Detailed Project Report

Poultry & Cattle Feed Unit

Disclaimer: This is just a model DPR prepared based on assumptions for reference purpose only. The project cost and financial projections may vary project to project as per technology selection, nature of civil work, price of raw materials etc.

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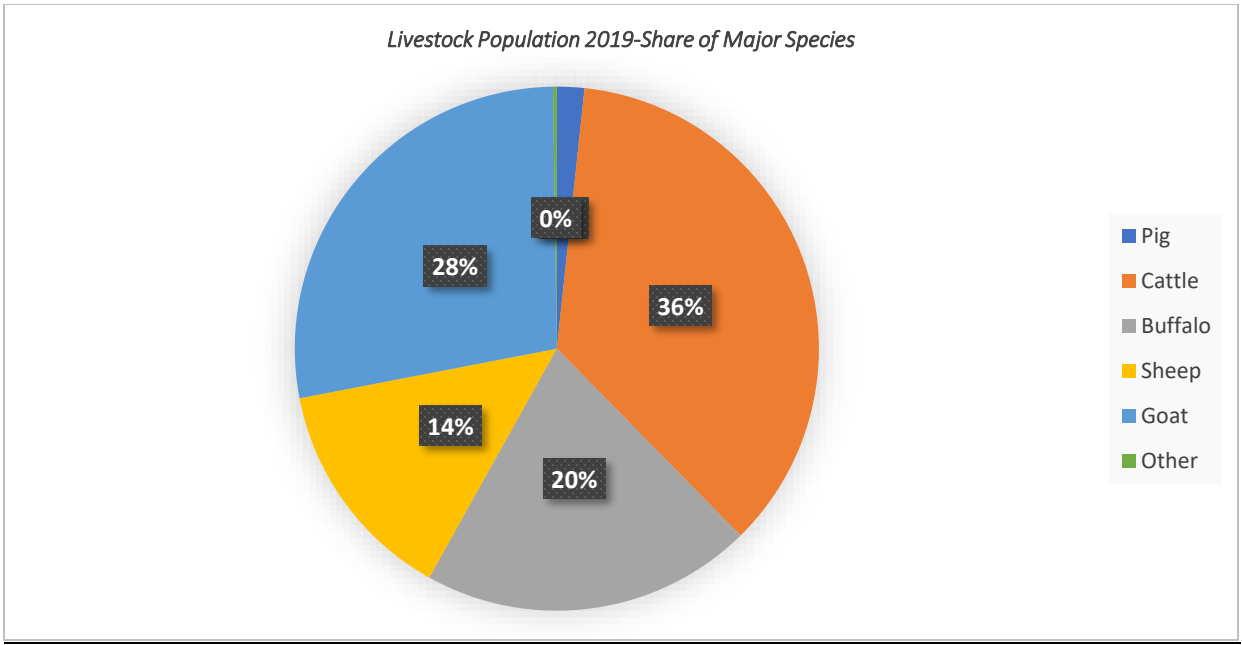
1 Introduction

Livestock plays an important role in Indian economy. About 20.5 million people depend upon livestock for their livelihood. Livestock contributed 16% to the income of small farm households as against an average of 14% of all households. It also provides livelihood to two-third of rural community. It contributes approximately 5.1% to the country's GDP and 17.1[1]% to the Agricultural GDP. It also provides nutritional security to the poor in addition to offering employment opportunity to millions of rural Indians. The Indian animal feed industry is broadly categorized into Poultry, Cattle and Aqua feed (majorly Fish). Though the organized sector is quite old, it is still in a nascent stage, supplying only 10 per cent of cattle and aqua feed and 50 per cent of poultry feed in India, says a Rabobank report. The bulk of the remaining feed is being produced by the unorganized sector, which comprises of household industries and custom mixers. The total production[2] of compound feed for all livestock stands at 17 million tones.

Figure 1: Livestock Population 2020-Share of Major Species

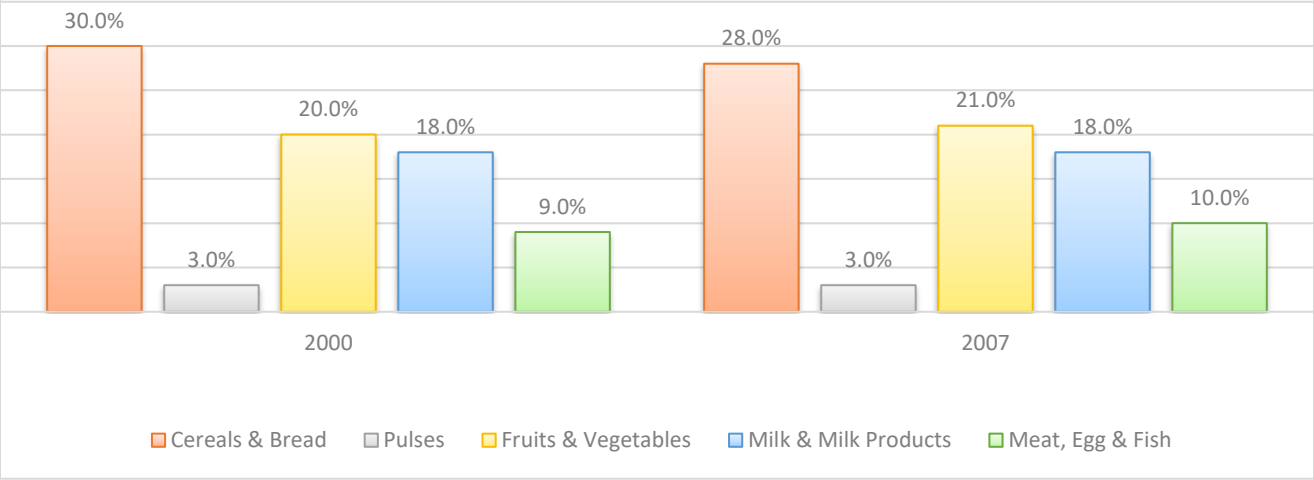
[1]National Account Statistics-2019, Central Statistical Organization, GoI
[2]http://www.wattagnet.com



Source: Livestock Census, 2020

The demand for poultry, Meat and Egg products in India is highly income-and price-elastic while supply for these products is also highly price elastic. India, the world's second largest developing economy, now has a large and rapidly expanding poultry and livestock sector. Development in India is being driven by rising incomes of the consuming masses and a shift in industry structure toward integrated ownership and coordination of the input, production, and marketing operations involved in production.

Figure No. 2- Below graph shows a comparison between Consumption pattern mix of an average Indian consumer in 2007 as compared to that of 2000:

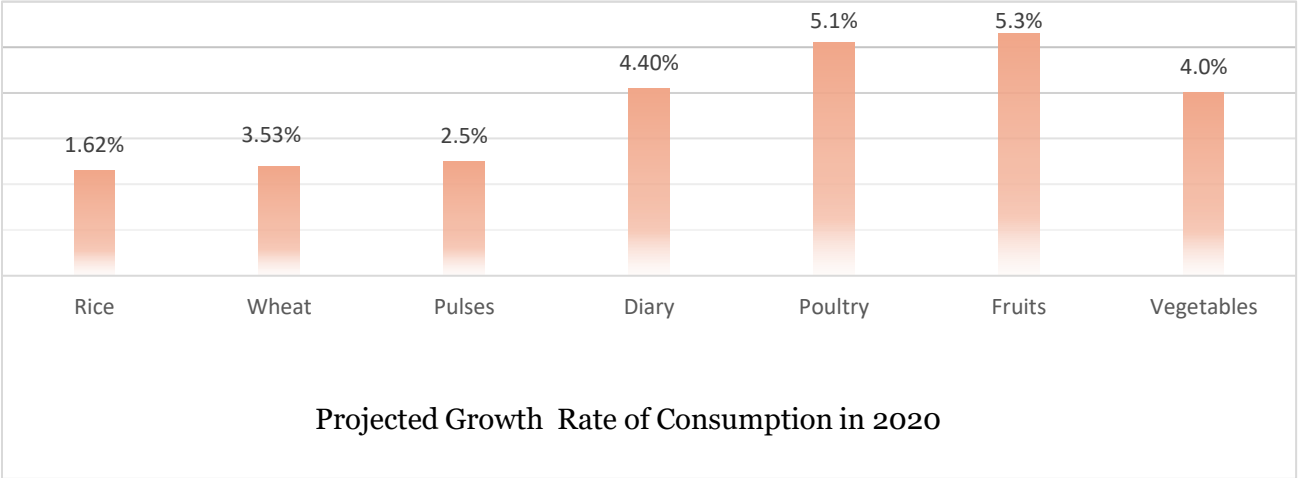


The shift from cereal diet towards Milk, Meat, Egg and Fish products is very clearly visible from the data and it connotes of an emerging market opportunity in Livestock, Dairy and poultry products in the near future. This not only calls for improved market linkages for feeding the increasing mouths but also asks

for improved backward linkages in terms of better rearing methods, up - gradation of the genetic potential of the existing animal breed , improved availability of better fodder and feed, better storage facility for the perishable products and better farm to market linkages.

There has been a considerable shift in the Consumption pattern and the scenario has been drifting in the favor of Poultry and Dairy products.

Figure 3: Below Graph depicts the projected growth rate for different food sectors:



The graph clearly depicts the positive growth rate in consumption of Poultry, Dairy products and in Fruits and Vegetables.

To get clearer picture of the emerging scenario, an illustrated view of Poultry sector is detailed below.

1.1 Poultry Sector in India:

India is the third-largest egg producer in the world after China and the USA and the fourth-largest chicken producer in the world after China, Brazil and the USA. In India, the per capita consumption of eggs has gone up from 30 eggs per annum to 68 eggs per annum, and that of chicken from 400 gms per annum, to 2.5 kg per annum in the last 5 years. Human nutritionists recommend a minimum of 180 eggs & 10 kg chicken per annum for a healthy adult human, which means that the Indian poultry market is laden with opportunities. Adult population in most developed countries consume over 240 eggs and 20 kg of chicken per annum.

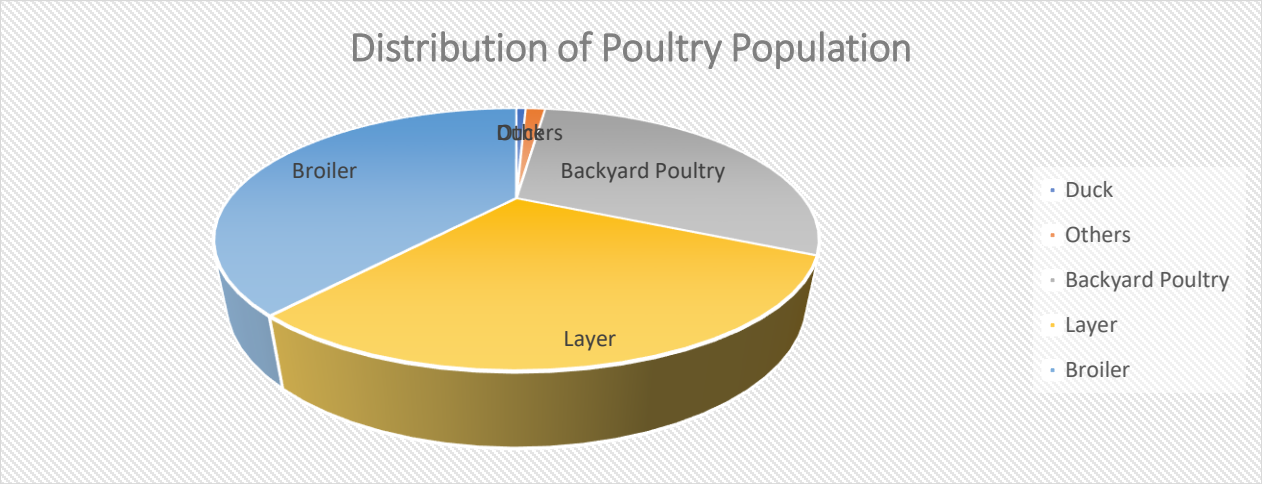
India has 1.23 billion people and the number is growing every year. The focus is on “Development”, meaning good food, better health & living conditions for everyone. People spend more money on food when they earn more. Healthy food at attractive price will therefore be the issue in focus. Eggs and chicken are accepted by almost all communities and is available across the country at reasonable prices.

Poultry is the most organised sector in animal agriculture in India, worth Euro 14,500 million. Production of broiler meat has increased to 4.2 million tons per annum in 2015-16. Demand for processed chicken meat has been growing by 15- 20% per annum. Total layer production in India has gone up to reach 80 million eggs per annum. Industry sources estimate CY 2016-17 feed consumption to go from 17 to 18 million tons, which includes corn and soya bean and pearl millet.

Eggs and chicken were “agriculture produce” few years ago but are considered as “food items” today. Safe food has become a priority. Besides maintaining his production efficiency, the producer has to

concentrate on the nutritive values, the adulterants and contaminants of his produce. The ministry of food processing industries at the central govt. level and food inspection authorities at the local levels have started keeping track of eggs and chicken production in India for quality and nutrients.

Poultry Production has three segments: 1. Layers, 2. Broilers, 3. Backyard / Family Production (Both eggs and chicken).



Source: dahd.nic.in

Table 1. ***Requirement of Eggs Production Target 2022-23***

Parameter	Baseline Data (2015-16)	Required by 2022
Eggs	83 Billion	136 Billion
Commercial Layers	**375 Billion**	**550 Billion** (additional 175 million layers required over base period)
Yield- eggs/ annum (taking across India for all varieties)	220	250 (Taking nearly 15% increase in yield)
Total Feed Required	11 MMT (annualized @ 45 Kg in a laying cycle)	15 MMT (also factoring 7% improvement in FCR with 42 kg per bird in a laying cycle)
Feed Ingredient- Maize @ 35%	4 MMT	5.25 MMT
Feed Ingredient- Soya @ 15%	1.7 MMT	2.25 MMT

Source: dahd.ac.in

Broilers

Feed (65%) and chicks (25%) account for 90% of the broiler inputs and consolidation is being observed in the market. Smaller producers engage in 'contract farming.

Backyard / family production

At one time, 30% of the eggs produced in India were produced in the backyards. Improved varieties of 'Low technology input birds', which are dual purpose, i.e., producing eggs and meat, are new being bred in India for the purpose of backyard/family production. The final food products, i.e., eggs and chicken are not exported in huge quantities as there is a huge gap in supply and demand within India.

Table 2: ***Requirement for Poultry Production Target 2022-23***

Parameter	Baseline Data (2015-16)	Required by 2022
Poultry (Chicken meat)	3.26 MT	6.20 MT
Commercial Broilers	3326 million	5167 million (additional 1840 million broilers required over base period- additional 31-32 million chick placement each week)
Carcass cutting yield in Kg (taking across India for all varieties)	0.98 (70% of carcass yield)	1.2 (Taking nearly 15% increase in carcass yield & 75% carcass cutting yield)
Total Feed Required	12 MMT (@ 3.5 Kg per bird: 1.7 FCR)	15.50 MMT (also factoring 7% improvement in FCR i.e. 1.6 with 3 kg per bird)
Feed Ingredient- Maize @ 40%	4.8 MMT	6.2 MMT
Feed Ingredient- Soya @ 20%	2.4 MMT	3.1 MMT
Vaccine dosages required (4/ bird)	13300 dosages	20668 dosages
Skilled persons requirement (total for poultry sector)	1.85 lakh	5.5 lakh
Entrepreneurship Development & Employment Generation (Total for poultry sector)	1,630	8,000
Poultry Processing Capacity (Bird per hour in organized, small and unorganized sector)	86,500 B.P.H	1,40,000 B.P.H. (@ 10% CAGR)
Exports- major poultry products	Rs. 30 Crore	Rs. 1360 Crore
Investment required on operating cost for additional broilers		Operational Cost – Rs. 18,400 Crore (@ Rs. 100/ bird)

Source: dahd.nic.in

1.2 Export Trend

As per Agriculture and Processed Foods Products Export Development Authority (APEDA), India has exported 659,304 MT of poultry products for the worth of INR 7,680 million during 2015-16. Majority of the exports are destined for the Middle East. Each year, India exports around 5000 MT of poultry products into Europe, the largest chunk of which is destined for Germany, although the share of the Netherlands has grown significantly over the last few years.

1.2.1 Main Market Player:

As per Agriculture and Processed Foods Products Export Development Authority (APEDA), India has exported 659,304 MT of poultry products for the worth of INR 7,680 million during 2015-16. Majority of

the exports are destined for the Middle East. Each year, India exports around 5000 MT of poultry products into Europe, the largest chunk of which is destined for Germany, although the share of the Netherlands has grown significantly over the last few years.

The key stakeholders in the Indian poultry market are as follows.

a) Sneha Foods Limited, Telangana

b) Srinivasa Hatcheries (SH Group), Telangana

c) Balaji Hatcheries, Andhra Pradesh

d) V S N Hatcheries, Andhra Pradesh

e) Mulpuri Group, Andhra Pradesh

f) Venky's (V H Group), Maharashtra g) Suguna Foods, Tamil Nadu

h) R M Group, Haryana. I

) Skylark Foods, Haryana

j) Komarla Group, Karnataka

k) I B Group, Chattisgarh

l) Bharati Poultry, West Bengal

2 Project Description

Considering the opportunities in terms of gap between demand of animal feed and existing manufacturing capacity, and the easily available raw material at Bihar, the project aims at setting up a unit for manufacturing poultry and cattle feed.
The proposed project is for establishment of animal feed (approx. 80% poultry feed and 20% cattle feed) unit of 12,000 MT per year capacity.

The project also aims at creating storage infrastructure to meet the storage requirement of raw material and final produce.

As far as marketing of finished goods i.e. poultry feed and cattle feed are concerned, the company envisages selling the same within the state and also to the other states like UP, West Bengal and Jharkhand etc.
The current chapter and the subsequent chapters of the report describe the various aspects of the project as envisaged by the promoters for starting the project and as it is expected to be operational in the coming years.

2.1 Main Products

The major products that are proposed to be manufactured in the unit are:

1. **Poultry Feed:** This would be the main product of the unit. The production will be done under the following subcategories:

- ***Pre-Starter Feed –*** It is used for chicks of 0 to 10 days of age. It is a balanced nutritive Chick feed with uniform crumbs.
- ***Starter Crumbs Feed –*** Useful for chicks 11 to 28 days chicks.
- ***Finisher Crumbs / Pellet Feed –*** Used In 29-42 says old chicks.

2. **Cattle feed:** This would be the second product of the company.

3 Manufacturing Process

The proposed unit will majorly be producing pellet feed for poultry birds which is supposed to be a well-balanced diet for poultry birds. Pellet feed is considered as most concentrated form of feed, having optimum combination of moisture, heat and pressure and most digestible feed. A good quality feed has four components which are as follows:

- Ingredient quality
- Process Control
- Updated technology
- Control of toxic substances

Technology for the unit has been chosen carefully keeping in mind the best practices observed in Industry and local processes that may add unique value to the final produce. Details of the technology and process are described hereafter.

3.1 Technology

The unit will use modern technology like use of Hammer mill, Batch mixer, Pellet mill and pellet cooler. The picture below depicts the process involved in the manufacturing of Poultry feeds:

The technology to be used in the plant is well proven and is proposed to be procured from reputed supplier. Certain advantages of the proposed technology over that of the traditional methods are as follows:

Use of Hammer Mill: Full circle hammer mill brings economic and efficient grinding. Other advantages include 360-degree screen which gives maximum area for grinding, reversible rotation for reducing down time and large bottom discharge.

Batch mixer: Horizontal type batch mixer is designed for homogenous mixing. Its slow speed mixing handles the material gently with low heat generation.

Pellet Cooler: The counter flow pellet cooler has automatic control for optimum cooling. Its air flow opposite to movement of hot pellets results in fast cooling and removal of moisture.

Use of such improved technology will enhance the quality of final produce and may add unique value to the final produce.

3.2 Process Description

The process of manufacturing Animal Feeds is almost the same for Poultry, Cattle and Aqua except the Raw materials used for different feeds have different compositions. The process of manufacturing concentrated poultry and cattle feed is continuous and automatic. The slight variation comes after mixing of raw material for the feed type.A brief overview of various stages/sections involved in manufacturing of poultry feed is given below:

3.3 Material Handling

Raw materials stored in storage area are sent for weighing. High degree of accuracy and precision is required for weighing. After that ingredients are sent to laboratory for analysis. After acceptance from feed laboratory, these ingredients are sent for grinding with the help of equipment's like conveyor and elevators.

3.4 Grinding

The grinding of the grain facilitates digestion, and as a result, the diet's nutritional efficiency improves as well. The materials picked up by elevator are dropped in the hammer mill for grinding.

Full circle hammer mills are to be used for grinding. A special care must be taken to keep moisture losses less than 2% on any material during grinding.

3.5 Mixing

Mixing the diet homogeneously is very important so that the animals can receive all the necessary nutrients in every portion of the food they ingest.
Double ribbon blender is used to mix all ingredients after grinding. Following to be taken care of during the process: -

- ACV[3] of less than 10 should be achieved on all formulations and in all grinding sizes.
- Degree of homogeneity in liquids mixing should be in excess of 85%.
- Mixing parameters should be achieved in less than grinding time.

3.6 Conditioning

Direct and indirect injection of steam in material for a range of 10-50 seconds is done. Conditioner should have provision for varying conditioning time as per formulation requirement. It should also be having cleaning windows for maintenance and cleaning of internal walls and components.

[3]ACV : Apple Cider Vinegar

3.7 Pelleting

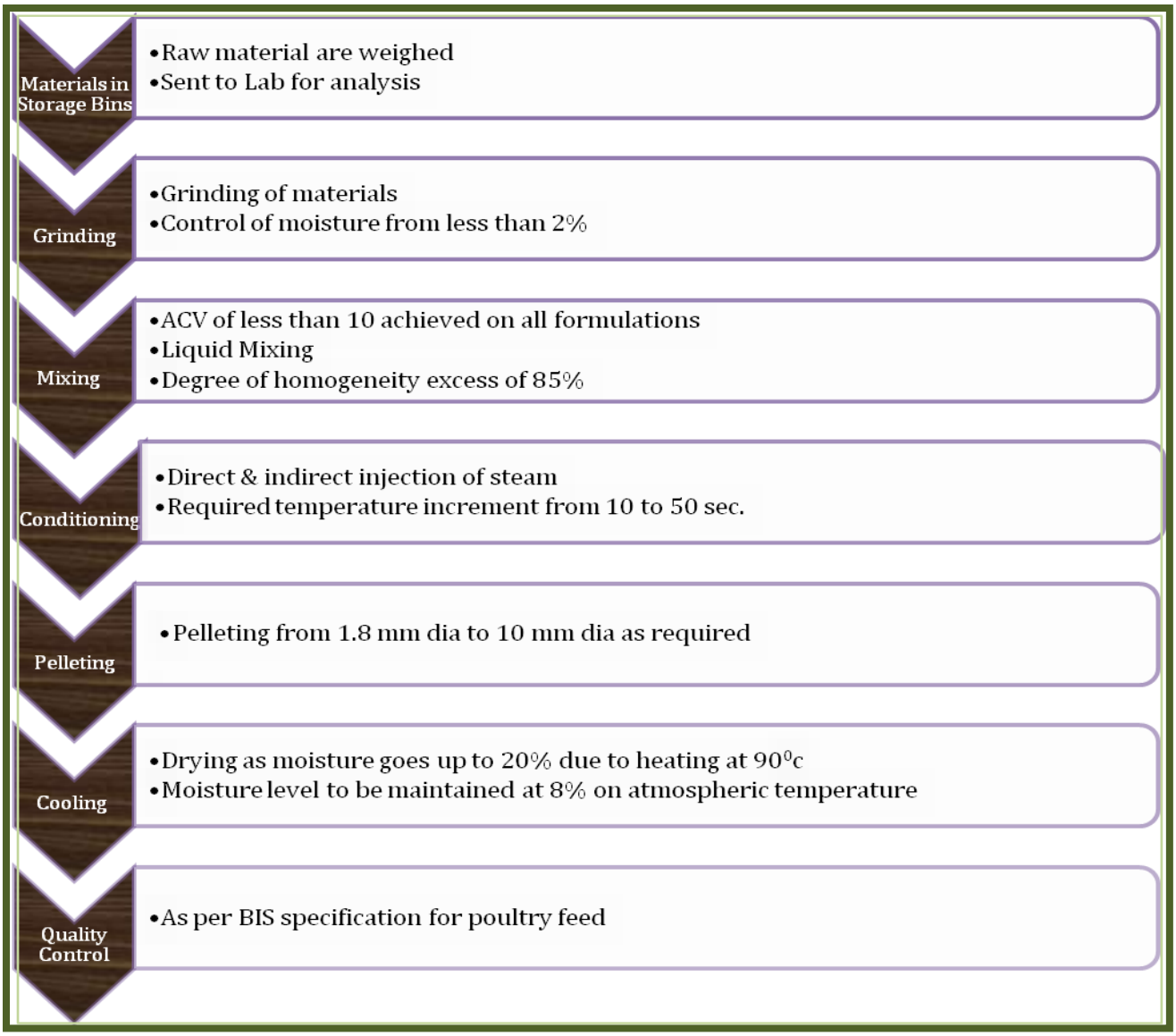
Suitable pellet mills capable of producing feed from 1.8 mm diameter to 10 mm diameter is needed. The positive effects of pelleting are higher feed density, no feed ingredient separation, better bacteriological quality, easier ingestion, improved growth and feed conversion ratio. Pelleting of meal leads to hardness and increased durability of the feed meal.

3.8 Cooling

Due to steam conditioning and power consumption during extrusion from pellet mill, feed gets heated. Moisture levels also go up to 20% in feed due to steam addition. Thus, cooler should be capable of cooling and drying material to atmospheric temperature and 8% moistures.

3.9 Process flow

The entire process from Raw material Sourcing to quality control mechanism is a meticulous and gradual process which needs very stern check and balance at each step. To maintain a uniform and high-quality finished product quality the promoters have to keep a vigil on each of the processes described earlier. The diagram below lists the important activities in the process:



4 Raw Material Requirement

Corn and soybean meal are the major feeds used in the broiler industry, but feed composition varies somewhat by region and season. A ration of corn and soybean meal is recognized as technically superior for raising broilers, but other ingredients are sometimes substituted based on availability and price. Animal feed for modern high-performance breed is blend of grains, protein meals, Vitamins, minerals and a number of feed additives pelleted and crumbled to suit ingestion by different age of animals. In case of poultry feeds, the consumption of raw materials per MT finished goods is given as under:

Raw Materials	RM in (MT)
Maize	0.65
Soya Extraction	0.23
Calcium Powder	0.01
Meat Bone Meal	0.02
Mustard De Oiled Cake (DOC)	0.025
Oil	0.01
Salt	0.002
Methionin	0.0015
Lysine	0.0015
Di Calcium Phosphate (DCP)	0.01
Wheat and rice bran	0.03
Other Feed Supplements including molasses	0.01
TOTAL1.00	

In case of cattle feeds, the consumption of raw materials per MT finished goods is given as under:

Raw materials	Quantity required in MT
Maize	0.10
Oil Seeds	0.07
Rice Bran	0.160
De Oiled Rice Bran (DORB)	0.450
Mustard De Oiled Cake (DOC)	0.150
Vit. / Min./Medicines	0.07
TOTAL	**1.00**

4.1 Raw Material Sourcing Plan

As mentioned earlier, major ingredient for Animal feed is maize which accounts for more than 60% of feed formulation. India is the fifth largest producer of maize in the world contributing 3% of the global production. Diversified uses of maize have prompted higher production in the country. Out of total arrivals to the mandis nearly 75% of the maize produce is bought by the animal feed manufacturers and 20% is purchased by the starch extractors.

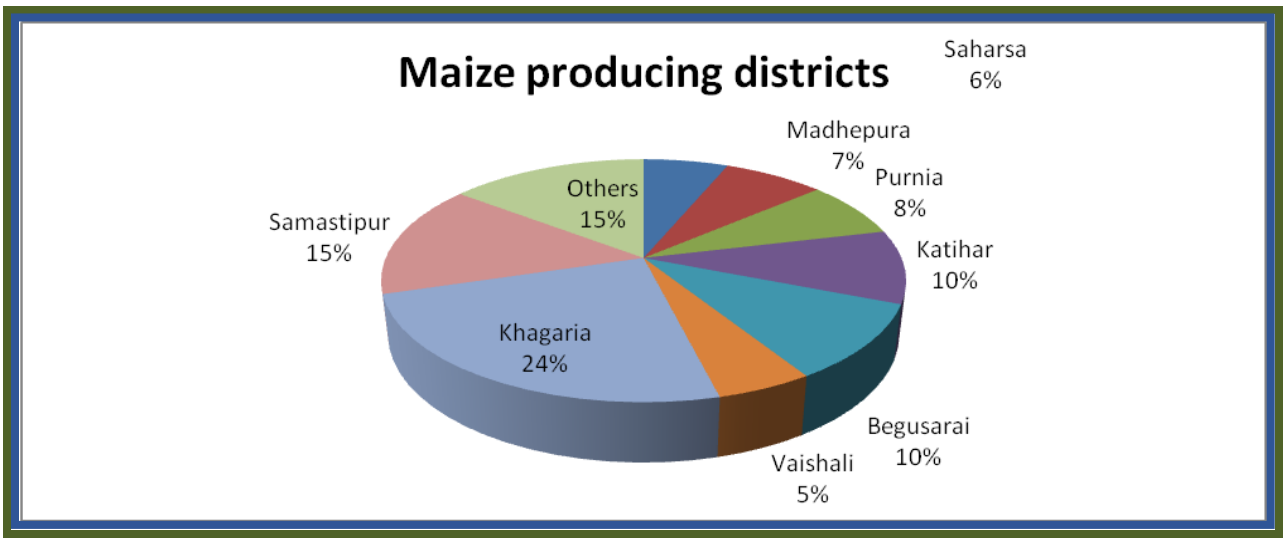
Bihar is a significant producer of maize in the country. In 2018-19, Bihar produced approximately 3193.91(Thousand Metric Ton) of maize over an area of 669.48 (Thousands hectare of land) with productivity of 4771 Kg/Hectare[4].

In Bihar, maize is grown throughout the year. Winter (Rabi) maize is cultivated mainly in Bihar with a production of 0.74 million MT, gives unique position to the State in national maize market.

[4]Department of Agriculture, Government of Bihar

The current market size of hybrid corn seed in Bihar is estimated at 1, 60,000 Q (>INR 400 Cr. in value terms) and is assumed to reach 1, 75,000 Q at the end of 2021-22 with CAGR of 2%, while discounting crop shifting and market price factors. Backed by suitability of high yielding Rabi Corn, Bihar has witnessed corn revolution in last decade. In this, almost 50% of the market size is limited to few private players (MNCs) due to their diverse varietal portfolio, suited to different agro-ecological profiles of state. While technology — planting of highyielding single-cross hybrids — has played a major role in raising Bihar's maize production, the breakthrough, has also came with surge in export demand. The export boom benefited Bihar's farmers in terms of price realisations, which soared from Rs 400 to Rs 1,200 per quintal between 2005 and 2012. The stretch from Purnia, Katihar and Bhagalpur to Madhepura, Saharsa, Khagaria and Samastipur – north of the Ganga and on either side of the Kosi – emerged as a corn belt where many farmers, big and small, harvested 50 quintals or more per acre. That was comparable to the 180-200-bushel yields in the US Midwest heartland of Illinois, Iowa and Indiana (one bushel equals 25.4 kg).

Share of different districts in maize production in Bihar is shown in the figure below[5]:



National Stock Exchange has opened its Information Centre at Maheshkhoont in Khagaria, the district known for maize production for organizing buyers-sellers interaction.

At 100% capacity utilization of installed capacity of 12000 MT, the project will require 12240 MT of raw material (feed mix[6]). The maize required will be purchased from different districts of Bihar keeping in mind the logistical viability.

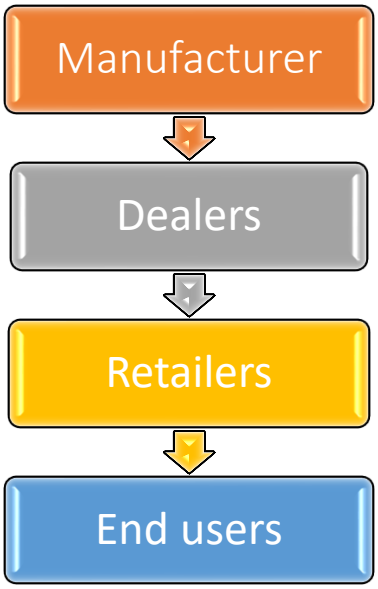
Other major ingredient is soya extraction which is the largest source of protein is proposed to be procured from Madhya Pradesh as there are many soya extractions plants.

[5] http://krishi.bih.nic.in/Statistics.html
[6] Feed mix break up is given in chapter-8; section 8.3.1

5 Marketing Plan

The company proposes to sell its products in Bihar, Uttar Pradesh, West Bengal, Assam, Orissa, North Eastern States and Jharkhand. A wide network of dealers shall be created by the sales and marketing team of the company. The company proposes to sell its products under its own brand name.

The proposed trade channel for marketing the product is as follows:



The demand for animal feed is mainly influenced by the awareness of farmers on the importance of the compound feeds, size of population, and development of modern poultry farms and availability of the product at right price. Considering the extension programmers to be undertaken by the Department of Animal Husbandry and Task Force for development of Maize and Poultry in Bihar, the consumption of Animal feeds is expected to increase manifold.

6 List of Statutory Clearances Required

A suggestive list of clearances that unit would require to take:

S. No.	Approval and clearances required	Department/ Offices to be consented	Status
1	State Investment Promotion Board, Stage – I clearance	Department of Industries	
2	Consent to Establish	Bihar State Pollution Control Board	
3	GST registration	Commercial Taxes	
4	Change in land use	Land Revenue Dept	

5	Electricity Connection	North/South Bihar Power Distribution Company Ltd.	
6	Registration under Factories Act	Office of Inspector of Factories	

7 Project Cost, Means of Finance and Financial Analysis

The different financial aspects of the project are dealt in detail in this chapter. It explains the cost of the project, the source of funds employed and the financial analysis of the project to understand its long-term viability and sustainability.

7.1 Project Cost

The Project is estimated to cost **Rs. 184.12 Lacs** and the detailed breakup of the cost of the Project is given below:

PARTICULARS	AMOUNT (Rs. In Lakh)	%
Land Development	10.19	5.53%
Buildings	44.24	24.03%
Equipment	77.34	42.01%
Utilities & other fixed assets	24.86	13.50%
Preliminary and Pre-Operative Expenses	3.54	1.92%
Contingencies	8.74	4.75%
Margin Money for Working Capital	15.21	8.26%
TOTAL	**184.12**	**100.00%**

7.1.1 Civil and Land Development Costs

The total estimated land requirement for the project would be 10000SqFT. The civil construction costs has been presented in the table below (*Factory building either be RCC or PEB structure so the layout plan and cost may vary project to project same will be captured in an applicant's DPR):*

Sl No	Component	Unit	Area (sq. ft.)	Amount
1	Raw material go-down and Finished Product go-down and plant hall	Sq. Mt.	363.07	26.36
2	DG Shed	Sq. Mt.	13.94	0.6
3	Office block (at G Level) and Rest room at (G+1 Level)	Sq. Mt.	126.92	11.56
4	Guard room	Sq. Mt.	8.7	0.65
5	Machine foundation works inside plant hall	Sq. Mt.	69.64	2.65
6	MS Entry cum exit gate	LS		0.5
7	Cost of Electrification			1.92
	Total Cost			**44.24**

The land development cost has been presented in the table below:

S. N.	Description			Amount(Rs in Lakh)
1	Land Development			0.77
2	Boundary Wall			3.82
3	Internal Plant Road for movement of heavy trucks			1.06
4	Sanitation, Plumbing and Drainage System			4.54
	Total			**10.19**

Thus, the total estimated cost of civil works is Rs. 54.43 Lacs.

7.1.2 Equipment's

The Project will incur is **Rs. 77.34 Lacs** towards plant and other machineries required to set up a unit.

S.No	Particulars of equipments*	AMOUNT (Rs. in Lacs)
1	All machinery including erection charges	52.84
2	Transportation cost for Machines	1.80
3	Erection Materials	5.75
4	80 MT Weigh bridge	7.55
5	Transformer	3.11
6	Electrical implements	6.29
		77.34

**The make and specification of P&M may vary project to project based on the quotations from different suppliers.*

7.1.3 Miscellaneous Fixed Assets/ Utilities

The estimated project requires a total investment of Rs. 24.86 **Lacs** towards the purchase of Miscellaneous Fixed Assets. It includes the expenditure on different utilities and power generating equipment's.

The estimated details are as follow as: -

S.No.	Particulars	AMOUNT (Rs. in Lacs)
1	Pick up Van	6.00
2	Office Furniture	0.79
3	DG Set	15.00
4	Office Accessories	3.07
	Total	**24.86**

7.1.4 Preliminary & Pre-Operative Expenses:

The provision towards preliminary & pre-operative expenses includes expenditure towards like salaries & administrative expenses, travel expenses, market development expenses, interest during construction period etc. The Miscellaneous charges include the cost incurred towards Administration, Travelling, Market development and other marketing activities.

7.1.5 Working Capital Requirement:

Though the major raw material maize is available throughout the year in Bihar, but due to increasing demand of maize the price is witnessing greater variation. Maize is the major component of poultry feed. Thus, the company will have to maintain the raw material (Maize) at least for 30 days to ensure uninterrupted milling.

Also, the final produce may not be sold immediately; the manufacturer will have to hold the finished good for 5 days. The debtors also take around 10 days to realize. Keeping in mind the industry standards and requirements of the unit, working capital has been estimated as below:

Sl No	Particular	Stocking Period in Month	Ist Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
1	Raw Materials	1.00	98.90	107.53	116.22	124.98	133.81
2	Consumable Stores & Packing Material	1.25	0.23	0.27	0.32	0.37	0.44
3	Finished Goods	0.50	47.63	54.56	60.00	65.55	71.30
4	Receivables	0.25	26.01	29.71	32.68	35.73	38.88
5	Expenses for One Month	0.50	1.59	1.75	1.92	2.11	2.33
	Total Current Assets		**174.35**	**193.81**	**211.14**	**228.74**	**246.75**
6	**Less: Sundry Creditors**	**1.00**	**107.14**	**108.24**	**116.94**	**125.71**	**134.54**
7	**Working Capital Gap**		**67.21**	**85.57**	**94.20**	**103.03**	**112.20**
8	**Total Required Margin**		**16.80**	**21.39**	**23.55**	**25.76**	**28.05**

7.1.6 Contingencies:

The amount is calculated at 5% of the cost incurred towards land development, building, plant & machinery and Miscellaneous fixed assets excluding cost of land. It amounts to Rs. 8.74 Lacs in current case.

7.2 Means of Finance

The cost of the project is proposed to be financed through a mix of equity, grant from Govt. of Bihar and term loans detailed as follow:

SOURCE	Proportion	(Rs. in Lacs)
Equity	25%	46.03
Debt	75%	138.09
Total	**100%**	**184.12**

The key operating assumptions underlying Business plan are described below:

Particulars					Annexure-"II"A	
Production per day from Plant		**kg/hr**	**Hours**			
Poultry Feed		2000	16		32	MT
Cattle Feed		500	16		8	MT
-		**kg/hr**	**Hours**			
Production per day from Plant		2500	16		40	MT
No. of Working Days in a year					300	Days
Total Production per annum @ 100% Capacity Level					**12000**	**MT**
Poultry Feed					9600	MT
Cattle Feed					2400	MT
Total Installed Capacity					**12000**	**MT**
Calculation of Product Mix:						
Installed Capacity - @ 100 % Installed Capacity					12000	MT
Product Mix:-					**100.00%**	
Finished goods					90.00%	
Loss					10.00%	
Production:						
Finished goods					10,800.00	
Loss					1,200.00	
	Total Installed Capacity (MT)				**12,000.00**	-

7.2.1 Raw Material Requirement and Cost

At 100% capacity utilization the plant would produce 12000 MT of finished animal feed.

For the proposed plan, the cost of the ingredients to be utilized in the **Poultry feed** mix is as below:

Sl No	Particulars	Ist Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
1	Installed Capacity (In MT)	9600	9600	9600	9600	9600
2	Capacity Utilisation	60%	65%	70%	75%	80%
3	Actual Total Production (In MT)	5760	6240	6720	7200	7680
4	Raw Material requirement per MT of FG Produced (In MT)	1.11	1.11	1.11	1.11	1.11
5	**Total Requirement of Raw Material**	**6394**	**6926**	**7459**	**7992**	**8525**
6	Cost per MT of Raw Material (In Rs.)	15250	15250	15250	15250	15250
7	Total Cost of Raw material Consumed (Rs. In lacs)	975.02	1,056.28	1,137.53	1,218.78	1,300.03
8	Less: Opening Stock (in Lacs)	0	81.25	88.02	94.79	101.57
9	Add: Closing Stock (in Lacs)	81.25	88.02	94.79	101.57	108.34
10	**Value of Raw Materials to be Purchased (Rs. In lac)**	**1,056.28**	**1,063.05**	**1,144.30**	**1,225.55**	**1,306.80**

For the proposed plan, the cost of the ingredients to be utilized in the **Cattle feed** mix is as below:

Sl No	Particulars	Ist Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
1	Installed Capacity (In MT)	2400	2400	2400	2400	2400
2	Capacity Utilisation	60%	65%	70%	75%	80%
3	Actual Total Production (In MT)	1440	1560	1680	1800	1920
4	Raw Material requirement per MT of FG Produced (In MT)	1.11	1.11	1.11	1.11	1.11
5	**Total Requirement of Raw Material**	**1598.4**	**1731.6**	**1864.8**	**1998**	**2131.2**
6	Cost per MT of Raw Material (In Rs.)	13250	13515	13785	14061	14342
7	Total Cost of Raw material Consumed (Rs. In lacs)	211.79	234.03	257.07	280.94	305.66
8	Less: Opening Stock (in Lacs)	0	17.65	19.50	21.42	23.41
9	Add: Closing Stock (in Lacs)	17.65	19.50	21.42	23.41	25.47
10	**Value of Raw Materials to be Purchased (Rs. In lac)**	**229.44**	**235.88**	**258.99**	**282.93**	**307.72**

7.2.2 Packing Material

As mentioned earlier, the company will be producing cattle and poultry feed and it will be packed in 50 kg pack and 70 kg pack. Total packaging cost works out to be Rs. 2.39 Lacs at 60% capacity utilization.

7.2.3 Power requirement:

In case of the proposed unit - power load of 150kVA from BSEB has been proposed to be taken. It is estimated to cost Rs. 10.08 Lacs per annum at 60% capacity utilization and Rs. 14.55 lacs per annum at 80% capacity utilization. The unit would also be requiring power back-up for the plant hence has proposed to have a D. G. Set of capacity 270 kVA.

7.2.4 Employee Cost

The employee cost has been assessed based on an organization structure prepared by the company. It is estimated that total manpower cost would be approximately Rs. 20.30 Lacs per annum.

7.2.5 Cost of Insurance and Maintenance

The cost of insurance has been assumed as 1% of cost of Building, Plant & Machinery & Miscellaneous Fixed Assets. Cost of maintenance has been assumed at 3.5% of the value of fixed assets. The costs are at par with industry standard.

7.2.6 Admin Overhead Cost

Admin overhead Cost has been assumed @ 1% of revenues.

7.2.7 Selling Expenses

Since the company is expected to sell its produce through its own channel and under its own branch name. Thus, the company will be appointing dealers for the same. The selling expenses including the trade discount is considered at 2% of the revenue which at 60% capacity utilization.

7.3 Techno-commercial viability of the project

a. Technical viability: Project has proposed to install modern and standard machineries from reputed suppliers for production process. It has proposed proper marketing strategy for the sale of the goods in local as well adjoining districts. The project has already been approved for available term loan from bank and promoters of the unit are aware about the business and will also deploy trained and technical staff for running the unit.
b. Commercial viability: The financial projections of the unit are positive with standard financial ratios, the list of important financial ratios are given below:

Year	1	2	3	4	5
Gross Profit Ratio	6.00	7.34	8.75	10.17	11.55
Net Profit Ratio	1.75	1.74	2.97	4.14	5.24
Current Ratio	1.37	1.50	1.71	2.03	2.46
DSCR	2.16	2.11	2.84	3.70	4.66
BEP	0.64	0.59	0.42	0.32	0.25
Project IRR	**19%**				

7.4 Financial Assumption

7.4.1 Interest

Interest would be charged to the project Term Loan and working capital loan to be 9%. A repayment period of 6 years including a moratorium period of 1/2 year has been considered for financial projections.

7.4.2 Depreciation Rates

Depreciation has been provided on straight-line method, as per the Companies Act, 1956, for book purposes, whereas for tax purposes, written down value method is employed. The rate of depreciation for plant & machinery and miscellaneous fixed assets is taken as 10% for book purposes and 15% for tax purposes.

7.4.3 Revenue Assumption

It is assumed that at 100% capacity utilization the unit would generate revenue of `1248.37 Lacs from the sales of final product.

Sl No	Particulars	Ist Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
1	Installed Capacity (In MT)	12000	12000	12000	12000	12000
2	**Product Mix**					
	-	100%	100%	100%	100%	100%
	Finished goods- Poultry Feed	90%	90%	90%	90%	90%
	Loss	10%	10%	10%	10%	10%
3	**Product wise capacity**	12,000	12,000	12,000	12,000	12,000
	Finished goods --90%	10,800	10,800	10,800	10,800	10,800
	Poultry Feed	8,640	8,640	8,640	8,640	8,640
	Cattle Feed	2,160	2,160	2,160	2,160	2,160
	Loss-10%	1,200	1,200	1,200	1,200	1,200
4	**Capacity Utilisation**	60%	65%	70%	75%	80%
	Production (In MT)					
	Poultry Feed					
	Actual Production	5,184	5,616	6,048	6,480	6,912
	Add: Opening Stock of FG (In MT)	-	207	233	251	269
	Less: Closing Stock of FG (In MT)	207	233	251	269	287
	Value of Opening Stock (Rs. In lacs)	-	43	50	55	60

	Value of Closing Stock (Rs. In lacs)	**43**	**50**	**55**	**60**	**65**
	Quantity to be sold (In MT)	4,977	5,590	6,030	6,462	6,894
	Selling Rate per MT	21,000.00	21,420.00	21,848.40	22,285.37	22,731.08
	Sales Value (Rs. In lacs) (A)	**1,045.17**	**1,197.38**	**1,317.46**	**1,440.08**	**1,567.08**
5	**Cattle Feed**					
	Actual Production	1,296	1,404	1,512	1,620	1,728
	Add: Opening Stock of FG (In MT)	-	26	29	31	33
	Less: Closing Stock of FG (In MT)	26	29	31	33	35
	Value of Opening Stock (Rs. In lacs)	-	4	5	5	6
	Value of Closing Stock (Rs. In lacs)	**4**	**5**	**5**	**6**	**6**
	Quantity to be sold (In MT)	1,270	1,402	1,510	1,618	1,726
	Selling Rate per MT	16,000.00	16,320.00	16,646.40	16,979.33	17,318.91
	Sales Value (Rs. In lacs) (B)	**203.20**	**228.72**	**251.28**	**274.73**	**298.92**
5	Total Sales Value (Rs. In lacs) (A+B)	**1,248.37**	**1,426.10**	**1,568.74**	**1,714.81**	**1,866.00**
6	Closing Stock of Finished Goods (Rs. In lacs)	**47.63**	**54.56**	**60.00**	**65.55**	**71.30**
Note- Sales price increased every year by 2%.						

7.4.4 Capacity Utilization

It is assumed that the unit will run at 60% capacity utilization in the first year.

YEAR	**CAPACITY UTILIZATION**
Year I	60%
Year II	65%
Year III	70%
Year IV	75%
Year V	80%
Year VI onwards	90%

7.5 Projected Financial Performance:

The projected profitability statement, cash flows, income statement and balance sheet are given below:

7.5.1 Project Profitability Statement:

Particulars	Ist Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
Sales	1,248.37	1,426.10	1,568.74	1,714.81	1,866.00
Less- Duty & Taxes	-	-	-	-	-
Net Sales	1,248.37	1,426.10	1,568.74	1,714.81	1,866.00
Other Income	-	-	-	-	-
Total	**1,248.37**	**1,426.10**	**1,568.74**	**1,714.81**	**1,866.00**
Variable Cost					
Raw Materials Consumed	1,186.81	1,290.30	1,394.60	1,499.72	1,605.69
Consumables & Packing Materials	2.39	2.62	3.10	3.65	4.28
Wages & Salary	20.30	20.30	22.33	24.57	27.02
Power	10.08	11.14	12.24	13.37	14.55
Repair & Maintenance	0.50	2.00	2.20	2.22	2.24
Other Manufacturing Expenses	1.00	2.00	2.40	2.42	2.45
Cost of Production	**1,221.08**	**1,328.36**	**1,436.86**	**1,545.95**	**1,656.24**
Add: Opening Stock of Finished Goods	-	47.63	54.56	60.00	65.55
Less: Closing Stock of Finished Goods	47.63	54.56	60.00	65.55	71.30
Cost of Sales	**1,173.45**	**1,321.43**	**1,431.42**	**1,540.40**	**1,650.49**
Gross Profit :-	**74.92**	**104.67**	**137.31**	**174.40**	**215.51**
Selling & Administrative Expenses	**6.24**	**35.65**	**39.22**	**42.87**	**46.65**
- Other Selling & Adm. Exps.	6.24	35.65	39.22	42.87	46.65
Profit before Interest & Depreciation	**68.68**	**69.02**	**98.09**	**131.53**	**168.86**
Depreciation	18.51	16.08	13.98	12.16	10.59
Profit before Interest & Taxation	**50.17**	**52.94**	**84.11**	**119.37**	**158.27**
Interest on					
Term Loan	12.43	10.65	8.88	7.10	5.33
Working Capital	4.68	4.68	4.68	4.68	4.68
Total Interest	**17.11**	**15.33**	**13.56**	**11.78**	**10.01**
Profit before Taxation	**33.06**	**37.61**	**70.56**	**107.59**	**148.27**
Current Tax	11.24	12.78	23.98	36.57	50.40

Particulars	Ist Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
Deffered Tax	-	-	-	-	-
Profit after Tax	**21.82**	**24.82**	**46.57**	**71.02**	**97.87**
Add: Profit B/f from Previous Year	-	21.82	46.65	93.22	164.24
Balances transfer to Reserve & Surplus	**21.82**	**46.65**	**93.22**	**164.24**	**262.11**

7.5.2 Project Financial Indicator

Year	1	2	3	4	5
Gross Profit Ratio	6.00	7.34	8.75	10.17	11.55
Net Profit Ratio	1.75	1.74	2.97	4.14	5.24
Current Ratio	1.37	1.50	1.71	2.03	2.46
DSCR	2.16	2.11	2.84	3.70	4.66
BEP	0.64	0.59	0.42	0.32	0.25
Project IRR	**19%**				

The IRR and DSCR of the project look promising and the prospects of the project are supposed to be financially sound.

7.5.3 Project Cash Flow Statement

(Figure in Lakh)

SL. NO.	PARTICULAR	Ist Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
	CASH INFLOW					
1	Profit before Tax	33.06	37.61	70.56	107.59	148.27
2	Add:- Depereciation	18.51	16.08	13.98	12.16	10.59
3	Priliminery Exps. W.O.	-	-	-	-	-
4	**Cash Accurals (1+2+3)**	**51.57**	**53.69**	**84.54**	**119.75**	**158.86**
5	Receipt of capital subsidy from Bihar Govt.					
6	Increase/(Decrease) in C.L.	107.14	1.10	8.70	8.77	8.84

SL. NO.	PARTICULAR	Ist Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
7	Contribution by Shareholder/Promoter	46.03	-	-	-	-
8	Increase in Term Loan from Bank	138.09				
9	Increase in Un. Sec. Loan					
10	Increase in Working Capital	52.00	-	-	-	-
	A.Total (Rs.)(4 to 14)	**394.83**	**54.79**	**93.23**	**128.52**	**167.69**
	CASH OUTFLOW					
1	Preliminery & Preoperative Expenses	-				
2	Increase in Current Asset	209.59	19.85	26.66	60.74	49.94
3	Increase in Cap. Expenditure	146.44				
4	Decrease in Term Loan	19.73	19.73	19.73	19.73	19.73
5	Investment	-	-	-	-	-
6	Dividend Paid	-	-	-	-	-
7	Income Tax Paid	11.24	12.78	23.98	36.57	50.40
	B.Total (Rs.) (1 to 9)	**387.00**	**52.36**	**70.37**	**117.04**	**120.06**
C.Surplus/Deficit from Project (A-B)		**7.83**	**2.43**	**22.86**	**11.48**	**47.64**
D. Opening Balance of Cash & Cash Equivalent		-	7.83	10.26	33.12	44.60
E. Closing Balance of Cash & Cash Equivalent(C+D)		**7.83**	**10.26**	**33.12**	**44.60**	**92.24**
Balance Sheet Cash & Bank		7.83	10.26	33.12	44.60	92.24

7.5.4 Projected Balance Sheet

Particulars	Ist Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
Liabilities					
Capital	46.03	46.03	46.03	46.03	46.03

Particulars	Ist Yr	2nd Yr	3rd Yr	4th Yr	5th Yr
Reserve & Surplus	21.82	46.65	93.22	164.24	262.11
Term Loan	118.36	98.64	78.91	59.18	39.45
Bank Borrowing for Working Capital	52.00	52.00	52.00	52.00	52.00
Sundry Creditors	107.14	108.24	116.94	125.71	134.54
Provision for Taxation	11.24	12.78	23.98	36.57	50.40
Total	**356.59**	**364.34**	**411.08**	**483.73**	**584.54**
Assets					
Gross Block	146.44	146.44	146.44	146.44	146.44
Less- Accumulated Deprection	18.51	34.59	48.57	60.73	71.32
Net Block	127.93	111.85	97.87	85.71	75.12
Current Assets					
Inventory					
Raw Materials	98.90	107.53	116.22	124.98	133.81
Consumables Stores & Packing Materials	0.23	0.27	0.32	0.37	0.44
Closing Stock	47.63	54.56	60.00	65.55	71.30
Receivables	26.01	29.71	32.68	35.73	38.88
Other Current Assets					
Taxation Advance	11.24	12.78	23.98	36.57	50.40
Other Current Assets	36.83	37.38	46.89	90.22	122.36
Cash & Bank Balances	7.83	10.26	33.12	44.60	92.24
Miscellaneous Expenditure (not w/o)	-	-	-	-	-
Total	**356.59**	**364.34**	**411.08**	**483.72**	**584.54**