

# Pre-Feasibility Study

## BROILER FARM

(7500 Birds)



### Small and Medium Enterprise Development Authority Government of Pakistan

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# 1 INTRODUCTION

## 1.1 Project Brief

The broiler farm is a project of livestock sector, in which, the day old chicks (DOCs) are raised on high protein feed for a period of six weeks. This business can be started both in rural and semi-urban areas in sheds. The Poultry sheds can be acquired on rental basis. These sheds have all the required facilities for the broiler farm. The rent cost varies between Rs 1 to Rs 2 per square feet depending upon the location and facilities at the farm.

The broiler birds are sold to traders and the whole sellers markets in the urban areas. Some times birds can also be sold directly to the shopkeepers in the urban markets.

Broiler farming is a profitable venture depending on the demand of the meat in the market. Annually, six flocks of birds will be raised on the same premises of a farm.

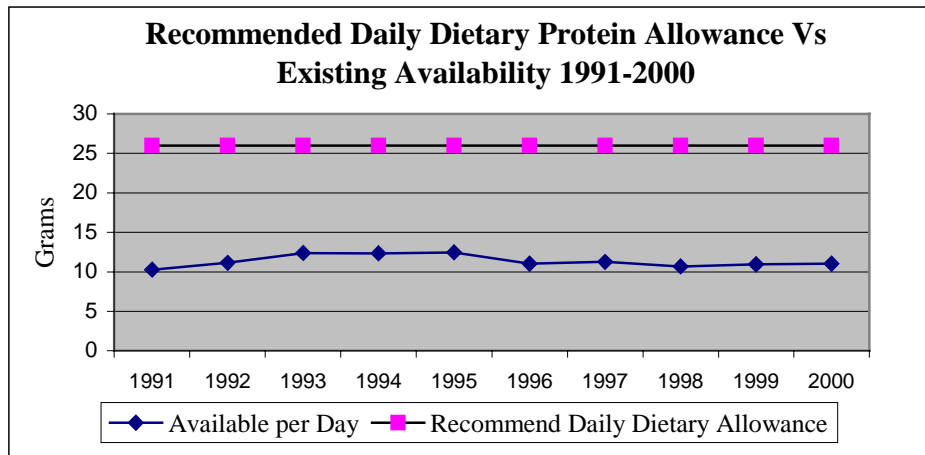
## 1.2 Opportunity Rationale

Broiler meat is the cheapest source of animal protein available in the country. The time required for raising broiler birds is lesser than that for big animals. The consumption of white meat is increasing due to growing health consciousness in the masses.

According to the Agriculture Statistics of Pakistan the per capita consumption of poultry meat is increasing at a rate of 4% per annum. It correlates with the income level of the consumers.

The existing daily availability of protein quantity per capita in Pakistan deriving from animal source including beef, mutton, poultry and fish combined amounts to 11 grams. This is far less than the recommended daily dietary protein allowance from animal source of 26 grams according to the World Health Organization standards.

Figure 1-1 shows the shortage of protein availability in Pakistan.

**Figure 1-1: Daily Protein Consumption<sup>1</sup>**

### 1.3 Total Project Cost

A broiler farm with a population of 7,500 birds that is established in a rented building, needs a capital investment of about Rs 64,040 for purchasing farm machinery and equipment. In addition to this, a sum of Rs 343,284 is required as working capital, which will be used for purchasing day old chicks and raw material (feed & vaccines) etc.

### 1.4 Proposed Capacity

A broiler farm of about 5,000 thousand birds is considered to be an economically viable size, which will justify fixed and operational costs. In this pre-feasibility study, all the calculations have been based on a flock size of 7,500 birds, with raising six flocks per year. There will be a lag time of two weeks for cleaning and fumigation of the farm.

## 2 CURRENT INDUSTRY STRUCTURE

The generation line of broiler comes from pure line, which is imported. This produces grand parents for parent stocks and parent stock end up in producing the final product. The farmers get day old broiler from hatcheries. These hatcheries maintain their breeder farms, or in some cases, purchase their hatching eggs from breeder farms. These breeder farms depend on producers of parent stock.

Poultry feed mills are the major player in the poultry industry, which produce a specific formula feed mix. Poultry feed consists of rich protein elements like grains, gluten, blood meal, fishmeal and soyabean meal. The major component of cost of production of chicken meat accounts for feed cost.

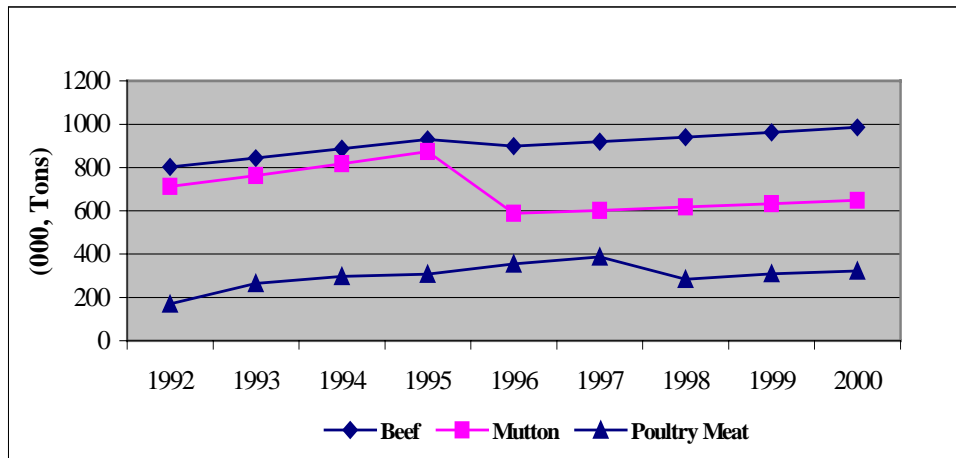
In the year 1997, in Pakistan, there were about 15,732 broiler farms that produced 198.6 million broilers in the year 2000 down from 290 million birds. Broiler

<sup>1</sup> Source: SMEDA survey 2001

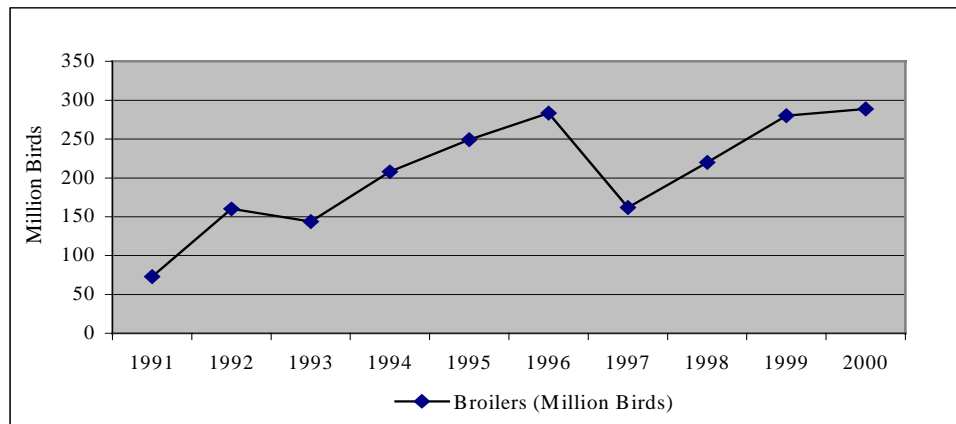
population has been growing at a tremendous rate during the last two decades but in 1997, due to ban on marriage dinners, there was a huge setback to this sector. However, this sector has gradually picked up in the last three years and is now growing at a rate of 4% per annum.

The poultry meat production has showed a growing trend over the past three years after a dip in 1997 due to the ban imposed on wedding dinners. The meat production trend of chicken meat, beef and mutton from the year 1991-2000 is presented in Figure 2-1.

**Figure 2-1: Meat Production Trends<sup>2</sup>**



**Figure 2-2: Broilers' Population (1991-2000)**



<sup>2</sup> Source: Agricultural Statistics of Pakistan 2000-2001



### 3 MARKETING

The marketing of chickens follows the traditional channels of distribution. Generally, broilers are distributed in the market through middlemen (Arti) and wholesalers. The role of Arti is to identify a farm and negotiate the price. In some cases, the middleman provides Day Old Chicks and other farm inputs (feed, etc.) to the broiler farmers and then agrees to buy back the mature birds from them.

Birds are transported to the urban market and are sold to retailers or market-street poultry shops. Birds are sold on live-weight basis. The time spent in getting broilers from the farm to the retail shop is brief. Although collection and handling of birds has improved with the use of loader vehicles, but it is an established fact that greater the distance between the poultry producer and consumer, more complicated is the marketing system including their collection, handling and transportation to the consumer or processing plants. The processing plant produces dressed chicken (slaughtered and cleaned). However, a very small amount of dressed chicken is available in the local retail market. The integrated processing units distribute frozen and dressed chicken packed in whole or cut-ups to the consumer through retail shops under their brand names.

The trick in marketing is quick availability of market information of chicken supply and demand, which will determine the selling price.

### 4 FARM MANAGEMENT

Farm input required for a broiler farm includes farm equipment (drinkers, feed trays, brooders, and feeders), electronic fixtures and other consumer items (feed, vaccines & medicines, rice-husk or saw-dust, water, electricity, etc.).

#### 4.1 Day Old Chicks

The chicks should be of uniform size, active, alert and bright eyed. The shank or leg covering (skin) of healthy chicks appears bright and shiny.

#### 4.2 Brooding

Proper brooding temperature is required to keep the chicks in comfort. Coal or sawdust is burnt for supplying heat at the stage of brooding in the poultry farm.

In the first week, 95°F is quite comfortable. For the first one week, it is also essential to observe four to five times daily the condition (temperature) of the chicks. They should neither huddle nor move away from the brooding hover, but should be moving around evenly. As chicks grow, the temperature may be reduced at a rate of 5°F per week until approximately 70°F is reached in the sixth week.

### 4.3 Feeding

Broilers are usually fed with the following two types of ration:

- **Broiler starter:** It is fed to the broiler birds up to five weeks of age.
- **Broiler finisher:** It is fed to the broiler of more than five weeks of age and continued till the age of marketing.

Feeding three or four times each day will stimulate feed intake and prevents wastage. Percentage requirement of different ingredients in starter and finisher diet is given in Table 4-1:

**Table 4-1: Broiler Starter & Finisher Diet**

| Ingredients                 | Starter diet<br>(% required) | Finisher diet<br>(% required) |
|-----------------------------|------------------------------|-------------------------------|
| Maize                       | 44.25                        | 44.10                         |
| Rice Polish                 | 10.00                        | 20.00                         |
| Groundnut cake              | 15.00                        | 11.00                         |
| Sunflower cake              | 15.00                        | 11.00                         |
| Fish meal                   | 6.00                         | 5.30                          |
| Meat meal                   | 6.00                         | 5.50                          |
| Blood meal                  | 0.25                         | 0.2                           |
| Animal fat                  | 2.00                         | 1.25                          |
| Bone meal                   | 0.75                         | 0.6                           |
| Limestone                   | 0.5                          | 0.7                           |
| Salt                        | 0.25                         | 0.25                          |
| Mineral and Vitamin mixture | 0.1                          | 0.1                           |
| <b>Total</b>                | <b>100.00</b>                | <b>100.00</b>                 |

This starter and finisher feed can be obtained in prepared form, from the feed mills.

### 4.4 Housing

The chicks should be kept in a clean, dry and well-ventilated room. Broiler house should have proper ventilation as this provides the birds fresh air and carries off moisture. The entire building including litter and all equipment should be fumigated.

### 4.5 Feeders

It is essential to provide adequate feeder space. Ideally, one pan type feeder is sufficient for 50 birds. Therefore, for 7500, birds 150 feeders would be more than enough.

#### **4.6 Lighting**

Most broiler growers provide 24 hours light during brooding and early growing period. Recent research conducted in windowless buildings, using intermittent lighting of 1-2 hours period, has indicated significantly improved feed efficiency. Initially, for first fifteen days, light intensity should be 40-60 watts per 200 sq. ft of space and this can be replaced by 15 watts bulb in the beginning of third week. The feasibility has taken monthly electricity charges of Rs 2000.

#### **4.7 Drinkers**

Adequate drinking space should also be provided to the birds. The drinker should contain fresh, clean and cold water. It is necessary to provide extra water during summer. One drinker is sufficient for 50 birds.

#### **4.8 Litter**

Litter is spread on the floor to prevent the direct contact with the floor. Straw, rice-husk and sawdust are generally used for making the litter. It should be dry and free of moulds. Caked or moldy material should be removed and refilled with fresh materials. Extensively wet and dusty litter should also not be used. Using new litter for each flock is good for raising disease-free broiler.

#### **4.9 Vaccination**

Vaccination can be provided to chicks through injections, can also be mixed in the water and also through eye drops. Average vaccination price per bird mostly varies between Rs 2-5. The feasibility has taken cost of vaccination at Rs 2 per bird.

#### **4.10 Fumigation and Spraying**

It is essential to check all equipment and walls of the broiler house carefully that they are clean, and washed with disinfectant solution, and dried. The rooms should be white washed and sprayed before the arrival of birds.

Disinfectant solution can be prepared with Phenol, Potassium Permanganate, Carbolic Acid and Formaline. A solution of Sodium Hydroxide/Caustic Soda with warm water can also be used to clean the house.

To sanitize the broiler house from germs and insects, it is fumigated with Formaldehyde Gas, which is produced by putting Formaline on Potassium Permanganate. The rooms should be vacant and sealed for 30 minutes after the fumigation so that the gas infiltrates in every corner of the room.

In the pre-feasibility report, the cost of fumigation has been taken as Rs 1,074 per flock.

## 5 MANPOWER REQUIREMENTS

Semi skilled workers are needed to look after the feeding, vaccination and cleaning operations at the farm. A single person can handle 3,000 birds easily. Two people will be hired to manage the operations of a broiler farm of 7,500 birds. Each attendant is given a monthly salary of Rs 3000.

## 6 FARM EQUIPMENT

Various types of farm equipment are needed for feeding, drinking and handling the birds. List of farm equipment, which will be needed, is as under:

**Table 6-1 Farm Equipment**

| Farm Equipment            | No.        | Rs/unit. | Rs.           |
|---------------------------|------------|----------|---------------|
| Brooder                   | 15         | 450      | 6,750         |
| Drum Heater               | 3          | 1,200    | 3,600         |
| Small Drinkers            | 38         | 60       | 2,280         |
| Large Drinkers            | 112        | 180      | 20,160        |
| Small Feeder              | 38         | 75       | 2,850         |
| Large Feeder              | 112        | 125      | 14,000        |
| Shifting Box <sup>3</sup> | 8          | 1,800    | 14,400        |
| <b>Total Machine Cost</b> | <b>326</b> |          | <b>64,040</b> |

<sup>3</sup> Used to shift Day Old Chicks

## 7 LAND & BUILDING

**Table 7-1 Space Requirement**

| Space Requirement                                | Required Area (Sq.ft) |
|--|-----------------------|
| Management building                              | 100                   |
| Shed Space (1 Sq.ft/bird)                        | 7,500                 |
| Store Room                                       | 86                    |
| Rooms for Guard and Workers                      | 144                   |
| <b>Total Project Space Requirement</b>           | <b>7,830</b>          |
| <b>Rental Cost/sq.ft (Rs)</b>                    | <b>0.9</b>            |
| <b>Total Building Rental Cost (Rs) per month</b> | <b>7,047</b>          |

### 7.1 Recommended Mode for Acquiring Land

It is recommended that the proposed project should be started in a rented shed. These sheds are located along roadsides around cities and rural areas. This option will help us to save on the capital cost required for constructing sheds.

Rental cost of Rs 0.9q.ft<sup>4</sup> per month prevails in the market. Advance rent for one year is paid.

### 7.2 Suitable Locations

Suburban and rural areas around the major cities of the country are the suitable areas for setting up a poultry farm. Setting up a farm at an isolated place will minimize the risk of disease.

Proximity of the farm to the city enables the farmer to have a quick communication with the market for the purchase of Day Old Chicks, farm inputs (feed, etc.), and selling of mature birds.

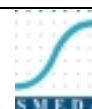
### 7.3 Infrastructure Requirement

Poultry's farming needs to be handled tactically, right from the selection of the site to the final stage when the birds are sold. The farm should be located at a place where transportation of birds and feed can be handled easily.

The entrepreneur should make sure that the following things are available at the farm site before setting up the farm:

- Electricity connection
- Drinking quality water

<sup>4</sup> Includes the cost of electronic fixtures, nylon sheets and other farm infrastructure apart from farm equipment, since this usually built-in in any existing poultry farm.



## 8 PROJECT COST

**Table 8-1 Project Economics**

| Account Head                   | Total Cost (Rs) |
|--------------------------------|-----------------|
| Machinery & Equipment          | 64,040          |
| <b>Total Capital Cost</b>      | <b>64,040</b>   |
| Raw material inventory         | 258,720         |
| Upfront Building Rent          | 84,564          |
| <b>Total Working Capital</b>   | <b>343,284</b>  |
| <b>Total Project Cost (Rs)</b> | <b>407,324</b>  |

**Table 8-2 Project Return**

|                        | Project |
|------------------------|---------|
| IRR                    | 43.03%  |
| Payback Period (years) | 3.94    |
| NPV (Rs)               | 469,957 |

**Table 8-3 Financing Plan**

| Financing |     | Rs.     |
|-----------|-----|---------|
| Equity    | 50% | 203,662 |
| Debt      | 50% | 203,662 |

## 9 KEY SUCCESS FACTORS

- **Farm Supervision**

Proper technical supervision of the enterprise is the key to the success of a broiler farm. Farm employees should be aware of the feeding and drinking habits of birds. The farm supervisor should be vigilant and should ensure timely feeding and vaccination, so that the birds stay healthy and disease-free.

- **Market Information**

The entrepreneur should be well aware of the supply and demand of chicken in the city. This will help the entrepreneur to negotiate well the sale price of birds. The price of chicken meat fluctuates tremendously during a year. Usually, the selling price at the farm gate varies from Rs 36-Rs 42 per kg.

- **Mortality Losses**

Mortality can only be controlled if the farm conditions are hygienic. Mortality losses should be kept below 5% by timely vaccination & medication.

## 10 THREATS

The poultry industry has some inherent issues, which can not be controlled by an individual entrepreneur. Following are some threats faced by this industry: -

- **Disease Epidemic**

Diseases like *New Castle* are extremely dangerous. They can eradicate the entire bird population, so the birds need to be protected against such type of diseases, by proper vaccination and medication.

- **Government Regulations**

When the government imposed a ban on marriage dinners, the industry suffered heavy losses at the time of inception of this law. Ban on marriage dinners has reduced chicken consumption by 40%.



## 11 FINANCIAL ANALYSIS

### 11.1 Projected Income Statement

| PROJECTED INCOME STATEMENT           |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|--------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                                      | Year 1           | Year 2           | Year 3           | Year 4           | Year 5           | Year 6           | Year 7           | Year 8           | Year 9           | Year 10          |
|                                      | in Rs.           |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| <b>Sales*</b>                        | <b>2,745,924</b> | <b>2,883,220</b> | <b>3,027,381</b> | <b>3,178,750</b> | <b>3,337,688</b> | <b>3,504,572</b> | <b>3,679,801</b> | <b>3,863,791</b> | <b>4,056,980</b> | <b>4,259,829</b> |
| <b>Cost of goods sold</b>            |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| DOC (Day Old Chicks)                 | 540,000          | 567,000          | 595,350          | 625,118          | 656,373          | 689,192          | 723,652          | 759,834          | 797,826          | 837,717          |
| Feed Cost                            | 1,587,600        | 1,666,980        | 1,750,329        | 1,837,845        | 1,929,738        | 2,026,225        | 2,127,536        | 2,233,913        | 2,345,608        | 2,462,889        |
| Vaccination Cost                     | 90,000           | 94,500           | 99,225           | 104,186          | 109,396          | 114,865          | 120,609          | 126,639          | 132,971          | 139,620          |
| Spray Cost                           | 6,444            | 6,766            | 7,105            | 7,460            | 7,833            | 8,224            | 8,636            | 9,067            | 9,521            | 9,997            |
| Litter Cost                          | 9,924            | 10,420           | 10,941           | 11,488           | 12,063           | 12,666           | 13,299           | 13,964           | 14,662           | 15,395           |
| Payroll (Production Staff)           | 72,000           | 75,600           | 79,380           | 83,349           | 87,516           | 91,892           | 96,487           | 101,311          | 106,377          | 111,696          |
| Heat Expense for Brooding            | 12,000           | 13,200           | 14,520           | 15,972           | 17,569           | 19,326           | 21,259           | 23,385           | 25,723           | 28,295           |
| <b>Total</b>                         | <b>2,317,968</b> | <b>2,434,466</b> | <b>2,556,850</b> | <b>2,685,418</b> | <b>2,820,488</b> | <b>2,962,391</b> | <b>3,111,476</b> | <b>3,268,113</b> | <b>3,432,688</b> | <b>3,605,609</b> |
| <b>Gross Profit</b>                  | <b>427,956</b>   | <b>448,754</b>   | <b>470,531</b>   | <b>493,332</b>   | <b>517,200</b>   | <b>542,182</b>   | <b>568,324</b>   | <b>595,678</b>   | <b>624,292</b>   | <b>654,221</b>   |
| <b>Operating Expenses</b>            |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Fixed electricity                    | 24,000           | 26,400           | 29,040           | 31,944           | 35,138           | 38,652           | 42,517           | 46,769           | 51,446           | 56,591           |
| Administrative Overheads             | 13,730           | 14,416           | 15,137           | 15,894           | 16,688           | 17,523           | 18,399           | 19,319           | 20,285           | 21,299           |
| Depreciation                         | 6,404            | 6,404            | 6,404            | 6,404            | 6,404            | 6,404            | 6,404            | 6,404            | 6,404            | 6,404            |
| Mortality Loss                       | 71,190           | 74,750           | 78,487           | 82,411           | 86,532           | 90,858           | 95,401           | 100,171          | 105,180          | 110,439          |
| <b>Total</b>                         | <b>115,324</b>   | <b>121,970</b>   | <b>129,068</b>   | <b>136,653</b>   | <b>144,763</b>   | <b>153,438</b>   | <b>162,722</b>   | <b>172,664</b>   | <b>183,315</b>   | <b>194,733</b>   |
| <b>Operating Profit</b>              | <b>312,632</b>   | <b>326,784</b>   | <b>341,464</b>   | <b>356,679</b>   | <b>372,437</b>   | <b>388,744</b>   | <b>405,603</b>   | <b>423,014</b>   | <b>440,977</b>   | <b>459,488</b>   |
| <b>Non-operating Expenses</b>        |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Financial Charges on Running Finance | 32,586           | 14,341           | -                | -                | -                | -                | -                | -                | -                | -                |
| Building Rent                        | 84,564           | 93,020           | 102,322          | 112,555          | 123,810          | 136,191          | 149,810          | 164,791          | 181,270          | 199,397          |
| <b>Total</b>                         | <b>117,150</b>   | <b>107,361</b>   | <b>102,322</b>   | <b>112,555</b>   | <b>123,810</b>   | <b>136,191</b>   | <b>149,810</b>   | <b>164,791</b>   | <b>181,270</b>   | <b>199,397</b>   |
| <b>Profit Before Tax</b>             | <b>195,482</b>   | <b>219,423</b>   | <b>239,141</b>   | <b>244,124</b>   | <b>248,627</b>   | <b>252,553</b>   | <b>255,792</b>   | <b>258,223</b>   | <b>259,707</b>   | <b>260,090</b>   |
| Tax                                  | 12,435           | 15,428           | 17,893           | 18,516           | 19,078           | 19,569           | 19,974           | 20,278           | 20,463           | 20,511           |
| <b>Profit After Tax</b>              | <b>183,047</b>   | <b>203,995</b>   | <b>221,249</b>   | <b>225,609</b>   | <b>229,549</b>   | <b>232,984</b>   | <b>235,818</b>   | <b>237,945</b>   | <b>239,243</b>   | <b>239,579</b>   |
| Retained Earnings beginning of year  | -                | 183,047          | 387,042          | 608,291          | 833,900          | 1,063,448        | 1,296,432        | 1,532,250        | 1,770,195        | 2,009,439        |
| Retained Earnings end of year        | 183,047          | 387,042          | 608,291          | 833,900          | 1,063,448        | 1,296,432        | 1,532,250        | 1,770,195        | 2,009,439        | 2,249,018        |

\*Sales include revenue from birds and litter sales



## 11.2 Projected Cashflow Statement

| PROJECTED CASH FLOW STATEMENT                |                  |                 |                |                |                |                |                |                  |                  |                  | in Rs.           |
|--|------------------|-----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|
|  | Year 0           | Year 1          | Year 2         | Year 3         | Year 4         | Year 5         | Year 6         | Year 7           | Year 8           | Year 9           | Year 10          |
| <b>Operating activities</b>                  |                  |                 |                |                |                |                |                |                  |                  |                  |                  |
| Net profit                                   |                  | 183,047         | 203,995        | 221,249        | 225,609        | 229,549        | 232,984        | 235,818          | 237,945          | 239,243          | 239,579          |
| Depreciation                                 |                  | 6,404           | 6,404          | 6,404          | 6,404          | 6,404          | 6,404          | 6,404            | 6,404            | 6,404            | 6,404            |
| Accounts receivable                          |                  | (228,827)       | (11,441)       | (12,013)       | (12,614)       | (13,245)       | (13,907)       | (14,602)         | (15,333)         | (16,099)         | (16,904)         |
| Stocks-RM                                    | (258,720)        | (12,936)        | (13,583)       | (14,262)       | (14,975)       | (15,724)       | (16,510)       | (17,335)         | (18,202)         | (19,112)         | 401,360          |
| Accounts Payable                             | 0                | 184,800         | 9,240          | 9,702          | 10,187         | 10,696         | 11,231         | 11,793           | 12,382           | 13,002           | 13,652           |
| Cash provided by operations                  | (258,720)        | 132,488         | 194,615        | 211,079        | 214,611        | 217,681        | 220,202        | 222,077          | 223,197          | 223,438          | 644,090          |
| <b>Financing activities</b>                  |                  |                 |                |                |                |                |                |                  |                  |                  |                  |
| Add: buliding rent expense                   |                  | 84,564          | 93,020         | 102,322        | 112,555        | 123,810        | 136,191        | 149,810          | 164,791          | 181,270          | 199,397          |
| Building rent payment                        | (84,564)         | (93,020)        | (102,322)      | (112,555)      | (123,810)      | (136,191)      | (149,810)      | (164,791)        | (181,270)        | (199,397)        | (219,337)        |
| Repayment of Running finance                 |                  | (203,662)       | (89,630)       | 0              | 0              | 0              | 0              | 0                | 0                | 0                | 0                |
| Issuance of share                            | 203,662          |                 |                |                |                |                |                |                  |                  |                  |                  |
| Cash provided by/(used) financing activities | 119,098          | (212,118)       | (98,932)       | (10,232)       | (11,255)       | (12,381)       | (13,619)       | (14,981)         | (16,479)         | (18,127)         | (19,940)         |
| <b>Total</b>                                 | <b>(139,622)</b> | <b>(79,630)</b> | <b>95,683</b>  | <b>200,847</b> | <b>203,355</b> | <b>205,300</b> | <b>206,583</b> | <b>207,096</b>   | <b>206,717</b>   | <b>205,311</b>   | <b>624,151</b>   |
| <b>Investing activities</b>                  |                  |                 |                |                |                |                |                |                  |                  |                  |                  |
| Capital expenditure                          | (64,040)         |                 |                |                |                |                |                |                  |                  |                  |                  |
| Cash provided by/(used) investing activities | (64,040)         | 0               | 0              | 0              | 0              | 0              | 0              | 0                | 0                | 0                | 0                |
| <b>Net Cash</b>                              | <b>(203,662)</b> | <b>(79,630)</b> | <b>95,683</b>  | <b>200,847</b> | <b>203,355</b> | <b>205,300</b> | <b>206,583</b> | <b>207,096</b>   | <b>206,717</b>   | <b>205,311</b>   | <b>624,151</b>   |
| Cash balance brought forward                 | 0                | 0               | 10,000         | 105,683        | 306,530        | 509,885        | 715,184        | 921,767          | 1,128,864        | 1,335,581        | 1,540,892        |
| Cash Balance                                 | (203,662)        | (79,630)        | 105,683        | 306,530        | 509,885        | 715,184        | 921,767        | 1,128,864        | 1,335,581        | 1,540,892        | 2,165,042        |
| Running Finance                              | 203,662          | 89,630          | -              | -              | -              | -              | -              | -                | -                | -                | -                |
| <b>Cash carried forward</b>                  | <b>-</b>         | <b>10,000</b>   | <b>105,683</b> | <b>306,530</b> | <b>509,885</b> | <b>715,184</b> | <b>921,767</b> | <b>1,128,864</b> | <b>1,335,581</b> | <b>1,540,892</b> | <b>2,165,042</b> |

### 11.3 Projected Balance Sheet

| PROJECTED BALANCE SHEET             | in Rs.         |                |                |                  |                  |                  |                  |                  |                  |                  |                  |
|-------------------------------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                                     | Year 0         | Year 1         | Year 2         | Year 3           | Year 4           | Year 5           | Year 6           | Year 7           | Year 8           | Year 9           | Year 10          |
| <b>Current Assets</b>               |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |
| Cash                                | 0              | 10,000         | 105,683        | 306,530          | 509,885          | 715,184          | 921,767          | 1,128,864        | 1,335,581        | 1,540,892        | 2,165,042        |
| Stocks and Inventory                | 258,720        | 271,656        | 285,239        | 299,501          | 314,476          | 330,200          | 346,710          | 364,045          | 382,247          | 401,360          | 0                |
| Accounts Receivable                 | 0              | 228,827        | 240,268        | 252,282          | 264,896          | 278,141          | 292,048          | 306,650          | 321,983          | 338,082          | 354,986          |
| Pre-paid building rent              | 84,564         | 93,020         | 102,322        | 112,555          | 123,810          | 136,191          | 149,810          | 164,791          | 181,270          | 199,397          | 219,337          |
| <b>Total</b>                        | <b>343,284</b> | <b>603,503</b> | <b>733,512</b> | <b>970,867</b>   | <b>1,213,067</b> | <b>1,459,716</b> | <b>1,710,335</b> | <b>1,964,350</b> | <b>2,221,081</b> | <b>2,479,730</b> | <b>2,739,365</b> |
| <b>Gross Fixed Assets</b>           |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |
| Gross Fixed Assets                  | 64,040         | 64,040         | 64,040         | 64,040           | 64,040           | 64,040           | 64,040           | 64,040           | 64,040           | 64,040           | 64,040           |
| Less: Accumulated depreciation      | 0              | 6,404          | 12,808         | 19,212           | 25,616           | 32,020           | 38,424           | 44,828           | 51,232           | 57,636           | 64,040           |
| <b>Net Fixed Assets</b>             | <b>64,040</b>  | <b>57,636</b>  | <b>51,232</b>  | <b>44,828</b>    | <b>38,424</b>    | <b>32,020</b>    | <b>25,616</b>    | <b>19,212</b>    | <b>12,808</b>    | <b>6,404</b>     | <b>0</b>         |
| <b>Total Assets</b>                 |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |
| <b>Total Assets</b>                 | <b>407,324</b> | <b>661,139</b> | <b>784,744</b> | <b>1,015,695</b> | <b>1,251,491</b> | <b>1,491,736</b> | <b>1,735,951</b> | <b>1,983,562</b> | <b>2,233,889</b> | <b>2,486,134</b> | <b>2,739,365</b> |
| <b>Current Liabilities</b>          |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |
| Running Finance                     | 203,662        | 89,630         | 0              | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                |
| Accounts Payable                    |                | 184,800        | 194,040        | 203,742          | 213,929          | 224,626          | 235,857          | 247,650          | 260,032          | 273,034          | 286,685          |
| <b>Total</b>                        | <b>203,662</b> | <b>274,430</b> | <b>194,040</b> | <b>203,742</b>   | <b>213,929</b>   | <b>224,626</b>   | <b>235,857</b>   | <b>247,650</b>   | <b>260,032</b>   | <b>273,034</b>   | <b>286,685</b>   |
| <b>Equity</b>                       |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |
| Paid-up Capital                     | 203,662        | 203,662        | 203,662        | 203,662          | 203,662          | 203,662          | 203,662          | 203,662          | 203,662          | 203,662          | 203,662          |
| Retained Earnings                   | 0              | 183,047        | 387,042        | 608,291          | 833,900          | 1,063,448        | 1,296,432        | 1,532,250        | 1,770,195        | 2,009,439        | 2,249,018        |
| <b>Total</b>                        | <b>203,662</b> | <b>386,709</b> | <b>590,704</b> | <b>811,953</b>   | <b>1,037,562</b> | <b>1,267,110</b> | <b>1,500,094</b> | <b>1,735,912</b> | <b>1,973,857</b> | <b>2,213,101</b> | <b>2,452,680</b> |
| <b>Total Liabilities And Equity</b> |                |                |                |                  |                  |                  |                  |                  |                  |                  |                  |
| <b>Total Liabilities And Equity</b> | <b>407,324</b> | <b>661,139</b> | <b>784,744</b> | <b>1,015,695</b> | <b>1,251,491</b> | <b>1,491,736</b> | <b>1,735,951</b> | <b>1,983,562</b> | <b>2,233,889</b> | <b>2,486,134</b> | <b>2,739,365</b> |

## 12 KEY ASSUMPTIONS

**Table 12-1: Production Assumptions**

|                                    |        |
|------------------------------------|--------|
| Maximum Capacity Utilization       | 100%   |
| Number of Birds per Flock          | 7,500  |
| Number of Flocks per Year          | 6      |
| Mortality Rate                     | 5%     |
| Annual Production (birds)          | 42,750 |
| Mortality loss (Year 1)            | 2,250  |
| Time required per Flock (days)     | 42     |
| Lag time between the Flock (weeks) | 2      |
| Average weight per bird (kg)       | 1.6    |

**Table 12-2: Economy Related Assumptions**

|                         |     |
|-------------------------|-----|
| Electricity growth rate | 10% |
| Wage growth rate        | 10% |

**Table 12-3: Revenue Assumptions**

|                                  |        |
|----------------------------------|--------|
| Production capacity              | 45,000 |
| Domestic Sales                   | 100%   |
| Sales price( in Rs/kg)           | 40     |
| Litter Selling Price (per flock) | 827    |
| Sales price growth rate          | 5%     |

**Table 12-4: Expense Assumptions**

|  |       |
|--|-------|
| Administrative overhead (%of Sales)    | 0.5%  |
| DOC (Day Old Chicks) in Rs             | 12    |
| Raw material price growth rate         | 5%    |
| Average Feed Requirement/bird/day (kg) | 0.08  |
| Cost of feed (in Rs/kg)                | 10.5  |
| Vaccination Cost per bird              | 2     |
| Spray Cost per flock                   | 1,074 |
| Litter Cost per flock                  | 1,654 |
| Pre-paid building Rent (months)        | 12    |
| Heat Expense per Month (Brooding)      | 1000  |

**Table 12-5: Cashflow Assumptions**

|                                 |    |
|---------------------------------|----|
| Raw Material Inventory (Days)   | 42 |
| Accounts Receivable Cycle(Days) | 30 |
| Accounts Payable Cycle(Days)    | 30 |

**Table 12-6: Financial Assumptions**

|   |        |
|---|--------|
| Project life (Years)                                  | 10     |
| Debt  | 50%    |
| Equity  | 50%    |
| Interest rate on long-term debt                       | 18%    |
| Interest rate on short term debt                      | 16%    |
| Debt tenure (Years)                                   | 5      |
| Debt payments per year                                | 1      |
| Discount rate (weighted Avg. cost of capital for NPV) | 17%    |
| Minimum Cash Balance                                  | 10,000 |