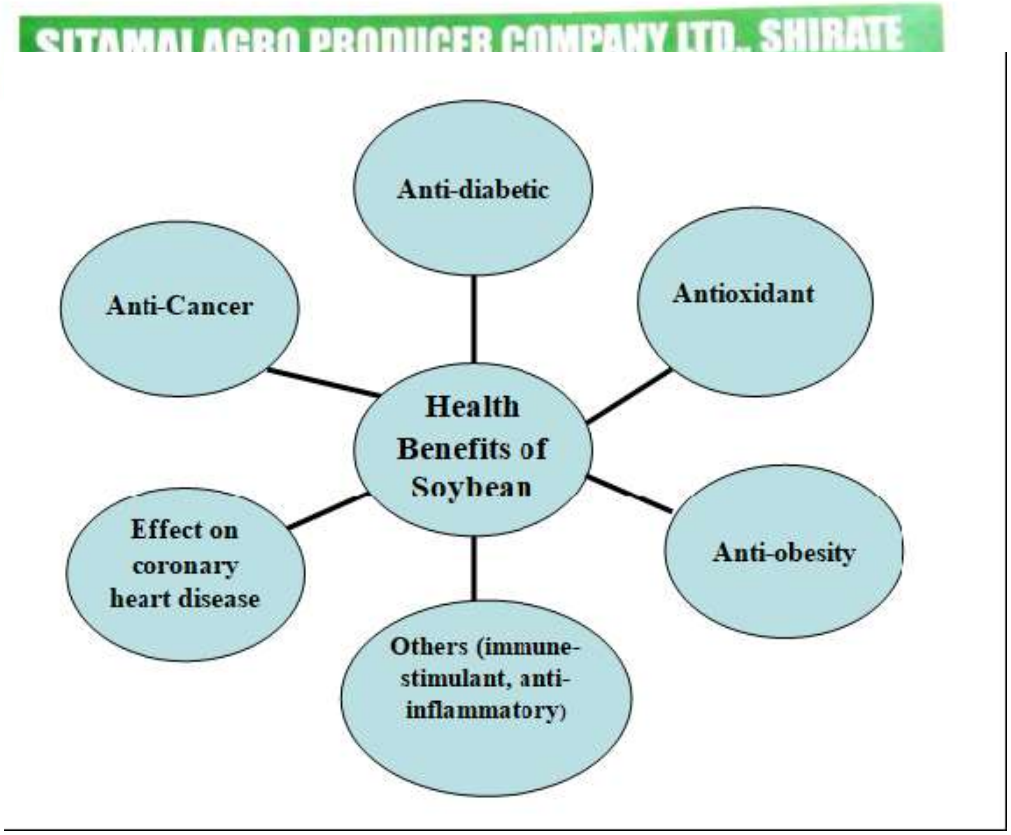
Soya food products are becoming popular throughout the world due to their good nutritional values and medicinal qualities. Soya contains high proteins, low in fats and carbohydrates and contains no cholesterol. It is an excellent food for babies, children, elderly people and pregnant & lactating women since it contains vegetable proteins which is very nutritious and easy to digest.

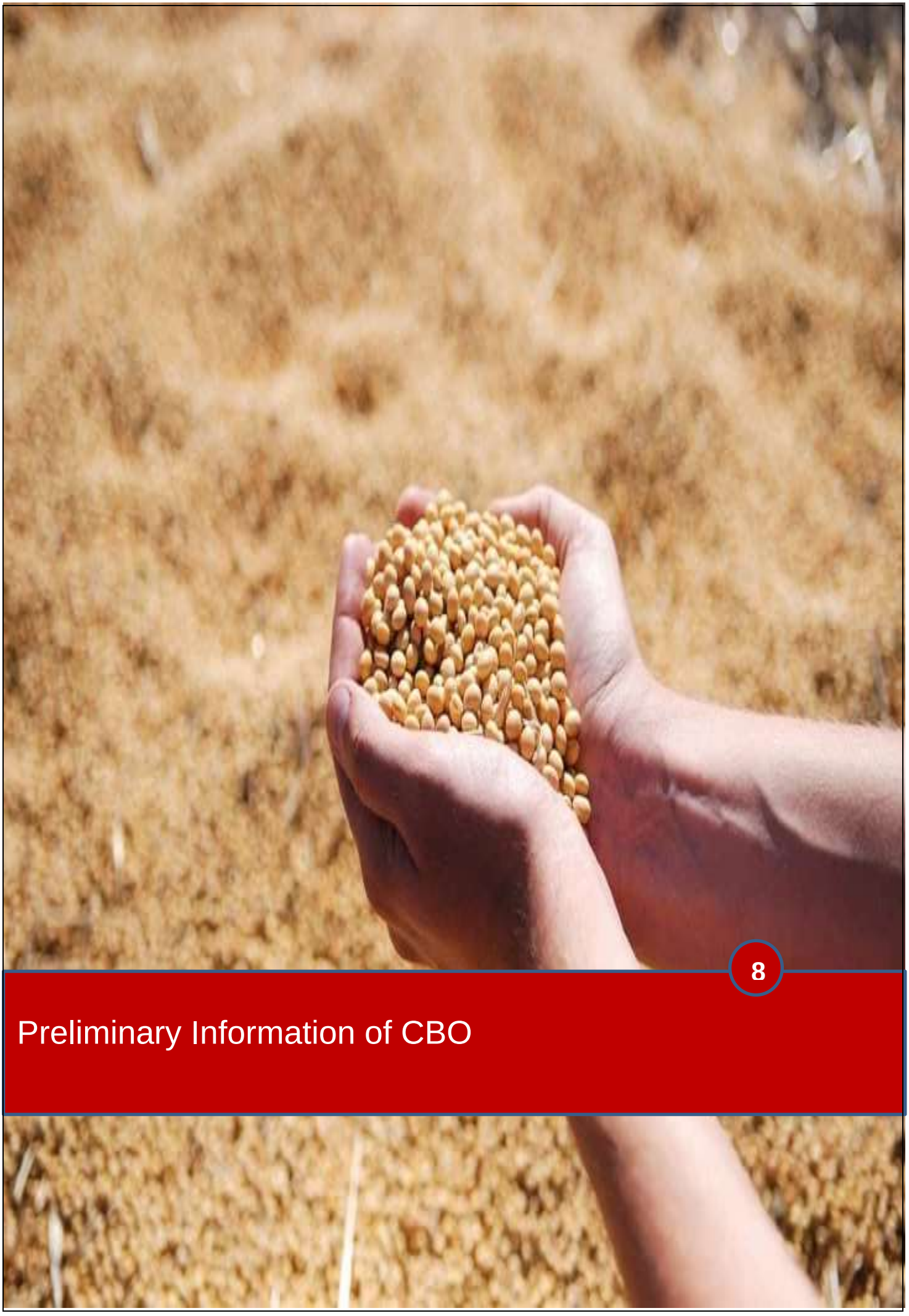
7

Soyabean: Health Benefits

SOYABEAN AND ITS PRODUCTS: NUTRITIONAL AND HEALTH BENIFITS

Soyabean is a nutritional and economically important crop originated in Asia. Soyabean is utilized globally for a healthy diet due to its high contents of iso-flavonoids and folic acid. Dietary Soy products are the subject of increasing scientific interest due to their potential beneficial impact on human health. The important soy components that exhibit biological activity are proteins or peptides, saponins, isoflavones, and protease inhabitors. Soyabean and its components possess anti-oxidant, anti diabetic, anti benefots and in reduction of numerous chronic illnesses like cardiovascular disease, diabetes, immune disorders, certain types of cancer and obesity. Several investigations have proved that soy products ample in protein helo in reduction of cholesterol. This mini-review article is focused on soyabean. Its products and their potential roles in preservation and treatment of various chronic diseases. Studies on novel bioactive components of soyabean having health benefits can lead towards their application in functional food and pharmaceutical development which can replace synthetic durgs having various ill effects.





8

Preliminary Information of CBO

8.1. General information

SR. NO.	PARTICULARS	DETAILS
1.	Name of the Community Based Organization (CBO)	**SITAMAI AGRO PRODUCER COMPANY LIMITED**
2.	Address	**A/P. Shirte, Tal - Walwa, Dist. -Sangli**
3.	Details of the contact person	Name: **Mr.Rohan Mahadev Patil** Designation in CBO: **Administrator(CEO)** Mobile Number: **9765093202** Email: **rohanpatil9921@gmail.com**

8.2. About registration of organization

1.	**Organization type (please mark (√) on appropriate option)**	**1. Farmer Production Company (FPC)** ~~**2. Cluster Level Federation (CLF)**~~ ~~**3. Community Management Resource Center (CMRC)**~~ ~~**4. Other ……..**~~
2.	Whether organization is registered?	**Yes**
2.1	If yes, under which act	**Companies Act, 1956/ 2013**
2.2	Year of registration and registration number	**Registration year 2015** **Registration number** ***U01400PN2015PTC156862***
3.	PAN number of the organization	AAWCS3218F
4.	Udyog Aadhar number / Udyam registration No. of the organization	MH29A0009013
5.	Authorized Capital of organization (Rs. In Lakhs)	2000000
6.	Paid up capital of organization (Rs. In Lakhs)	1391500/-

8.3. Details of Board Members

Sr. No.	Name of the BoD	Gender M/F	Social category	Land Holding (Ha)	Designation	Education	PAN No.	Aadhar No.	Contact number (mobile number)
1	Chandrakant Ramchandra Patil	M	NT	1.50	Director	B.A.	BQXPM1771L	660357883529	7350838520
2	Rameshwar Ananda Shinde	M	NT	0.80	Director	7TH	NONPS4952D	608335693013	7709911685
3	Jaywant Bandu Patil	M	NT	7.18	Director	-	FKWPM8308E	394595638071	7350880669
4	Rupali Maryappa Barakade	F	NT	0.60	Director	8TH	FJPPB0020J	973538808488	8792441574
5	Vandana Sanjay Lokhande	F	NT	1.42	Director	10th	AOKPL3955K	679609957235	7666464385

SITAMAI AGRO PRODUCER COMPANY LTD., SHIRATE

Note: ***Kindly use short form for presenting social category i.e. SC, ST, NT, OBC and General of each BoD***

8.4. Details of trainings in which BoD members were participated as trainee

No.	Name of the training	Duration (days)	Name of organizing agency	Topics covered	Name of members participated in training
1	PMFME and SMART Scheme	1 21.09.2021	Krushi Chikitsalay, Jath	Food Processing	1 Director
2	PMFME and SMART Scheme	1 27.11.2021	Krushi Chikitsalay, Jath	Food Processing	1 Director
3	PMFME and SMART Scheme	1 28.12.2021	Krushi Chikitsalay, Jath	Food Processing	1 Director
4	PMFME and SMART Scheme	1 12.01.2022	Krushi Chikitsalay, Jath	Food Processing	1 Director

8.5. Details of shareholders / members of CBOs

Total No. of shareholders	Female	Male	Scheduled Castes	Scheduled Tribes	Marginal Farmers (0-1 ha)	Small farmers (1-2 ha)	Medium farmer (2-5 ha.)	Big farmers (More than 5 ha.)	Tenants	land less
758	307	451	59	-	468	180	22	-	25	63

8.6. Details of other participating CBOs if any (If there is more than one promoter agency (CBO), then provide details of other agencies in following table)

No.	Name of agency	Address	Name of contact person	Contact no.	Total number of members / shareholders
	Mauli Poultry Growers Group	**Shirte**	Chhabutai Rohan Patil	9765093202	**20**
	Maharaja Shetkari Producer Group	**Shirte**	Prajakta Arun Shinde	880637620	**20**
	Shri Ram Shetkari Producer Group	**Shirte**	Shailja Mahadev Patil	9307299741	**20**

8.7. Details of movable and immovable property owned by the organization

SN	Types of assets	Unit	Total units	Present market value per unit (Rs.)	Total market value (Rs.)
A	**Immoveable Assets**	-	-	-	-
1	**Building**	1	1	450000/-	450000/-
2	**Machinery**	2	2	1059000/-	1059000/-
	Total (A)	3	3	5559000/-	5559000/-
B	**Moveable asset**	-	-	-	-
1	**Computer & IT**	1	1	32276/-	32276/-
2	**Furniture**	1	1	25370/-	25370/-
	Total (B)	2	2	57646/-	57646/-
	Gross total (A+B)	5	5	5616646/-	5616646/-

Note: ***Provide details of assets owned by organisation such as. Land , building , agri. produce collection centre , cleaning and grading machinery , Processing related machineries, other available machinery and equipment if any, warehouse , cold storage, vehicle , furniture , IT related infrastructure such as computer, printer etc.***

8.8. Details of licenses obtained by CBO (DML, Udyog Aadhar / Udyam registration , shop act and other licenses)

SN	Name of license	Issuing agency/department	License no and date of issuing	Validity (duration)
1	**Udyam Registration**	**Government of India**	**MH29A0009013**	**-**
2	**Buy and sell seeds**	**Department of Agriculture, Sangli**	**LASD13040339**	**Upto 14.2.2022**
3	**Direct purchase sale license**	**Direct marketing of agricultural**	**DML-313/2016**	**-**
4	**GST**	**To be applied when required**		

8.9. Details of ongoing business activity of CBO along with snapshot on farmers participation (year 2021-22)

Sr.No.	Name of business activity	Number of participated members	
		Members of CBO	Non-member
A	**Aggregation and bulk marketing of agri. / Horti commodities**		
1	Soyabean	**478**	**275**
2			
3			
B	Primary processing on agricultural commodities (cleaning and grading)		
1	Soyabean	**478**	**275**
2	**-**	**-**	**-**
C	**Bulk procurement and selling of agricultural inputs (Fertilizer, seeds etc.)**		
1	**Seeds**	**322**	**188**
2	**-**	**-**	**-**
D	**Seed production**		
1	**Soybean KDS 726**	**128**	**22**

2	**-**	**-**	**-**
E	**Others (e.g. processing, direct marketing, custom hiring center etc.)**		
1	**-**	**-**	**-**
2	**-**		

8.10. Annual turnover of CBO (last three years)

Details	Year- 2020-2021	Year- 2021-2022	Year- 2022-2023
Annual turnover (Rs. Lakh)	**0.13 Lakhs**	**0.12 Lakhs**	**0.93 Lakhs**

Note: *-Annual turnover should be given as per the audit report. Definition of turnover is as follows*

"Turnover " *means the gross amount of* ***revenue*** *recognized in the profit and loss account from the sale, supply, or distribution of goods or on account of services rendered, or both, by a company during a financial year.)*

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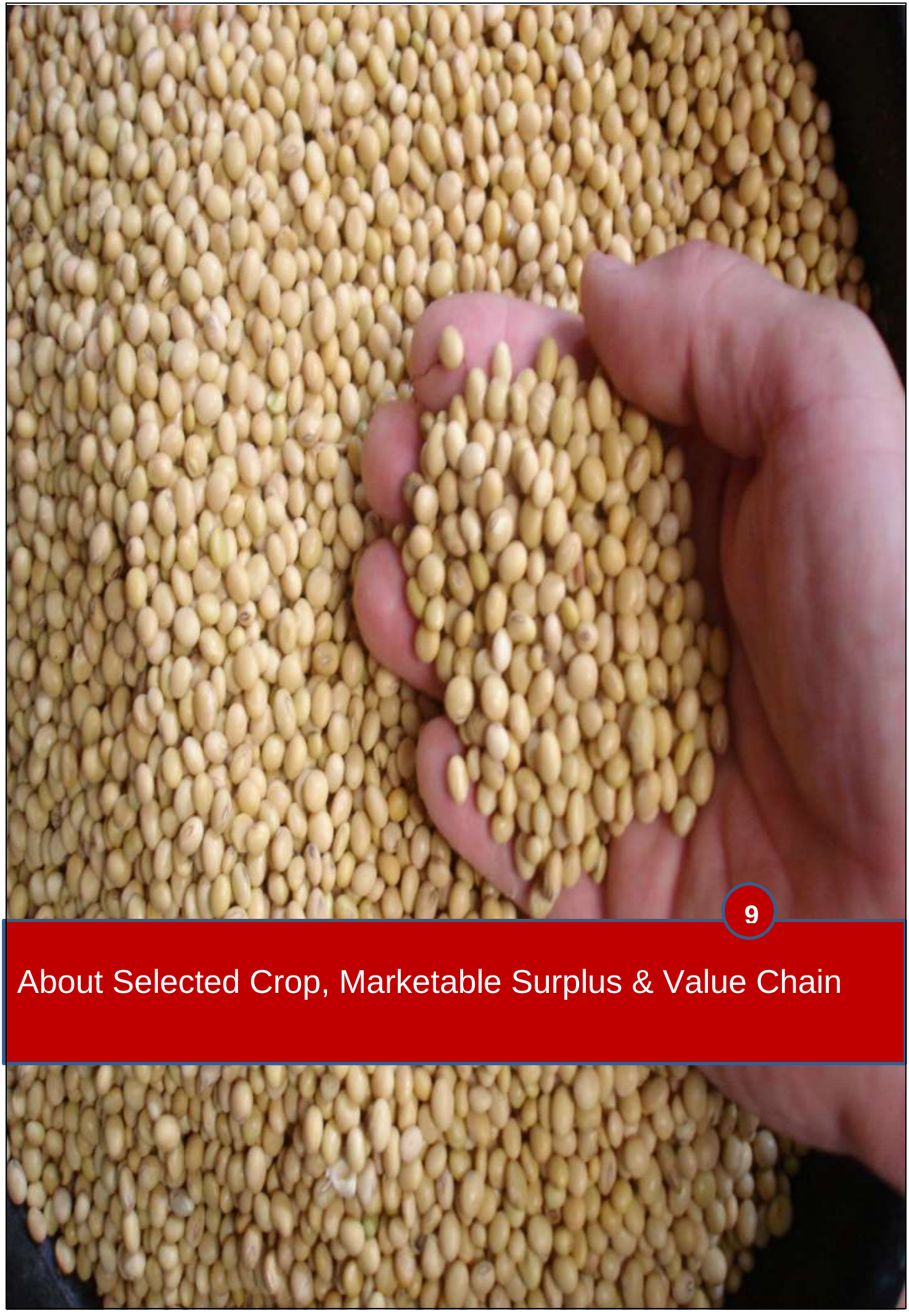


9

About Selected Crop, Marketable Surplus & Value Chain

9.1. Details of major crops selected for sub-project and its marketing status (average of last three years)

No.	Crop	CBO members Area under particular crop (Ha.)	Average productivity (tons per Ha.)	Total Production (tons)	Marketable surplus (tons)	Quantity of produce Aggregated and sold by CBO (tons)	Quantity of produce sold by member at individual level (tons)
1	Soyabean	181	3	546	45	212	286

9.1.1. Details of agro produce aggregated and sold by CBO (Average of last three years)

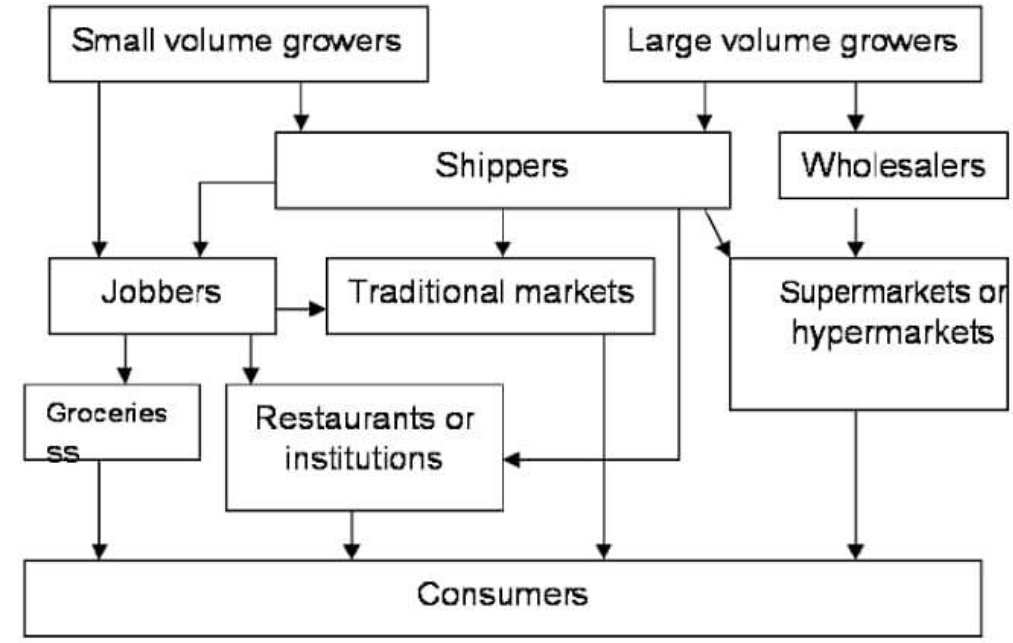
No.	Buyer	Agriculture Commodity (quantity in MT)
1	Processor	500
2	Exporter	-
3	Organized Retail Chain	-
4	Direct marketing License (DML) holder	-
5	Other .....specify	-

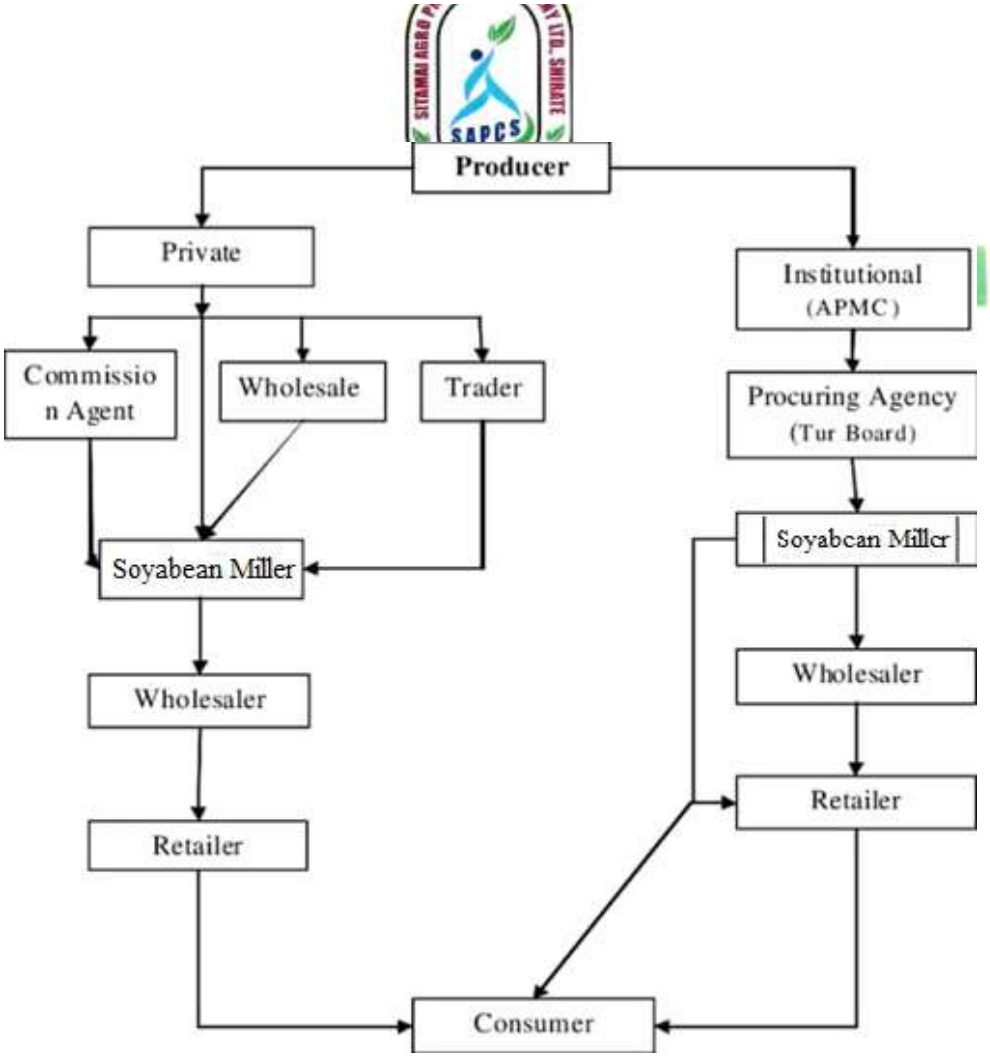
9.2. Existing value chain of key crops

A **'value chain'** in agriculture identifies the set of actors and activities that bring a basic agricultural product from production in the field to final consumption, where at each stage value is added to the product.

It has been found during the study that large numbers of functionaries/intermediaries such as pre-harvest contractors, commission agents, wholesalers, retailers, etc. are involved in the marketing of processed dals in the district. Prevalence of intermediaries in the marketing channel results in unfair and exploitative practices in marketing of fresh produce. Dominance of many of the intermediaries in between the supply chain reduces the producers' share by deeply penetrating the consumer's pocket. Another major problem is the non-availability of adequate transport facility. Although the roads are pucca in the selected villages but the means of transport that growers and sellers hire are very much costly. The whole transportation is done through tempo and tractor-trolley in the district. The rent of these hired means of transport is often high. The government announces minimum support prices (MSP) as well as procurement prices for these crops. So, the prices are assured because of government intervention, i.e., government purchase. These crops are also totally dependent on market forces. Also, there is no adequate credit facility to the farmers in the region. Hence, they are usually dependent upon commission agents (money lenders) for finance. Grading too is not done on standardized basis. Moreover, there is a lack of grading facilities in the market. Often, grading is voluntary except for export in the case of few commodities. Traders for some commodities practice informal grading based on size, freshness and appearance of the produce at different levels of marketing. Most of the cultivators fear that if the produce is graded and sold, it may become difficult to dispose of the low graded produce.

9.2.1. **Value chain of the selected crop (key chain) along with percentage of the marketable surplus is sold?** (Please refer annex for knowing how to write value chain.)





9.2.2. Challenges in existing value chain of selected crops

1. **Poor Farm Productivity &Traditional Farming Techniques: -** India's agricultural productivity is just one-third than that of major producing countries. India's agricultural household's incomes are significantly less. This twin problem of poor farm yields and low farm incomes has resulted in food security problems and farmer suicide not only in India but in all developing countries.

2. **Lack of traceability:** Traceability of produced food is lacking, and kind of chemicals used in the value-chain is not known. Due to this the international market which can fetch high values to farmers are not available to farmers.

3. **Transport Services:- N**on-availability of adequate transport facility. Although the roads are pucca in the selected villages but the means of transport that growers and sellers hire are very much costly. The whole transportation is done through tempo and tractor-trolley in the district. The rent of these hired means of transport is often high

4. **Information &Technology:-** Lack of knowledge of advance of technology and its application into the farming.

5. **Sale System:-** Involvement of commission agent and other mediatory results into increase in the cost of product where farmers receives lesser income on his hard efforts.

9.2.3. Potential remedies to address above issues in value chain

- In this clusters, due to lack of awareness and non-availability of a storage facility and credit facility a receipt, majority of farmers prefer to sell their produce in mandis or village level aggregators or to commission agents. From the baseline

survey, farmer in this cluster not able to store their produce in a warehouse and reap benefit of it such as – better price realisation in the market, once the glut like situation of harvesting period is over.

- Adequate information and technology should be provided which may result into the additional knowledge to farmers which may motivate them for viability of good quality of produce by using good quality of seed, fertilizers and other esentials.

- Provide essential transport facilities

Expected Outcome:

- Adequate Credit Available: As against traditional loans by banks, loans against commodity receipt are quick. FPC reduces credit crunch like situation among farmers, especially small and marginal farmers thereby reducing poverty.

- Premium against clean & graded produce: Clean & graded produce usually fetches premium price in the market and buyers are willing to buy properly graded commodity as per the accepted quality parameter.
- Increase Farmers Earning: As farmers are able to realise better price for their commodity as a result of various proposed interventions.
- Employment Creation: As FPC providing cleaning & grading service to farmers, FPC will have to employ some workforce to run day to day operation. This will create some employment opportunity in the community. Over a period, as the quantum of produce increases so will be the operation size resulting in increase in the number of people associated in the operation.

9.3. Whether the CBO has conducted market survey for mapping potential buyers / market?

Yes /~~No~~

9.3.1. If yes, please provide details:

Mutually agreement made with M/s. Rajaram Solvex Limited and as per agreement they have agreed to purchase 350 metric tons of agricultural commodities from us.

9.3.2. Details of potential buyers/markets identified through survey

No.	Name of buyer/market	Address	Contact person and its No.	E-mail Id	Agri. / Horti. Produce
1	M/s. Rajaram Solvex Limited	A - 21/22, E43 / 45, MIDC, Islampur. 415414..	9975600400		1. Soyabean

SITAMAI AGRO PRODUCER COMPANY LTD., SHIRATE

10

About Proposed Sub - Project

1. **Name of the proposed sub project** :

   SITAMAI SOYBEAN PURCHASE AND PROCESSING PROJECT.

2. **Type of sub project** (please mark (√) on appropriate option)

   2.1 Sub project - Productive Partnership (PP) **(√)**

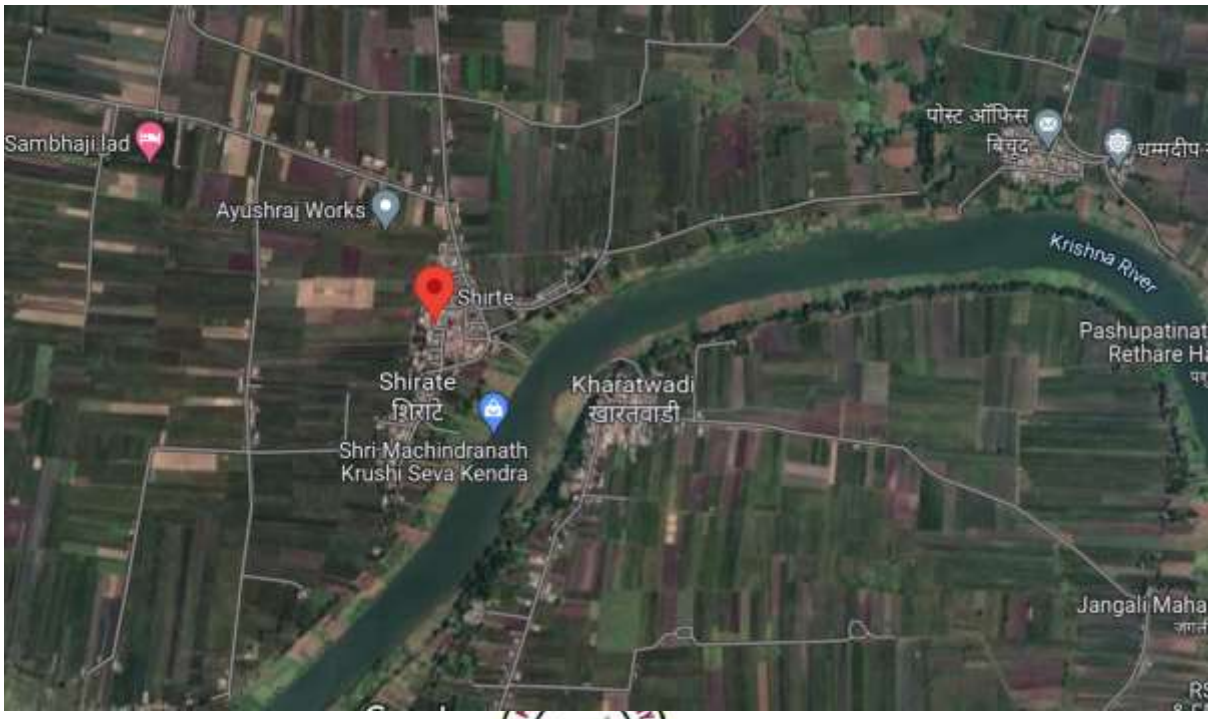
   ~~2.2 Sub project – Market Access Plans (MAPs)~~

   ~~2.3 Other…..~~

3. **Proposed objectives of the sub project :**

   1. To provide assured market for pulses and processed pulses and its by-products.
   2. To improve the farming practices of the farmers so as to reduce their cost.
   3. To strengthen the CBOs, so that they able to market their produce directly to the Processor / Exporter / end consume.
   4. To help the CBO get higher value for their produce by emphasizing on the benefits of grading.
   5. Aggregate farm produce by setting up updated warehouse facilities.
   6. Direct sale by reducing the chain of intermediaries.
   7. To provide competitive rates to the members by setting up a sales system with the institutional buyer.
   8. Increase farmers income.
   9. To stop main chain of current farmers and merchants.
   10. To start selling system between farmers and customers.
   11. To form chain of farmers to provide them technical information, how to reduce expanses of agriculture and increase production.
   12. To create system sale agriculture commodity directly to the customers and stop middle selling system. Give right price and educate farmer.

4. About sub-project location:



The project is located in the village of Shirte, Tal. Walwa, Dist. Sangli. Where sangli city is aprox 50 kms. Nearby to the location is Islampur, Kolhapur, Warna, Karad which is approximately in 50-60 km radius.

SITAMAI AGRO PRODUCER COMPANY LTD., SHIRATE

5. No. of Villages covered under sub project:-

Around 50 villages.

6. Details of existing infrastructure available for the proposed sub-project

No.	Particulars	Details
1	Location of sub-Project	1. Village: --- Shirte 2. Gram Panchayat: - Shirte 3. Taluka:- Walwa 4. District:- Sangli 5. State:- Maharashtra
2	Latitude and Longitude of the village	Longitude 74.28140116 Latitude 17.12181486
3	Total required land for establishing proposed sub project	0.20 acre
4	Whether the land owned by organization	Yes / No if yes; provide following details Survey no/ Gat No---------- Longitude ----------Latitude----------

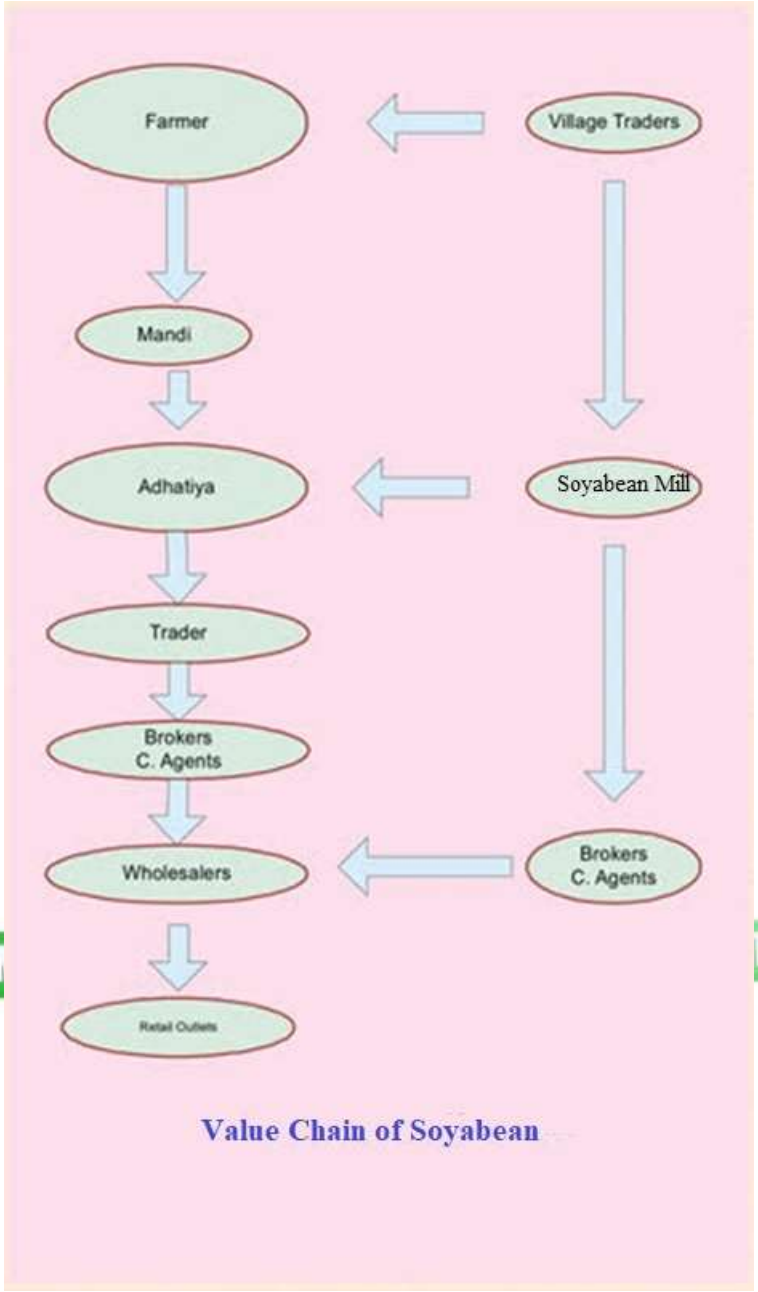
5	a. Is the land is on lease basis ; If yes; then its details	Yes / ~~No~~ Survey no/ Gat No 220 Tenure of agreement 29 year Date of agreement: Longitude 74.28140116 Latitude 17.12181486 ~~SC/ST/NT/OBC~~/GEN ~~Yes~~/No (Certificate of non-encroachment to be attach by relevant authority like DIU Head)
	b. Social Category of the land owner	General
	c. Whether the land is encroachment free	Yes (Certificate of non-encroachment to be attached by relevant authority like DIU Head)
	Proposed land use	Land under cultivation ~~Fallow land~~ ~~Industrial use~~
6	Details of facilities available at identified site	
6.1	Whether electricity supply is available	Yes / ~~No~~ If yes; provide following details Name of connection holder: **Sitamai Agro Producer Company Limited** Type of power connection: Single Phase / Three phase both.

		Capacity 6.3 HP.
6.2	Whether water is require for running proposed sub project?	Yes / ~~No~~ Detail of facilities: Well and Bore Well How many months water is available: 12 months in a year
6.3	Status of road connectivity at selected plot	Road connectivity - Yes / ~~No~~

7. Agri. / Horti. Produce aggregation plan of CBO for next five years

Crop	Cultivation In (%)	Y1 Marketable Surplus (In Quintals)	Y2 Marketable Surplus (In Quintals)	Y3 Marketable Surplus (In Quintals)	Y4 Marketable Surplus (In Quintals)	Y5 Marketable Surplus (In Quintals)	Y6 Marketable Surplus (In Quintals)	Y7 Marketable Surplus (In Quintals)
Soyabean	60	329	365	405	450	500	540	600

8. **Proposed value chain of selected crop/ s (crop wise)** (Please refer annex for knowing how to write value chain.)



Value Chain of Soyabean

9. Details of buyers selected for developing value chain: -

(Please provide details of the buyer who signed MoU with CBO)

SN	Details	Description
1	Name of buyer	M/s. Rajaram Solvex Limited, Islampur
2	Address and contact No.	A – 21/22, E 43/45, MIDC, Islampur 415414
3	Details of authorized person (name, designation, contact no. and E-mail id)	Mr. Vikas Maruti Kardile (Director) 9975600400
4	Type of buyer organization	1. Processor ~~2. Exporter~~ ~~3. Registered buyers / trader~~ ~~4. Organized Retailers e.g. D- Mart, Reliance~~
5	Whether the buyer is registered?	Yes / ~~No~~ If yes, then under which act: Companies Act, 2013.
6	Registration Number/ License Number	U15141PN1991PLC061629
7	PAN number	
8	Buyer total annual average requirement of produce (Quantity in MT)	1 Lakh Mt
9	Quantity of produce to be procured by selected buyer – quantity as per MoU (Year 2022 to 2026)	**Crop** / **Year** / **Agro produce (ton)** Soyabean / 20-21 / 350
10	Annual turnover of buyer Rs. lakh (last three years)	2020 to 2021 Rs. 111 crore

		2019 – 20 Rs. 109 crore
		2018-19 Rs. 103 crore

Quality parameters of agri. / horti. produce to be procured

(Provide details of specific quality parameters as suggested by the buyer. Other terms and condition i.e. transportation, packaging material, availability of crates/ gunny bags etc.)

Sr.No.	Commodity	Quality parameter for procurement of produce	Other terms / Conditions for produce handing over / transaction
1	Soyabean	• Excellent hygienic • Excellent Quality Packing • Excellent Quality of cleaning, polishing, grading, netting of goods 10% moisture 2% Impurity 2% Intermaterial	• Reaching out to commodity buyers through company based community based organization. • The packing material should be made available by the buyer to the community based organization.

10. How you decided price of commodity (Method for fixing of prices of commodities)

Premium to market rate –

Purchase rate of market commodity will be based on prevailing Market rate /MSP / As per the agreement with local and foreign buyer. And/or additional 3% to 5% over and above Prevailing Sangli APMC market prices of the commodity.

Payment Mechanism -

FPC shall make the payment of grains after 7 of receiving the delivery i.e. T+7 days Also depending on the season.

11. Responsibilities of CBO and the Buyer for developing value chain of crop commodity

Responsibility of CBO	Responsibility of buyer
• CBO will be responsible for leadership activities with farmers, timely payments from and to the farmers, timely material distribution to farmers. • All the material and financial transaction will be carried with CBO for individual farmer. • Excellent hygienic quality of goods. • Excellent quality of packed goods. • Excellent quality of cleaning, grading, netting, and polished goods. • 50 kg of agriculture goods packed packets to purchaser.	• Quality checking of all the farm materials • Payment to farmers via CBO Bank account within 15 days from the pickup. • To purchase checked agriculture goods. • To payment of purchased goods within 7 days to company as per rate decided. • To mandatorily give all purchased bill and GST bill to the company.

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Note: Provide details in bullet points on quality parameter/ quantity / transportation / payments / technology / produce handing over etc.

Proposed Business activity/ies

No.	Business/activities	Operational days in a year (Days)	Remark
A	**Post-harvest technology /practices**		
1	Soyabean	**210 days**	**Cultivation**
B	**Secondary processing**		
1	Soyabean Removal	**60 days**	**Cultivation**
C	**Quality production**		
1	Soyabean Sorting & Grading	**120**	**Cleaning Grading**
D	**Marketing management**		
1	Marketing	**360**	
2	Branding		
E	**Other**		
1	As required and as demands will provide.	**25*12 days = 300 days**	

Note: Fill up the relevant activity under each component.

12. What is the uniqueness and innovation in proposed sub-project?

1. Providing organic and residue free products to consumer thus providing the safety for health and protecting land from pollution.
2. Establishing robust value chain with increase in revenue for farmers.
3. Its unique project in Maharashtra where farmers will be supplied with special quality training for sowing and the whole yield will be purchased through buyback system.
4. This will give extra revenue to the farmers. Thus supporting them to their economic management.
5. Various technologies made available to farmers.
6. Latest information and technology information and training shall be provided to farmers.
7. Revenue to farmers shall be made available more that prevailing market price.
8. Amount shall be deposited into farmers bank account directly.
9. Payment term shall be 5 days maximum.

15.1. Key components of sub-project i.e. construction, machinery and other materials required for proposed business / activities

	Sr. No	Details of Proposed Business Activities	Capacity	Rate	Total Unit	Total Amount	
	1	Land		1		rented	
	2	Building Details	Sq. ft.			-	
	2.1	Providing and laying cast in site/ ready mix cement concrete M-20 for double rim bored pile of 450 mm dye each of load capacity as per design and of specified diameter of pile and bulb as	Running mtr.	105	2,575	270,658	

		directed, sunk to the required depth through all strata except rock, excluding provisions of reinforcement including placing with fully automatic microprocessor based PLC with SCADA enabled reversible drum type mixer/ concrete batch mix plant (pan mixer) etc. complete. With fine aggregate in (crushed sand VSI grade) by termie arrangement compaction of concrete including chipping and dressing etc. complete (excluding steel reinforcement)					
	2.2	Excavation for foundation in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material up to a distance of 50 meters beyond the building area and stacking and spreading as directed, dewatering, preparing the bed for the foundation and necessary back filing, ramming, watering including shoring and strutting etc complete . (Lift from 1.5m to 3.0 m) By manual means	cubic mtr	144	306	44,156	
	2.3	Providing and laying cast in site/ ready mix cement concrete M-20 of trap metal for RCC pile caps as per detailed designs and drawings, including bailing out water manually, centering, formwork , laying/ pumping , compacting , finishing and curing etc. with fully automatic microprocessor based PLC with SCADA enabled reversible drum type	cubic mtr	8	7,534	63,286	

		mixer/ concrete batch mix plant (pan mixer) etc complete with crushed sand VSI grade/ V.S.I. quality artificial sand, complete (excluding steel reinforcement)					
	2.4	Providing and fabricating structural steel work in rolled sections, fixed with connecting plates or angle cleats in main and crossbeams, hip and Jack rafters, purlins connecting to truss members and the like, as per detailed designs and drawings or as directed including cutting, fabricating, hoisting erecting, fixing in position, making riveted/ bolted/ welded connections and one quote of anti corrosive paint and over it 2 quotes of oil painting of approved quality and shade etc dot complete	metric ton	7	85,585	556,303	
	2.5	Supplying hard murum/ kankar at the site, including conveying and stacking, etc complete	cubic mtr	650	539	350,610	
	2.6	Spreading hard murum/ soft murum, gravel or kankare PTC complete	cubic mtr	650	76	49,108	
	2.7	Providing and laying cast in site/ Ready mix cement concrete in M15 of trap/ granite/ quartzite/ genesis metal for steps including still centering, formwork, laying/ pumping, compacting, roughening them if special finish is to be provided, finishing uneven and	cubic mtr	60	6,030	362,554	

		honeycombed surface and curing etc. complete. The cement mortar 1 : 3 plaster is considered for rendering uneven and honeycomb surface, only. Newly laid concrete shall be covered by gunny bags, plastic, tarpaulin etc. (wooden centering will not be allowed), with fully automatic microprocessor based PLC with SCADA enabled reversible drum type mixer/ concrete batch mix plant (pan mixer) etc. complete With fine aggregate (crushed sand VSI grade)					
	2.8	Providing and laying in situ/ ready mix cement concrete M-20 of trap/ granite/ geniss metal for RCC work in foundations like raft, strip foundations, grillage and footing of RCC columns and steel stanchions etc. including bailing out water, steel centering formwork, laying/ pumping cover blocks, compaction and curing roughening the surface if specialfinishis to be provided (Excluding reinforcement and structural stel) etc. complete, with fully automatic micro processor based PLC with SCADA enabled reversible Drum Type mixer/ concrete batch mix plant (pan mixer) etc. complete. With fine aggregate (crushed sand VSI Grade)	cubic mtr	61	6,666	405,159	
	2.9	Providing and fixing in position TMT-FE-500 bar reinforcement of various diameters for RCC pile caps,	metric ton	12	71,778	850,569	

		footings, foundations, slabs, beams columns, canopies, staircase, newels, chajjas, lintels pardis, copings, fin, arches etc. as per detailed designs, drawings and schedules including cutting, bending, hooking the bars, binding with wires or tack weilding and supporting as required complete					
	2.10	Providing second class burnt brick machinery with conventionla/I.S. tyoe bricks in cement mortar 1:6 in foundations and plinth of inner walls/ in plinth external walls including bailing out water manually, striking joints on unexposed faces, ranking out joints on exposed faces and watering etc. complete	cubic mtr	146	7,343	1,072,445	
	2.11	Providing internal cement plaster 12mm thick in single coat in cement, mortar 1:5 without neeru finish to concrete or bricks surfaces, in all position including scaffolding and curing etc	sq.mtr	650	257	167,050	
	2.12	Providing and applying colour-wash of approved colour and shade in two coats to new surface including scaffolding, brushing and brooming down (excluding base coat of whitewash) etc. complete.	sq. mtr	800	17	13,600	
	2.13	Providing and fixing plain zince sheeting of 0.80 mm thick (22 BWG) over the ridge hip or valley to galvanised iron sheet roofing including all fastening and	sq. mtr	111	1,042	115,662	

		bolt falvanised iron screws and bolts, lead and bitumen washers etc complete (Weight of 6.8 kg/ sq m)					
	2.14	Providing and fixing self supporting panel roofing system for a godown or alike made up of structural grade steel sheet of 912 millimeter width (tolerance +/ - 2 millimeter), moulded at site using mechanical press dies to the desired curve and shape to form 605 millimeter wide interlocking panels. The interlocking panels shall be pressed to close the seam forming water tight joints for a span of 25.00 meter The base material made up of imported galvalume steel complying to ASTM A 792 having base metal thickness of 1.20 millimeter (tolerance +/- 0.02 millimeter) with alloy coating AZ 150 and paint coating of regular modifiedpolyster, top coat 25 micron and bottom coat 12 micron as per approved colour, including fixing hangers, clamps etc. as may be necessary of proflex standard, including fixing sky light of 2 millimeter thick polycarbonated sheet of size 2' X 14' and turbo ventilator of 24" diameter to be installed at every 30 feet along the length of roof including fininshing testing and cleaning etc. complete	sq. mtr	529	2,271	1,201,359	
	2.15	Providing and fixing rolling shutter fabricated from steel laths of minimum thickness	sq.mtr	30	4,310	129,300	

		with 35 X 35 X 5 mm angels section fitted with sliding bolts and handles for both sides, deep M.S. channel section of depth and thickness not less than 65 mm and 3.15 mm respectively with hold fast arrangements, M S brcket plate 300 X 300 X 3.15 mm minimum size and shape with square bar, suspension shaft of minimum 32 mm diameter, hood cover of M S Sheet not less than 0.9 mm thickness and of any size at top and saftey devices including mechanical gear operation arrangement consisting of worm gear wheels and worms of high grade cast iron or mild steel and one coat of red lead primer etc. complete (I.S. 60481979) without mechnical gear)					
	2.16	Providing and fixing in position (as per 1869/ 1982) aluminium sliding window of two tracks with rectangular pipe having overall dimension 63.50x38.10x1.02 mm at weight 0.547 kilogram/ running meter. Top and side track section 61.82x31.75x1.30 mm at weight 0.659 kilogram/ running metre. The shutter should be of bearing bottom 40x18x1.25 mm at weight 0.417 kilogram/ running metre and top section 40x18x1.25 mm at weight 0.417 li;ogram/ running metre. As per detailed drawings and as direted by Engineer in charge with all	sq.mtr	21	5,606	117,726	

		necessary aluminium sections fixtures and fastening such as roller bearing in nylon casting and self locking catch fitted in vertical section of shutter including 5 mm thick plain glass with all required screws and nuts etc. complete. With colour anodising with box.					
	2.17	Providing and fixing mild steel grill for windows, ventilators, etc. 15 kilogram/ squre metre as per drawing including fixtures necessary welding and painting with one coat of anticorrosive paint and two coats of oil painting complete.	sq.mtr	21	1,507	31,647	
	2.18	Royalty charges for varoius building material which are used for government bonafied works and for which royalty charges are to be paid by contractor	cubic mtr	650	141	91,871	
	Total		**5,893,062**	**Total**	**5,893,062**	**Total**	**5,893,062**
	This Sheet provide details of land and various construction, including area, rate per unit and total amount						

15.2.**Machinery and Equipment**

	Sr. No.	Description	Capacity	No. Required	Rate	Amount (Rs.)	Total HP
	A	**Custom Hiring**				-	
	1	4 ton Kaman Pata Type Heavy Chase and hydrolic jack 5ton - 10"x6" - 4"x15" with below steel 10 gaze door steel 12 gaze hard build up taper roller bearing tyre size 7.50'x 16x 14 ply hydrolic jack 5 ton			**195,000**	195,000	

	2	**Tractor Tiger 55**			**958,500**	958,500	**55**
	3	**Lamken Reverseable hydrolic palti plough**			**227,678**	227,678	
		Opal 090E			**13,661**	13,660	**50**
		Opal 080E			**13360**	**13360**	**48**
	4	**Krishna Rotavator - KARWC5 Blade - 36 Nos**			**120000**	**120000**	
	5	**Multipurpose Perani Yantra**			**60,000**	60,000	
	6	**Krishna Rotaridger - KARWC5 Blade - 36No**			**207,000**	207,000	
	B	**Cleaning & Grading Plant 2000 kg per hour**					
	1	Four seat round seperator (for separate large size impurities like - wooden pieces, big stones, sand and fine dust) Aspiration Channel (for suck dust & light impurities) De-stonner for stones removing Cleaner cum pre cleaner High pressure blower with cyclone Gravity Seperator (Five Fan With AC Drive) Elevator size: 7"x7", 8 mm * 4" belt & 5" P.V.C. bucket		1	1,785,000	**1,785,000**	
	C	**Pulverizer Unit**					
	1	22" Pulverizer 20HP with cyclone & airlock valve system		**1**	**2,006,000**	2,006,000	20
	D	**Sortex Machine**					

		Mini Sortex Plant 5 ton / day capacity compressor, elevator - 16ft x 01 Nos.		**1**	**2268550**	2,268,550	
	E	**Drying Unit**					
	1	Grain Dryer 2 tonnes		**1**	**500,000**	500,000	
	2	Square Vibrio 300 kg		**1**	**95,000**	95,000	
	3	Ribbon Blender		1	500,000	500,000	
	4	Storage Tank 10 tonnes capacity		5	200,000	1,000,000	
	5	20Hp pellet mill		1	500,000	500,000	20
		GST Taxes				467,100	
	F	**Equipments**					
	1	Installation Accessories					
		· Pipes, Angels, Sheet, Cutter, Nuts & Bolts, Panels, Tool Kit etc			300,000	300,000	
		· Motor, Stand, Frame, Foot-Mount, Cyclone, Blower, Pulleys & V – Belts			400,000	400,000	
		· Electric fitting, cabeling & complete electrical goods etc			150,000	150,000	
	2	Platform 5 ton aprox.			500,000	500,000	
	3	Electrical Panel Box, wires cables, molasses, pipeline, steam pipeline, regular pipeline, equipment and fabrication - work			350,000	350,000	

		GST Taxes			306,000	306,000	
	G	**Weighbridge**					
	1	Fully Electronic Weighbridge of 8x3m Capacity - 50 tonnes Weigh Bridge's Digital Loadcell Capacity - 50 tonnes Accuracy - 05 kg Size - 8m x 3m Load Cell: • Capacity 20k-75k lbs • IP 68 protections. • Safe overload 150% & Ultimate overload 300% • Lightning Protection • High ccuracy & 100% repairable • 2yrs Gyranty Platform: (for 8m x 3m, 50tn) • Main Beam: 400 mm • Cross Beam: 250 mm • Long Beam: 200 mm			1,121,000	1,121,000	
		Scope of Supply: Our Work **1. Load cell capacity – 20tn each, digital, IP – 68 rated [2yrs] gurantee.** **2. Mounting kit for load cells.** **3. Junction Box** **4. Intelligent indicator with parallel display & keyboard** **5. Hardware & foundation bolt.** **6. Civil drawing & guidance** **7. One year warranty** **Scope of Work: From Client** **1. Civil Work [Foundation,**					

		cabin & Ramps] **2. Power supply, earthning & piping as per drawing** **3. Printer** **4. Weights & Labors, if required for stamping** **5. Crane for unloading** **6. Transport**					
	H	**Packing Unit**					
	1	Auto Filling Machine			300,000	300,000	
	2	FFS Packing Machine			400,000	400,000	
	3	Weighing Machine					**3**
		200kg machine			50,000	50,000	
		500kkg machine			75,000	75,000	
	4	Auto Continous Sealer			350,000	350,000	
	5	Bag Closer		3	350,000	350,000	
		Filing Conveyor		1			
		GST Taxes				274,500	
	I	**Machinery**					**I**
	1	Aman Soya Paddy Multi Crop Thresher			275,000	275,000	**1**
		Extra Screen - Set, Paddy Bins etc.			160,000	160,000	
	2	Heavy payloadagricultural drone sprayer			700,000	700,000	**2**
		9 nozzeles, Battery, Tank, Pump etc			140,000	140,000	

		GST Taxes				229,500	
	Total		**17,347,848**	**193**	**Total**	**17,347,848**	**193**
	This Sheet provide details of Plant & Machinary, including Capacity, rate per machaine, Power Consuption and total amount						

15.3.Furniture and Fixture

Sr. No.	Particular	No. Required	Rate	Amount (Rs.)
1	Office Table L Corner 5*2.5, 2.5*1	1	7,500	7,500
2	Office table 4*2	1	3,500	3,500
3	Office Cupboard	1	9,300	9,300
4	2.5*1.5 Box	1	2,000	2,000
5	Chairs	12	600	7,200
6	MRC 067 office chair	3	5,100	15,300
7	GST Taxes			8,064
Total				**52,864**

This Sheet provide details of furniture and fixture, no. of Quantity, rate per unit and total amount

15.4. IT & It Infrastructure

Sr. No.	Particular	No. Required	Rate	Amount (Rs.)
1	KIKVISION 8 channel huhi DVR	1	9,650	9,650
2	2 mp dome camera	1	2,200	2,200
3	5 mp dome camera with mic	1	1,975	1,975
4	2 mp colour camera bullet	3	2,450	7,350
5	2tb surveillance hard disk	1	5,750	5,750
6	D-link CCTV Cable bundle 3+1	1	1,350	1,350
7	BNC connectors	10	30	300
8	DC Coneectors	5	30	150
9	Power supply 8 channel MTC	1	950	950
10	Hardware and Installation	5	350	1,750
11	Gang Box	5	40	200
12	HDMI Cable 10 mtr	1	850	850
13	Dual Core processor Intel	1	12,650	12,650
	Asus 510M-E Mother Board	1		
	4 GB DDR4 Ram Crucial	1	1,650	1,650

	1tb WD Hard Disk	1	3,250	3,250
	Cabinet Circle	1	2,250	2,250
	120 GB SSD Kikvision	1	1,750	1,750
	22" Benq IPS Monitor	1	12,100	12,100
	Dell Wireless Keybord	1	1,450	1,450
14	Canon Pixma G3010 Wifi Printer	1	13,900	13,900
15	Zebronic with Speaker	1	3,700	3,700
Total				**85,175**

This Sheet provide details of furniture and fixture, no.of Quantity, rate per unit and total amount

15.5. Transport vehicle (Refer van and other)

Sr. No.	Particular	No. Required	Rate	Amount (Rs.)
				-
				-
Total				**1,982,401**

This Sheet provide details of vehicles, no.of vehicle, rate per vehicle and total amount

16. Specify the benefits of working together to CBO its members and buyer

No.	Benefits to CBO	Benefits to buyer	Benefits to members
1	Identification of goods Fixed of Rates Trust Worthy FPC will attract more members by scaling up its operation. FPC will own more assets or facility infrastructure centres to run successful business FPC will able to aggregate more commodity, that will attract more market linkages.	Availability of goods Will get quality goods from one place Trust worthy Buyer values traceability, quality and regular secured amount of supply Buyer will receive good quality of Agri commodity directly Buyer will receive Agri commodity at his gate. Buyer will save transportation cost.	Rise the financial status of the members Guarantee sale of goods Get free loan against warehouse receipt Better price realisation of their produce. Scientific Storage at reasonable price

Activity Plan for Women Farmers and to make their involvement

1. To encourage women farmers to increase their participation in agriculture land.
2. Efforts will be made to increase the participation of maximum number of women in the competitive value chain.
3. Guidance camp will be conducted to convince the women members about the benefits of this project through the establishment of Farmer Producer Company.
4. Involve them by forming farmer groups of maximum number of women farmers.
5. Group building trips for women crop demonstration agricultural school meetings will be held to train women members.
6. Preference will be given to women in grant-in-aid criteria and funds.

11

Sun – Project Implementation Plan

1.1. Implementation of key activities proposed under sub-project

No.	Particulars of activities	Y1				Y2				Y3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A	**Construction of**	-	-	-	-	-	-	-	-	-	-	-	-
1	Land and Building	(√)	(√)	-	-	-	-	-	-	-	-	-	-
2	Warehouse	(√)	(√)	-	-	-	-	-	-				
B	**Plant and Machinery**	-	-	(√)	(√)	-	-	-	-	-	-	-	-
1		-	-	-	-	-	-	-	-	-	-	-	-
2		-	-	-	-	-	-	-	-	-	-	-	-
C	**Other**	-	-	-	-	-	-	-	-	-	-	-	-
1	Furniture and	(√)	-	-	-	-	-	-	-	-	-	-	-
2	IT & It	(√)	-	-	-	-	-	-	-	-	-	-	-
D	**Other**	-	-	-	-	-	-	-	-	-	-	-	-
1	Preliminary	(√)	-	-	-	-	-	-	-	-	-	-	-
2													

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12

Sun – Project Budget & Financial Analysis

12.1. Sub project budget and means of finance

12.1.1. Budget

Sr. No.	Particulars	Amount	Grant	Grant Amount
1	Land and Building	5,893,062	60%	3,535,837
2	Machinery and Equipment	17,347,848	60%	10,408,709
3	Furniture and Fixture	52,864	60%	31,718
4	IT & It Infrastracture	85,175	60%	51,105
5	Transport vehical (Refer van and other)	-	60%	-
6	Preliminary Expenses	972,000	60%	583,200
7	Working Capital	401,606		
	Total	**24,350,949**		**14,610,570**

12.1.2. Means of finance

No	Component	Amount (Rs.)	Contribution (%)
1	SMART project support (subsidy	14,610,570	
2	Bank Loan	8,663,394	
3	CBOs own contribution	1,076,985	
4	Other		
5	**Total**	**24,350,949**	

** If necessary, the applicant can approach to the bank for obtaining loan. (Borrowing loan from a bank is not mandatory under Smart Project)*

5.2 FINANCIAL ANALYSIS

12.2.1. Project Cost Summary:

Sr. No.	Particulars	Amount	Grant	Grant Amount
1	Land and Building	5,893,062	60%	3,535,837
2	Machinery and Equipment	17,347,848	60%	10,408,709
3	Furniture and Fixture	52,864	60%	31,718
4	IT & It Infrastracture	85,175	60%	51,105
5	Transport vehical (Refer van and other)	-	60%	-
6	Preliminary Expenses	972,000	60%	583,200
7	Working Capital	401,606		
	Total	**24,350,949**		**14,610,570**

**The above subsidy percentage is indicative. It may change based on the decision of State Proposal Approval Committee of Smart Project.*

12.2.2. Depreciation Estimates

	As per companies Act						
Assets							
Building							
Asset Value	5,893,062	5,706,252	5,519,442	5,332,632	5,145,822	4,959,012	4,772,202
Depreciation	186,810	186,810	186,810	186,810	186,810	186,810	186,810
Accumulated Depreciation	186,810	373,620	560,430	747,240	934,050	1,120,860	1,307,671
Net Fixed Assets	5,706,252	5,519,442	5,332,632	5,145,822	4,959,012	4,772,202	4,585,392
Plant and Machinary							
Asset Value	17,347,848	16,249,729	15,151,610	14,053,492	12,955,373	11,857,254	10,759,135
Depreciation	1,098,119	1,098,119	1,098,119	1,098,119	1,098,119	1,098,119	1,098,119
Accumulated Depreciation	1,098,119	2,196,238	3,294,356	4,392,475	5,490,594	6,588,713	7,686,831

Net Fixed Assets	16,249,729	15,151,610	14,053,492	12,955,373	11,857,254	10,759,135	9,661,017
Furniture and Electrification							
Asset Value	52,864	47,578	42,291	37,005	31,718	26,432	21,146
Depreciation	5,286	5,286	5,286	5,286	5,286	5,286	5,286
Accumulated Depreciation	5,286	10,573	15,859	21,146	26,432	31,718	37,005
Net Fixed Assets	47,578	42,291	37,005	31,718	26,432	21,146	15,859
Vehicle							
Asset Value							
Depreciation							
Accumulated Depreciation							
Net Fixed Assets							

IT Infrastructure							
Asset Value	85,175	76,658	68,140	59,623	51,105	42,588	34,070
Depreciation	8,518	8,518	8,518	8,518	8,518	8,518	8,518
Accumulated Depreciation	8,518	17,035	25,553	34,070	42,588	51,105	59,623
Net Fixed Assets	76,658	68,140	59,623	51,105	42,588	34,070	25,553
Gross Fixed Asset	**23,378,949**	**22,080,217**	**20,781,484**	**19,482,751**	**18,184,018**	**16,885,286**	**15,586,553**
Total Depreciation	**1,298,733**	**1,298,733**	**1,298,733**	**1,298,733**	**1,298,733**	**1,298,733**	**1,298,733**
Accumulated Depreciation	**1,298,733**	**2,597,466**	**3,896,198**	**5,194,931**	**6,493,664**	**7,792,397**	**9,091,129**
Net Fixed Assets	**22,080,217**	**20,781,484**	**19,482,751**	**18,184,018**	**16,885,286**	**15,586,553**	**14,287,820**

Amortization: Straight Line Method (SLM) is used	**Companies Act**	**IT Act**
Depreciation: Straight Line Method (SLM) is used	**SLM**	**WDV**
Land	0.00%	0.00%
Building	3.17%	10.00%
Furniture and Electrification	10.00%	10.00%
IT and Infrastructure	10.00%	40.00%
Vehicle	11.88%	15.00%
Plant and machinery	6.33%	15.00%
Amortization: Straight Line Method (SLM) is used		
Pre-operative or pre-incubation	20%	20%

	As per IT Act						
Assets							
Building							
Asset Value	5,893,062	5,303,756	4,773,380	4,296,042	3,866,438	3,479,794	3,131,815
Depreciation	589,306	530,376	477,338	429,604	386,644	347,979	313,181
Accumulated Depreciation	589,306	1,119,682	1,597,020	2,026,624	2,413,268	2,761,247	3,074,429
Net Fixed Assets	5,303,756	4,773,380	4,296,042	3,866,438	3,479,794	3,131,815	2,818,633
Plant and Machinery							
Asset Value	17,347,848	14,745,671	12,533,820	10,653,747	9,055,685	7,697,332	6,542,732
Depreciation	2,602,177	2,211,851	1,880,073	1,598,062	1,358,353	1,154,600	981,410
Accumulated Depreciation	2,602,177	4,814,028	6,694,101	8,292,163	9,650,516	10,805,116	11,786,525
Net Fixed Assets	14,745,671	12,533,820	10,653,747	9,055,685	7,697,332	6,542,732	5,561,323

Furniture and Electrification							
Asset Value	52,864	47,578	42,820	38,538	34,684	31,216	28,094
Depreciation	5,286	4,758	4,282	3,854	3,468	3,122	2,809
Accumulated Depreciation	5,286	10,044	14,326	18,180	21,648	24,770	27,579
Net Fixed Assets	47,578	42,820	38,538	34,684	31,216	28,094	25,285
Vehical							
Asset Value							
Depreciation							
Accumulated Depreciation							
Net Fixed Assets							
IT Infrastructure							

Asset Value	85,175	51,105	30,663	18,398	11,039	6,623	3,974
Depreciation	34,070	20,442	12,265	7,359	4,415	2,649	1,590
Accumulated Depreciation	34,070	54,512	66,777	74,136	78,552	81,201	82,791
Net Fixed Assets	51,105	30,663	18,398	11,039	6,623	3,974	2,384
Gross Fixed Asset	**23,378,949**	**20,148,109**	**17,380,684**	**15,006,725**	**12,967,846**	**11,214,966**	**9,706,615**
Total Depreciation	**3,230,840**	**2,767,426**	**2,373,958**	**2,038,879**	**1,752,880**	**1,508,350**	**1,298,990**
Accumalated Depreciation	**3,230,840**	**5,998,266**	**8,372,224**	**10,411,103**	**12,163,984**	**13,672,334**	**14,971,324**
Net Fixed Assets	**20,148,109**	**17,380,684**	**15,006,725**	**12,967,846**	**11,214,966**	**9,706,615**	**8,407,625**

**For ease of calculation it is suggested to use SLM (Straight Line Method)*

12.2.3. Amortization

Particulars	Years	Y1	Y2	Y3	Y4	Y5
Preliminary Expenses	**5**	194,400	194,400	194,400	194,400	194,400
Total Value		**194,400**	**194,400**	**194,400**	**194,400**	**194,400**

**For ease of calculation it is suggested to use SLM (Straight Line Method)*

12.2.4. Tax Schedule

Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
EBT	3,755,738	5,893,323	6,055,014	6,041,761	6,122,446	6,460,794	6,711,136
Add Depreciation as per companies Act	1,298,733	1,298,733	1,298,733	1,298,733	1,298,733	1,298,733	1,298,733
Less Depreciation as per IT Act	3,230,840	2,767,426	2,373,958	2,038,879	1,752,880	1,508,350	1,298,990
Taxable Income	1,823,631	4,424,630	4,979,789	5,301,615	5,668,298	6,251,176	6,710,878
Provision of Taxes	**474,144**	**1,150,404**	**1,294,745**	**1,378,420**	**1,473,758**	**1,625,306**	**1,744,828**

Maximum Tax rate **26%**

12.2.5. Bank Loan Projection

Loan Amount (Rs)	8,663,394
Interest rate /PA	12%
Loan Tenure in years	5
Moratorium Period (In Months)	12
EMI	Rs. 228,140.40

Year	Particluars	Opening Balance	Interest	Pricipal Repayment	EMI	Closing Outstanding
Year 1	Month 1	8,663,394	86,634	-	86,634	8,663,394
	Month 2	8,663,394	86,634	-	86,634	8,663,394
	Month 3	8,663,394	86,634	-	86,634	8,663,394
	Month 4	8,663,394	86,634	-	86,634	8,663,394
	Month 5	8,663,394	86,634	-	86,634	8,663,394
	Month 6	8,663,394	86,634	-	86,634	8,663,394
	Month 7	8,663,394	86,634	141,506	228,140	8,521,888
	Month 8	8,521,888	85,219	142,922	228,140	8,378,966
	Month 9	8,378,966	83,790	144,351	228,140	8,234,616
	Month 10	8,234,616	82,346	145,794	228,140	8,088,821

	Month 11	8,088,821	80,888	147,252	228,140	7,941,569
	Month 12	7,941,569	79,416	148,725	228,140	7,792,845
Year 2	Month 13	7,792,845	77,928	150,212	228,140	7,642,633
	Month 14	7,642,633	76,426	151,714	228,140	7,490,919
	Month 15	7,490,919	74,909	153,231	228,140	7,337,687
	Month 16	7,337,687	73,377	154,764	228,140	7,182,924
	Month 17	7,182,924	71,829	156,311	228,140	7,026,613
	Month 18	7,026,613	70,266	157,874	228,140	6,868,738
	Month 19	6,868,738	68,687	159,453	228,140	6,709,285
	Month 20	6,709,285	67,093	161,048	228,140	6,548,238
	Month 21	6,548,238	65,482	162,658	228,140	6,385,580
	Month 22	6,385,580	63,856	164,285	228,140	6,221,295
	Month 23	6,221,295	62,213	165,927	228,140	6,055,368
	Month 24	6,055,368	60,554	167,587	228,140	5,887,781
Year 3	Month 25	5,887,781	58,878	169,263	228,140	5,718,518
	Month 26	5,718,518	57,185	170,955	228,140	5,547,563

	Month 27	5,547,563	55,476	172,665	228,140	5,374,898
	Month 28	5,374,898	53,749	174,391	228,140	5,200,507
	Month 29	5,200,507	52,005	176,135	228,140	5,024,372
	Month 30	5,024,372	50,244	177,897	228,140	4,846,475
	Month 31	4,846,475	48,465	179,676	228,140	4,666,799
	Month 32	4,666,799	46,668	181,472	228,140	4,485,327
	Month 33	4,485,327	44,853	183,287	228,140	4,302,040
	Month 34	4,302,040	43,020	185,120	228,140	4,116,920
	Month 35	4,116,920	41,169	186,971	228,140	3,929,949
	Month 36	3,929,949	39,299	188,841	228,140	3,741,108
Year 4	Month 37	3,741,108	37,411	190,729	228,140	3,550,378
	Month 38	3,550,378	35,504	192,637	228,140	3,357,742
	Month 39	3,357,742	33,577	194,563	228,140	3,163,179
	Month 40	3,163,179	31,632	196,509	228,140	2,966,670
	Month 41	2,966,670	29,667	198,474	228,140	2,768,196
	Month 42	2,768,196	27,682	200,458	228,140	2,567,738

	Month 43	2,567,738	25,677	202,463	228,140	2,365,275
	Month 44	2,365,275	23,653	204,488	228,140	2,160,787
	Month 45	2,160,787	21,608	206,533	228,140	1,954,255
	Month 46	1,954,255	19,543	208,598	228,140	1,745,657
	Month 47	1,745,657	17,457	210,684	228,140	1,534,973
	Month 48	1,534,973	15,350	212,791	228,140	1,322,182
Year 5	Month 49	1,322,182	13,222	214,919	228,140	1,107,264
	Month 50	1,107,264	11,073	217,068	228,140	890,196
	Month 51	890,196	8,902	219,238	228,140	670,958
	Month 52	670,958	6,710	221,431	228,140	449,527
	Month 53	449,527	4,495	223,645	228,140	225,882
	Month 54	225,882	2,259	225,882	228,140	0
	Month 55	0	0	228,140	228,140	(228,140)

12.2.6. Revenue and Expenses Assumption

Sr. No.	Proposed Facility/ Activity Name	Capacity	Income	Variable Cost	Fixed Cost
	Soyabean Products Trading (Aggregation Centre, Cleaning & Grading, Dal Processing, Cattle Feed & Besan Unit and Marketing)		200 Days Operational (6 Hours Per Day) **Soyabean for 200 Days (3103.92.48 quintal Produced)** • Soyabean Trading 60% - (1862.352 quintal X Rs. 6000 = Rs. 5853000) • Other By-products – 40% - Cattle Feed (74 quintal X Rs. 6000 = Rs. 444000) And Soyabean Powder – (931 quintal X Rs. 17000 = Rs. 15827000	1. Raw Material – • Soyabean Trading 60% - (1862.352 quintal X Rs. 4000 = Rs. 7449406) • Other By-products – 40% - Cattle Feed (74 quintal X Rs. 2000 = Rs. 147741) And Soyabean Powder – (931 quintal X Rs.4000 = Rs. 3724704 2. Labour – (Rs. 67200 p.a.) 3. Electricity – (Rs. 126000/- p.a.) 4. Packaging Material – (Rs. 96168/- p.a.) 5. Gunny Bags – (Rs. 27097/- p.a.) 6. Loading/ Unloading – (Rs. 159540/- p.a.) 7. Transportation – Rs. 38000/- p.a.) 8. Repairs & Maintenance – Rs. 30000/- p.a.	1. Machine Operater - Rs. 364800 p.a.) 2. Rent – Rs. 72000 p.a.

Variable Cost & Fixed Cost is overall cost applicable for only production viz.,Soyabean Cleaning & Grading and for also their by-products viz., cattle feed and powder production and manufacturing.

12.2.7. Projected Profit & Loss Statement

Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Revenue							
Faclitiy 1 - Cleaning & Grading	5,853,000	6,974,825	7,886,917	8,872,782	9,937,516	11,086,541	12,325,625
Faclitiy 2 - Processing Unit- Dal Mill	16,273,215	17,900,537	18,795,564	19,735,342	20,722,109	21,758,214	22,846,125
Faclitiy 3 - Warehouse	480,000	535,500	595,350	659,846	729,304	765,769	804,057
Faclitiy 4 - Custom Hiring	-	-	-	-	-	-	-
Faclitiy 5 - Agri Input Centre	-	-	-	-	-	-	-
Facility 6 - Processing Unit - Horti Commodity	-	-	-	-	-	-	-
Total Revenue	**22,606,215**	**25,410,862**	**27,277,831**	**29,267,970**	**31,388,929**	**33,610,525**	**35,975,808**
Variable Cost							
Faclitiy 1 - Cleaning & Grading	7,023,872	5,849,153	6,311,042	7,077,792	7,905,439	8,798,157	9,760,382
Faclitiy 2 - Processing Unit- Dal Mill	3,965,153	4,805,175	5,481,409	6,165,602	6,852,966	7,543,658	8,237,845
Faclitiy 3 - Warehouse	185,000	194,283	204,014	213,882	224,242	235,454	247,227

Faclitiy 4 - Custom Hiring	-	-	-	-	-	-	-
Faclitiy 5 - Agri Input Centre	-	-	-	-	-	-	-
Facility 6 - Processing Unit - Horti Commodity	-	-	-	-	-	-	-
Total Variable Cost	**11,174,025**	**10,848,611**	**11,996,466**	**13,457,276**	**14,982,647**	**16,577,269**	**18,245,455**
Fixed Cost							
Faclitiy 1 - Cleaning & Grading	360,000	388,800	404,640	421,272	438,736	457,072	476,326
Faclitiy 2 - Processing Unit- Dal Mill	4,250,645	5,335,821	6,678,915	6,835,392	7,595,550	8,359,573	9,127,653
Faclitiy 3 - Warehouse	60,000	63,000	66,150	69,458	72,930	76,577	80,406
Faclitiy 4 - Custom Hiring	-	-	-	-	-	-	-
Faclitiy 5 - Agri Input Centre	-	-	-	-	-	-	-
Facility 6 - Processing Unit - Horti Commodity	-	-	-	-	-	-	-
Admin Expenses	350,000	367,500	385,875	405,169	425,427	446,699	469,033

Total Fixed Cost	**5,020,645**	**6,155,121**	**6,935,580**	**7,731,291**	**8,532,643**	**9,339,921**	**10,153,419**
Total Cost	**16,194,670**	**17,003,731**	**18,932,046**	**21,188,566**	**23,515,290**	**25,917,189**	**28,398,873**
Profit Before Depreciation ,Interest and Tax	6,411,545	8,407,130	8,345,785	8,079,404	7,873,638	7,693,335	7,576,934
Depreciation	1,298,733	1,298,733	1,298,733	1,298,733	1,298,733	1,298,733	1,298,733
Amortization	194,400	194,400	194,400	194,400	194,400	-	-
Profit Before Interest and Tax	4,918,412	6,913,998	6,852,653	6,586,271	6,380,506	6,394,602	6,278,202
Interest on Term loan	1,162,674	1,020,674	797,638	544,510	258,060	(66,191)	(432,934)
Profit Before Tax	3,755,738	5,893,323	6,055,014	6,041,761	6,122,446	6,460,794	6,711,136
Less. Tax	474,144	1,150,404	1,294,745	1,378,420	1,473,758	1,625,306	1,744,828
Profit After Tax	3,281,594	4,742,919	4,760,269	4,663,341	4,648,689	4,835,488	4,966,308
Cumuilative Profit	3,281,594	8,024,513	12,784,782	17,448,124	22,096,812	26,932,300	31,898,608

Projected Consolidated Profit and Loss account is to give a projection of how much money you will bring in by selling products or services and how much profit you will make from these sales.

12.2.8. Cash Flow Statement Projection

Sr.	Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
1	**Operating Profit**							
	Total Revnue	22,606,215	25,410,862	27,277,831	29,267,970	31,388,929	33,610,525	35,975,808
2	**Equity/ Share capital**	1,076,985						
	Reivestment							
3	**Smart Grant - in-Aid**	14,610,570						
4	**Long Term Loan**	8,663,394						
5	**Short Term Loan**	1,204,818	1,567,109	1,724,888	1,881,255	2,050,669	2,229,308	2,419,196
	Sub Total (A)	**48,161,983**	**26,977,971**	**28,999,719**	**31,149,225**	**33,439,597**	**35,839,833**	**38,395,004**
Cash Outflow (Rs.)								
1	**Capital Expenditure**							
a	Land and Building	5,893,062						
b	Machinery and Equipment	17,347,848						
c	Furniture & Fixture	52,864						

d	It Infrastructure	85,175						
e	Vehicle	-						
f	Premilinary Expenses	972,000						
2	**Operational Expenditure**							
a	Variable Cost	11,174,025	10,848,611	11,996,466	13,457,276	14,982,647	16,577,269	18,245,455
b	Fixed Cost	5,020,645	6,155,121	6,935,580	7,731,291	8,532,643	9,339,921	10,153,419
3	**Loan Repayment**							
	LTL - Principal	870,550	1,905,064	2,146,673	2,418,925	2,725,706	3,071,393	3,460,923
	LTL - Interest	1,018,096	832,621	591,011	318,760	11,979	(333,708)	(723,238)
	STL - Principal	1,204,818	1,567,109	1,721,888	1,881,255	2,050,669	2,229,308	2,419,196
	STL - Interest	144,578	188,053	206,627	225,751	246,080	267,517	290,304
4	**Tax**	474,144	1,150,404	1,294,745	1,378,420	1,473,758	1,625,306	1,744,828
	Sub Total (B)	**44,257,806**	**22,646,983**	**24,892,990**	**27,411,676**	**30,023,482**	**32,777,005**	**35,590,886**
	Net Cash Flow (A-B)	**3,904,177**	**4,330,989**	**4,106,729**	**3,737,549**	**3,416,116**	**3,062,827**	**2,804,118**
	Opening Cash and Bank		3,904,177	8,235,165	12,341,894	16,079,443	19,495,558	22,558,386

	Cumulative Cash Balance	**3,904,177**	**8,235,165**	**12,341,894**	**16,079,443**	**19,495,558**	**22,558,386**	**25,362,503**

A projected cash flow statement is used to evaluate cash inflows and outflows to deter. mine when, how much, and for how long cash deficits or surpluses will exist for a farm business during an upcoming time period.

12.2.9. Balance Sheet Statement Projection

Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
ASSETS							
Current Assets							
Cash and Bank Balance	**3,904,177**	**8,235,165**	**12,341,894**	**16,079,443**	**19,495,558**	**22,558,386**	**25,362,503**
Accounts Receivables							
Other Current Assets							
Total Current Assets	**3,904,177**	**8,235,165**	**12,341,894**	**16,079,443**	**19,495,558**	**22,558,386**	**25,362,503**
Gross Fixed Assets	23,378,949	22,080,217	20,781,484	19,482,751	18,184,018	16,885,286	15,586,553
Less: Depreciation	1,298,733	1,298,733	1,298,733	1,298,733	1,298,733	1,298,733	1,298,733
Net Fixed Assets	**22,080,217**	**20,781,484**	**19,482,751**	**18,184,018**	**16,885,286**	**15,586,553**	**14,287,820**
Preliminary & Pre-operative Expenses	**777,600**	**583,200**	**388,800**	**194,400**	**0**	**0**	**0**
TOTAL ASSETS	**26,761,993**	**29,599,849**	**32,213,445**	**34,457,861**	**36,380,844**	**38,144,939**	**39,650,324**
LIABILITIES & SHAREHOLDERS EQUITY							
CURRENT LIABILITIES							
Short Term Debt (Working capital loan)							
Accounts Payable & Accrued Expenses							
Other Current Liabilities							
Total Curent Liabilities	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Secured Long Term Debt	**7,792,845**	**5,887,781**	**3,741,108**	**1,322,182**	**-1,403,523**	**-4,474,916**	**0**

Differed Tax Liabilities							
TOTAL LIABILITIES	**7,792,845**	**5,887,781**	**3,741,108**	**1,322,182**	**-1,403,523**	**-4,474,916**	**0**
Share capital	1,076,985	1,076,985	1,076,985	1,076,985	1,076,985	1,076,985	1,076,985
Smart Grant -in-Aid	14,610,570	14,610,570	14,610,570	14,610,570	14,610,570	14,610,570	14,610,570
Reserves and Surplus							
Add: Opening Balance (P/L Account)	0	3,120,727	7,107,305	13,422,611	22,078,703	33,082,919	46,464,930
Profit & Loss) During the Year	3,120,727	3,986,578	6,315,307	8,656,092	11,004,216	13,382,011	15,809,205
Appropriation - Dividend							
Total Reserves	3,281,594	8,024,513	12,784,782	17,448,124	22,096,812	26,932,300	31,898,608
TOTAL EQUITY	**18,969,149**	**23,712,068**	**28,472,337**	**33,135,679**	**37,784,367**	**42,619,855**	**47,586,163**
TOTAL LIABILITIES & EQUITY	**26,761,993**	**29,599,849**	**32,213,445**	**34,457,861**	**36,380,844**	**38,144,939**	**47,586,163**
CONTROL TICKER							
(=Liability - Asset)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

A projected balance sheet, also referred to as pro forma balance sheet, lists specific account balances on a business' assets, liabilities and equity for a specified future time. Using a projected balance sheet, financial personnel can present lenders and investors with detailed financial information about planned future asset expansion, making it easier to persuade capital providers to supply the required financing.

12.2.10. Financial Indicators

Sr.No.	Financial ratio	Estimated	Result	Permissible limit	
1	Break Even Point (BEP)	58.74%	Project Viable	BEP shall be less than 60%	40-60%
2	Avg. Return on Capital Employed Average (ROCE)	18.71%	Project Viable	RoCE for the project shall be more than 20%	>20%
3	Internal Rate of Return (IRR)	15.28%	Project Viable	The project internal rate of return shall be more than 12%	>12%
4	Net present value (at a discount rate of 10 per cent)	4,537,853	NPV is high and positive at a conservative project life of 7 years	With a discount rate of 10% and a span of 7 operational years, the NPV should be positive	Positive
5	Payback period	4.15	Project Viable	The Pack Back Period (Project/ Equity) shall be less than 7 years	<7 years
6	Debt Service Coverage Ratio (DSCR)	2.43	Project Viable	DSCR shall be more than 2 for better performing project.	1.5 2%

Return on Capital Employed (RoCE) or Return on Equity (RoE)

The return on capital employed for the project is 18.71% which is nearby the expected financial standards

Net Present Value (NPV)

With a discount rate of 10% and a span of 7 years, the projected cash inflows are worth Rs.28888802 today, which is greater than the initial cash outflow of Rs.24350949. The resulting positive NPV of the above project is Rs. 4,537,853 which indicates that pursuing the above project may be optimal.

Internal Rate of Return (IRR)

The project internal rate of return **shall be more than 12% as per current financial scenario of the country. The project IRR is 15.28% which is more than 12%** clearly indicating the project is feasible for investment.

Pay Back Period (Project/ Equity)

The Payback period for the project is 4 years & 15 months. It should be less than 7 years therefore the project payback periods are within the limit.

Break Even Point (BEP)

The average break-even percentage is 58.74% and as per financial standards it should be below 60%.

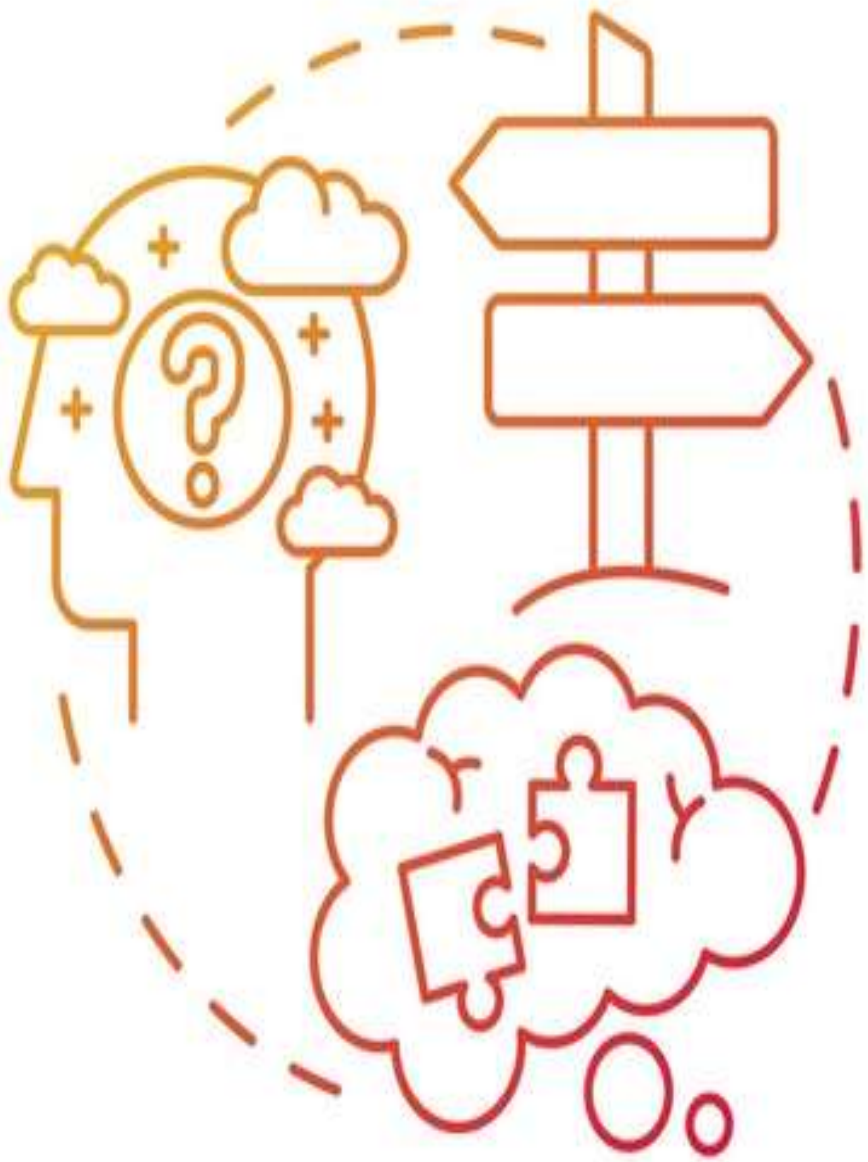
Debt Service Coverage Ratio (DSCR)

Debt Service Coverage Ratio: The average Debt Service Coverage Ratio is 6.74 and as per financial standards it should be above 2.

Sensitivity Analysis

The robustness of the proposal can be been checked through a sensitivity analysis based on unique application of +10% and -10% variations on the costs and quantum assumed for developing the proposal (4 scenarios derived from such analysis shall be represented).

**The above financial viability parameters are indicative and based on the nature of project it may. The final decision to consider the project is viable lies with state level sanction committee*



13

Assumptions

13.1. Key Assumptions

(Applicant should provide basic information for each business activity / facility covered in sub-project. the information will be used for finalizing assumptions and undertaking financial analysis.)

The following information should be filled separately for each business activity / facility covered under the sub-project. E.g. If an CBO has decided to set up 'dal mill' and 'aggregation cleaning, grading and marketing of agro produce', then details of both the activities / facilities should be provided separately in following table)

1. Basic Information of the business/facility

No.	Particulars	details
1.	Business activity/Facility	Soybean Procurement and Processing Project
2.	Area Required for establishing facility	0.20 acer
3.	Capacity of Facility	20 quintals per hour
4.	No. of hours, the facility will be operational in a day	6 hr per day
5.	Capital investment for machinery and equipment's (as per quotation)	Rs. 17347848
6.	Investment on civil and construction component (As per estimates):	Rs. 5893062
I	How many days, the facility will be operational in a year	Annual days 200

2. Details of revenue generated through above facility

No.	Finished product	Unit	Whole price /Rs.-------per unit	Retail price /- Rs……per Unit
1	Soyabean Trading	-	5853000	-
2	Cattle Feed	-	44322	-
3	Soyabean Powder	-	15829992	-

3. Expenditure on raw material

No.	commodity	Procurement Price Rs. Per Quintal: Y1	Remark
1	Soyabean	12415680	The raw material contains purchase from farmers the cultivated crop for processing.
2	Animal Feed	12415680	The raw material contains purchase of soyabean for animal feed bought in season at half price and the purchase is of damaged soyabean.

4. Expenditure on salary of management staff

No.	Designation:	No. of Staff:	Salary Rs:	Remark
1	Machine Operator		364800 p.a.	
2	Manager	2	25000 p.m.	

5. Expenditure on remuneration of labor

No.	Type of workers	No.	Wages Rs…. / per day	Remark
1	Labour		67200 p.a.	

6. Expenditure on rent/lease of plot / sub-project site

No	Component	Land lease Rent Rs----- per year	Remark
1	land rent	72000 p.a.	
2	Other (Audit & Legal)	50000 p.a.	

7. Expenditure on electricity charges required for facility

No	Cumulative HP for all Machineries and equipment's	No. of Units Consumption Per Hour:	Per Unit Cost Rs. per year	Remark
1	**20 HP aprox**	**…..PER HR.**	70000 p.a.	

8. Maintenance cost facilities

No	Component	Detail	Remark
1	Maintenance of machinery, building, equipment etc,	Rs. 30000 p.a.	

9. Other consumables required for production

No.	Name of Consumables	Unit	Total Unit	Cost Per Unit (Rs)	Remark
1					

E.g. edible oil, salt, sugar etc.

10. Expenditure on packaging material

No.	Type of Material	Size of Packaging material	Unit	Total unit	Cost per annum (Rs.)	Remark
1	Plastic Bags				96168/-	This is first year packaging material cost requirement. It will Change as sale increase
2	Gunny Bags				27097/-	This is first year packaging material cost requirement. It will Change as sale increase

11. Expenditure on storage/warehouse for product

No.	Crop Name:	Storage Duration (month)	Storage Cost Per Quintal Per Month:	remark
1	Soyabean	12	100	-

12. Other Expenditure

No.	Component	Rs/per year	remark
1	Loading & Unloading	159540	
2	Transportation	38000	

1. *The above information should be filled separately for each business/activity / facility covered under the sub-project. E.g. If an CBO has decided to set up 'dal mill' and 'aggregation cleaning, grading and marketing of agro produce', then details of both the activities / facilities should be provided separately in following table*
2. *Please refer necessary quotations, estimates, market survey reports etc. for filling up above information.*
3. *In case of additional information concerned project officer/staff should consult with the applicant during preparation of DPR.*

13.2. Other assumptions

1. 5% inflation rate on revenue and expenses considered every year.
2. Capacity of the Grading, Sorting & Packaging unit is 20 quintal/hour, but utilization capacity is 60% for first year, it will increase by 10% unit.
3. 8 Daily Labour Required in Processing unit and Rs.700 per labour for a day.
4. The salary of Permanent Staff are as follows:

   Manager - Rs.25000 per month
5. Land Lease Charges Rs.72000/year
6. Rate of interest for long term loan & working capital loan –12%
7. Income tax Rate – 26%
8. Rate of depreciation for Building is 3.17% plant and machinery is 6.33%, Furniture & Fixture is 9.50% and IT & Infrastructure is 31.67%, as per company's act. Rate of depreciation is calculated as per straight line method in terms of company's act.
9. Rate of depreciation for Building is 10% plant and machinery is 15%, Furniture & Fixture is 10% and IT & Infrastructure is 40%, as per IT Act. Rate of depreciation is calculated as per written down value method in terms of IT Act.

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Social Action Plan

SOCIAL ACTION PLAN[1]

1. **Name of Nodal Person of CBO for implementation and reporting of Social Action Plan :**

Particulars	Yes/ No	If Yes, Specify
2. Information of Sub-project Implementation Area		
Does the subproject area falls under Scheduled V[2] (Tribal) Area?	No	
Does the subproject area have Particularly Vulnerable Tribal Groups[3] {PVTGs}?	No	
Does the subproject falls under Left Wing Extremism[4]area {LWE}?	No	
Does the subproject districts falls 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	

[1] *Following the Environment and Social Management Framework of the SMART https://www.smart-mh.org/smart/aboutsmart*

2 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, Maria Gond

4 Left Wing Extremism districts Chandrapur, Gadchiroli, Gondia

5 Aspirational Districts - Nandurbar, Washim, Gadchiroli, Osmanabad

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 involves any hazardous work for labours 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. Sub Project Implementation		
4.1 Measures for Social Inclusion		
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?	Yes	To increase women shareholder workers from mahila Pradhan kutumba. This will provide employment to women and make them self reliant
4.2 Tribal Development Plan (For the Subprojects from Schedule V Area)		
Whether free, prior and informed consultations with Tribal community has been conducted?	No	This is not covered under advasi area so is not appliacble

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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 the consent of Tribal Community for Project Implementation has been obtained?	No	
Whether the access and benefits of project activities/facilities to Tribes will be ensured?	No	
4.3 Land		
Whether own 7/12 extract or 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/Grampanchayat/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	Director will form committee
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	Director will form committee
Whether CBO will take measures to record and address incidents of gender-based violence and sexual harassment?	Yes	Director will form committee
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	A first aid center and guidance center will be set up at the site of sub-project.
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.)	Yes	A first aid center and guidance center will be set up at the site of sub-project

Whether CBO will take Safety measures on COVID-19. (Social distancing, use of Mask, etc.)	Yes	Wearing Mask

5. Social Sub-project Targets :

Sr. No.	Particulars	Current Status (Baseline of CBO)	Proposed target in the Sub-project
	Social Inclusion & Gender Integration targets[8] (%)		
A	**Total No. of Farmers/Members**	758	
B	**No. of Small and marginal Beneficiaries (& their %)**		
C	**No. of Women Shareholders (& their %)**	40%	
D	**No. of Women Board of Directors (& their %)**	14%	
E	**No. of Schedule Tribes (& their %)**	7.7%	
F	**No. of Schedule Caste (& their %)**		
G	**No. of Tenants (& their %)**	3.2%	
H	**No. of Landless (& their %)**	8.31%	
I	**No. of Women having land title (7/12) (& their %)**	10%	

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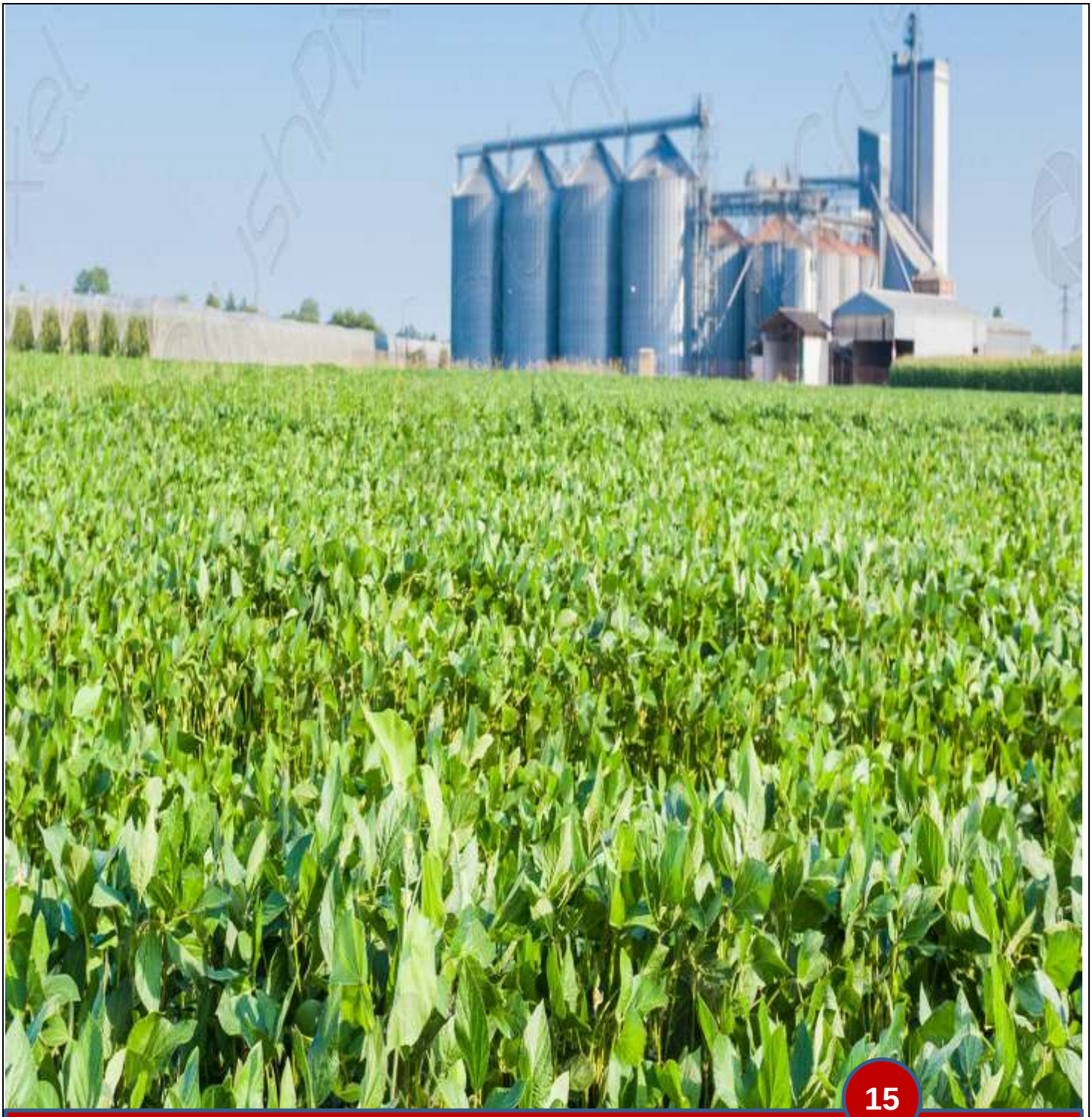
8 As per the Social Inclusion & Gender Strategy of the Project, out of total beneficiary of the project, 80% will be small & marginal farmers, minimum 30% will be Women beneficiary, minimum 6% will be Schedule Tribes, minimum 7% will be Schedule Caste beneficiary. Also CBO should have minimum 20% Women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



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Environment Action Plan

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 table-

Sr. No	Particulars	Yes/ No	If yes Please specify
A. For Agriculture Value chain Development Subprojects			
1	Be located within or near environmentally sensitive areas like Protected/Reserve Forests9, 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 India10, pesticides listed in Class Ia, Ib, Class II of World Health Organization (WHO)11	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?	NO	

B. For Animal Husbandry Value Chain development of Sub Project			
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 Subproject?	NA	
3	Are animal waste management and disposal practices being introduced?	NA	
4	Involves use of banned veterinary drugs in the livestock rearing12?	NA	
5	Involves operating slaughter house without Abattoir (Slaughterhouse) waste and Effluent (wastewater) Treatment Plant (ETP) facility13?	NA	
6	Likely to cause risk to community's health due to transmission of diseases from the livestock to humans?	NA	

Sr No.	Agricultural Practices followed in the Subproject	Unit	Current/Baseline Condition in the Subproject	Target to be Achieved by the end of the Subproject
A. For Agriculture Value chain Development Subprojects				
1.	Average use of fertilizer-NPK	Kg/ha.	500 Kg	0 Kg
2.	Area in which recommended dose of fertilizers is used	ha.	90	0
3.	Area in which fertilizers used is less than recommended dose	ha.	40	0
4.	Area in which fertilizers used is above the recommended dose	ha.	1000	500
5.	Area in which Integrated Nutrient Management (INM) is practiced	ha.	100	300
6.	Average use of Pesticides, Fungicides and Herbicides	L/ha.	3 Liter	1 liter
7.	Area in which recommended dose of pesticides is used	ha.	200	500
8.	Area in which pesticides used is less than recommended dose	ha.	100	200
9.	Area in which pesticides used is above the recommended dose	ha.	20	100
10.	Area in which Integrated Pest Management (IPM) is practiced	ha.	50	200
11.	Area in which crop residues are burnt	ha.	100	50
12.	Area in which crop residue is recycled for preparing Compost, Farm Yard Manure (FYM), etc.	ha.	5 ton	10 ton
13.	Area under Organic farming	ha.	10	50

14.	Area under GLOBAL Good Agricultural Practice (G.A.P.)	ha.	0	10
B. For Animal Husbandry Value chain Development Subprojects				
15.	Feeding practice- Open Grazing/Semi stall Feeding	-	NA	
16.	Area in which animal manure is used as fertilizer	Kg/ha.	NA	
17.	Animals are Vaccinated/ Non-Vaccinated	-	NA	
C. Valid PUC Certificate for transportation Vehicle- Available/Not-Available		-	NA	

Sr. No	Particulars of Target	Current/Baseline Condition in the Subproject	Target to be Achieved in the Subproject
	No. of farmers of CBOs trained in IPM and INM practices (and their %)14	No	50
	No. of IPM and INM demonstrations at the field level given to the CBO members for the subproject related agri-commodities (and their %)15	5%	25%
	% of the area of CBOs brought under IPM in the subproject16	5%	50%
	% of the area of CBOs brought under INM in the subproject9	4%	20%
	No. of farmers of the CBOs trained in the Climate SMART Technologies /Practices (CSTs)17 best suited to the given subproject	No	5%
	Number of CSTs Adopted in the Subproject18	No	5%
	Land area (ha.) brought under CSTs in the Subproject19	50	200

Note:

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.

2) 100 % CBOs of the subproject should be trained in the usage of Integrated Nutrient Management (INM) and Integrated Pest Management (IPM) practices in the SMART

project's Value Chain Development School (VCDS). In the subproject, 50 % of the subproject area in hectares will be required to be brought under IPM and INM by the end of the subproject.

3) 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.

4) All the new machineries to be purchased using project's resources should be energy efficient, vehicles should be Bharat State VI complaint, tractors should be Bharat Stage (CEV/TREM) IV – V, and hold valid PUC certificate.

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Section 16 : Procurement Plan

CBO level Procurement plan with Method & Time Schedule for Works, Goods & Consultancy Services

Ref No.	Contract (Description)	Stage : Planned / Actual / Revised	Estimated Cost (Rs. In. Lakh)			Procurement Method	Review by PCMU/ PIUs (Prior/ Post)	Expected Bid-Opening Date)	Actual Contract Date (format) (i.e.1-Dec-14)	Actual Contract Amount (Rs.Lakh)	Comments
			No of Contracts	Unit Cost	Total Cost						
1	2	3	4	5	6	7	8	9	10	11	12
						Works					
	Construction of Processing Unit and Warehouse	Planned	1	5893062	5893062	e-tender for civil construction	Prior	1st Jun 22	3rd Jun 22	5893062	Bid Opening Date and Contract amount will change
						Goods & Equipment					
	Machinery	Planned	1	171747848	171747848	Request for Quotation advertisement in local news paper	Prior	1st Aug 22	3rd Aug 22	171747848	Bid Opening Date and Contract amount will change
	Furniture	Planned	1	52864	52864	Request for	Prior	1st Aug 22	3rd Aug 22	52864	Bid Opening Date

						Quotation advertise ment in local news paper					and Contract amount will change
	Transport	Planned				Request for Quotation advertise ment in local news paper	Prior	1st Aug 22	3rd Aug 22		Bid Opening Date and Contract amount will change
	IT Infrastructure	Planned	1	85175	85175	Request for Quotation advertise ment in local news paper	Prior	1st Aug 22	3rd Aug 22	85175	Bid Opening Date and Contract amount will change
Consultancy Services											
	DPR Prepration	Actual	1	100000	100000	Direct Order	Prior	1st Jan 22	30th Jan 22	100000	Bid Opening Date and Contract amount will change
	Civil Estimation Preparation	Actual	1	25000	25000	Request for Quotation	Prior	1st Jan 22	30th Jan 22	25000	Bid Opening Date and Contract

						advertise ment in local news paper					amount will change
	Warehousing Consultants Fees	Actual	1	11800	11800	Request for Quotation advertise ment in local news paper	Prior	1st Jan 22	30th Jan 22	11800	Bid Opening Date and Contract amount will change

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List of documents to be presented along with FPP

1. Registration certificate of organization
2. List of members/shareholder of the organization (As per the record from the Registrar of Companies office or the certificate of competent authority)
3. Audit report
4. CBO Bank statement
5. KYC of Applicant Firm (PAN and GST Certificate Copy)
6. Resolution of board of directors - Approval to DPR
7. Land ownership document / land lease agreement
8. Propose site map presenting road access and surrounding
9. No Objection Certificate of Panchyat for setting up of business activities
10. Forward linkages - MoUs with Buyers
11. Backward linkages – MoUs for produce aggregation - MoUs with farmers groups/ SHGs/ federations/FPC/other CBOs etc.
12. Please attach authorized quotations- machineries & equipment's /estimate- construction of building / pack house
13. Water/ electricity connection (proof)
14. Letter of intent from bank/financial institution for financing the project
15. License/other

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