Pre-Feasibility Study
ORGANIC CHICKEN FARMING AND SHOP

Small and Medium Enterprises Development Authority

Ministry of Industries and Production

Government of Pakistan

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2. EXECUTIVE SUMMARY

Poultry sector is an important and vibrant segment of agriculture in Pakistan, with a significant contribution to the national GDP. Commercial poultry production in Pakistan started in 1960s and has been providing a significant portion of daily proteins to the Pakistani population ever since. During 1980s and 90s, the size and poultry industry went through a decline phase due to diseases outbreaks and reduced productivity in poultry farms located in different clusters. Keeping all these constraints in mind, more progressive farmers decided to shift to organic chicken farming. The word organic means being free from chemicals and relates to the living organisms. Chicken, fed with a natural feed, is considered to be organic chicken. Natural feed is the one that does not contain animal by-products, antibiotics or genetically engineered grains (modified DNA of grains) and its ingredients are not grown using pesticides or chemical fertilizers. After 2000s, the concept of organic farming substantially gained momentum as it is based on less-input-more-output mechanism, and it has high market demand. It is based on local resources and technologies that provide farmer better independence and more control over their means of production.

The proposed organic chicken farming business can produce high yielding and better quality and hygienic chicken, employing low-cost labor. Steady returns on the investment in later phases of the project make it economically viable. Low-cost chicks, availability of cheap labor and ready market access form the basic rationale for the investors to venture into this business.

Pakistan carries a good potential for this sector. The project “Organic Chicken Farming and Shop” highlights the importance of timely investment in the sector; in line with the current demand and trends. Currently there are few players in the market who are serving this need.

This “Pre-feasibility Document” provides details for setting up an “Organic Chicken Farm and Shop”. The flock is raised at a controlled shed located in a suburban area. In addition to direct sales from the farm the chickens are also sold through a shop located in market. In environmentally controlled organic chicken farm 1 week old chicks are raised on organic feed for about a period of 4 months. 12 flocks of birds could be reared on the same premises of the farm, which is equal to production capacity of 12,000 chickens in a year at a maximum capacity of 100%. During the first year of operations, the project is estimated to attain 67% of its total capacity, with production of 8,000 chickens.

Golden Misri (Male) or simply Misri is the suggested chicken breed for the business. Male chicks have been proposed because of their speedy growth and weight gain. Further, Misri is cheaper compared to other breeds.

The unit is proposed to be ideally located in the outskirts of large cities like Lahore, Karachi, Rawalpindi, Islamabad, Faisalabad, Sialkot, Gujranwala, Quetta, Peshawar, Multan or of another major city. These areas are preferred due to their large

populations, better road networks for transportation, availability of required facilities and high market demand.

An Organic Chicken Farm will be set up on a leased land having an area of approximately 9,000 square feet (2 Kanals). The shop will be set up in a rented building having an area of 125 square feet.

The project requires a total investment of PKR 14.16 million. This includes capital investment of PKR 13.18 million and working capital of PKR 9.84 million. This project will be established using 100% equity. The Net Present Value (NPV) of project is PKR 18.76 million with an Internal Rate of Return (IRR) of 38% and a Payback period of 2.87 years. Further, the proposed project is expected to generate Gross Annual Revenues of PKR 10.89 million during 1st year after commencement of operations, Gross Profit (GP) ratio ranging from 51% to 58% and Net Profit (NP) ratio ranging from 12% to 29% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 48% with breakeven revenue of PKR 7.83 million.

The proposed project may also be established using leveraged financing. At 50% financing at a cost of KIBOR+3%, the proposed Organic Chicken Farming and Shop provides Net Present Value (NPV) of PKR 21.74 million, Internal Rate of Return (IRR) of 37% and Payback period of 2.91 years. Further, this project is expected to generate Net Profit (NP) ratio ranging from 12% to 25% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 49% with breakeven revenue of PKR 7.94 million.

The proposed project will provide employment opportunities to 8 to11 persons including 4 labors working in two shifts of 12 hours each. High return on investment and steady growth of business is expected with the entrepreneur having some prior experience or education in the related field of business. The legal business status of this project is proposed as “Sole Proprietorship”. Further, the proposed project may also be established as a “Partnership Concern”.

3. INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with an objective to provide fresh impetus to the economy through development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out 'sectoral research' to identify policy, access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives. Preparation and dissemination of prefeasibility studies in key areas of investment has been a successful hallmark of SME facilitation by SMEDA.

Concurrent to the prefeasibility studies, a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of experts and consultants and delivery of need-based capacity building programs of different types in addition to business guidance through help desk services.

National Business Development Program for SMEs (NBDP) is a project of SMEDA, funded through Public Sector Development Program of Government of Pakistan.

The NBDP envisages provision of handholding support / business development services to SMEs to promote business startup, improvement of efficiencies in existing SME value chains to make them globally competitive and provide conducive business environment through evidence-based policy-assistance to the Government of Pakistan. The Project is objectively designed to support SMEDA's capacity of providing an effective handholding to SMEs. The proposed program is aimed at facilitating around 314,000 SME beneficiaries over a period of five years.

4. PURPOSE OF THE DOCUMENT

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document/study covers various aspects of project concept development, start-up, and production, marketing, finance and business management.

The purpose of this document is to provide information to the potential investors about "Organic Chicken Farming and Shop". The document provides a general understanding of the business to facilitate potential investors in crucial and effective investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises

by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business set-up and its successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later on, which form the basis of any investment decision.

5. BRIEF DESCRIPTION OF PROJECT & PRODUCTS

This document provides details for setting up Organic Chicken Farming business and a shop. An organic chicken is the one that is raised without antibiotics and fed with only organic feed. The study is based on 12 sheds having capacity of 1000 chickens each. A flock of 1000 chicks (1 week old) will be procured at a regular interval of one month.

Raised without Antibiotics

A fundamental principle behind organic chicken is that the bird is raised without using any antibiotics or any supplements, such as minerals and vitamins, which are otherwise likely to be administered to chickens raised in normal poultry farms.

Fed with only Organic Feed

Another feature of certified organic chicken is that the animal is fed only with certified organic feed. The certified organic feed does not contain any type of animal or animal by-products, or genetically modified or engineered grains. Further, for being classified as organic, the feed can include only those products which have been grown without any use of chemical fertilizers or indecomposable pesticides. Figure 1 shows a flock of organic chicken.

Figure 1: Organic Chicken

The organic chicken is a rich source of protein and minerals and vitamins. It has anti-cancer properties and helps in weight loss and control of blood pressure.

Domestic Chicken breeds can be easily raised as organic chicken. Common breeds include Misri, Aseel, Golden Sebright, Silver Sebright, English Game Rooster, Golden Puff, and Black Astralorp. Of these mentioned breeds, Misri is comparatively cheap and grows faster. Other breeds can also be raised in farms. Astralorp lays more eggs, Aseel yields less meat than Misri but it is best known for poultry fight while other breeds are raised mostly as decorative and pet birds. Figure 2 shows different breeds of domestic chickens.

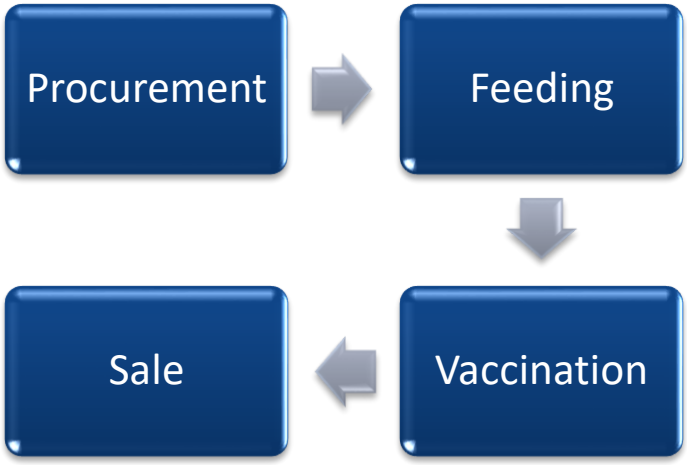
Figure 2: Chicken Breeds

Misri is one the most famous domestic breed in Pakistan. Being relatively less expensive and fast growing as compared to other breeds it is also strong and resistant to weather and diseases. Further, the meat of Misri chicken is of good flavor and taste.

5.1 Production Process Flow

The production process flow of an Organic Chicken Farming and Shop is shown in Figure 3.

Figure 3: Production Process Flow



Brief description of process flow is as follows:

Procurement of Chicks

The process of producing organic chicken starts with the procurement of one-week old male organic chicks from hatcheries. Male chicks are preferred due to their speedy growth rate and weight gain. Figure 4 shows one-week old chicks.

Figure 4: Chicks

Feeding

The chicks are transferred to a specified shed where these are raised and fed with organic feed for the next four months. Organic feed includes vegetable scraps, growing grasses, bugs, whole corn, soft white wheat, hard red winter wheat, barley, oat groats, sunflower seeds, peanuts, wheat bran, split peas, and sesame seeds.

Figure 5: Organic Feed

Feed requirements of the chickens keep increasing with their growth. A weekly feed consumption schedule for the 4-month growth cycle is given in Table 1.

Table 1: Feeding Schedule

Week	Daily Consumption (Grams) (A)	Week by Week Change in Feed (grams)	Weekly Consumption (Grams) (A*7)
1st	-	-	-
2nd	6	6	42
3rd	12	6	84
4th	19	7	133
5th	26	7	182
6th	34	8	238
7th	42	8	294
8th	47	5	329
9th	52	5	364
10th	57	5	399
11th	61	4	427

12th	65	4	455
13th	69	4	483
14th	73	4	511
15th	76	3	532
16th	79	3	553
17th	80	1	560
18th (3 days)[1]	80	-	240
Total Feed consumption / chicken (Grams)			**5,826**
Consumption in Kg			**5.83**

With the passage of time, the chicks grow and need more space; the flock is shifted to a larger shed after a month.

Vaccination

Organic chickens are vaccinated to protect them against potential health issues due to variety of diseases including Gumboro Disease, Fowl Pox, Infectious Bronchitis, Infectious Laryngotracheitis, Marek's Disease, Newcastle Disease and Fowl Cholera. Some vaccination methods are discussed in the following paragraphs:

i. Drinking Water

This is the easiest method of giving vaccines to chickens. It is commonly used against Gumboro disease (which infects the digestive tract of the birds) and Newcastle disease (which is an acute and infectious viral fever). As a first step, boiled or distilled water, free from impurities is left to cool in a covered non-metallic container. Then vaccine is mixed with it manually. If clean tap water is used, then it is preferable to leave it uncovered overnight to allow the chlorine to evaporate (which usually exists in tap water). It is advisable to remove drinking water from the feeding area of the chickens for one to two hours or even the whole night so that when vaccine-mixed water is placed in front of the chickens they drink it quickly. The amount of water that the chickens can drink in one or two hours is about 5 to 7 ml per bird. The mixed vaccine can be used for only two days.

[1] 3 days of 18th week have been included while calculating feed cost. As chickens are raised for 4 months, on average four months have 122 days (17 weeks and 3 days).

Figure 6: Chicks Drinking Vaccinated Water

ii. Wing Stab

A special needle (of 12.5 mm) is used to inject the vaccines through the wing web. The administrator should be careful not to injure blood vessels of the birds.

iii. Intramuscular Injection Method

The vaccines of Newcastle, Fowl Typhoid, and Fowl Pox (diseases of the birds) can be administered through the breasts, thighs, and wings of the birds by injection.

iv. Spray Vaccination

A spray pump is used for spraying the reconstituted vaccine[2] to the birds. It can be used with Newcastle vaccine and is especially suitable where flocks are large.

Figure 7: Spray Vaccination

[2] Reconstitution of vaccine means mixing the dry powder form of a vaccine with a fluid so that vaccine can be injected.

Table 2 shows schedule of vaccination[3] and route of administration. The schedule may differ according to area; local veterinarian should be consulted for further information.

Table 2: Vaccination Schedule

Age	Vaccine	Route of Administration
Day-1	Marek's	S/C
Day-1	Infectious Bronchitis (IB)	Spray/ED
Day-5	ND+H9 & ND Lasota	S/C+ED
Day-9	IBD intermediate	DW
Day-12	IB	ED or DW
Day-16	IBD intermediate Plus	DW
Day-20	ND Live	ED or DW
Day-23	Hydro	S/C
Day-30	Fowl pox	Wing web
Day-55	ND+H9 & ND live	S/C or IM & DW
Day-60	H5 Oil Base	S/C or IM
Day-65	Chicken Infectious Anaemia	S/C or IM & DW
Day-95	ND+IB+EDS Oil Base	S/C
Day-96	ND+IB	DW

Acronyms used in above schedule are DW for Drinking Water, ED for Eye Drop, S/C for Sub Cutaneous and IM for Intra Muscular administration of vaccines.

Guidelines for Vaccination

During vaccination, following tips should be considered to avoid any spread of disease or mishandling of vaccines. Improper usage or mishandling may result failure of vaccination.

- Instructions given on labels should be strictly followed while administering vaccines.
- Entire flock should be vaccinated properly to avoid spread of diseases.
- On expiration, outdated vaccines should be discarded.
- Each vaccine is designed for a specific route of administration; only the recommended route should be used.

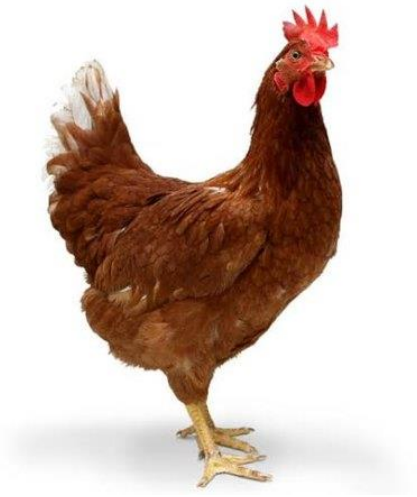
[3] Sources: https://poultry.punjab.gov.pk/vaccine_schedule
http://www.livestocksindh.gov.pk/pdf/spvc-karachi.pdf

- Sick chicken should not be vaccinated, except in outbreaks of fowl pox.
- Vaccines should be stored in a safe area protected from heat and direct sunlight.
- Vaccines should be handled with care as most vaccines are living and disease-producing agents.
- While using the drinking-water method of vaccination, water should be free of sanitizers and chlorine as these chemicals destroy Live-virus vaccines.
- After vaccination, opened containers should be disinfected or properly disposed off to prevent accidental spread.

Sale of Fully Grown Chicken

After four months (17 weeks & 3 days). of proper care, the chicken is fully grown. The average weight of saleable chicken is from 1.25-1.5 Kg. It is sold on wholesale basis through the shop to the retailers in the local market. A fully-grown organic chicken is shown in Figure 8.

Figure 8: Sellable Organic Chicken



5.2 Installed and Operational Capacities

The proposed Organic Chicken farm will produce 12,000 chickens annually. The farm will have 12 sheds with a capacity of 1000 chickens each. A flock of 1000 chickens will be procured after every month. During the first year of operations, 8000 chickens will be raised as life span (from procurement to sale) of chicken is 4 months. So, there will be no production during the first four months of business operations. Maximum operational capacity is expected to be achieved in the second year after commencement of business. Table 3 shows the installed and operational capacities of the proposed unit.

Table 3: Installed and Operational Capacity

Production Assumptions	Number
Total Number of Sheds – (A)	12
Life Span (months) - (B)	4
Production per batch – (C)	1,000
Total Production Capacity at 100% - D=(A*C)	**12,000**
First Year Production - Batches (E)	8
First Year Production – F=(D*E)	8,000
First Year Operational Capacity (F/D)	**67%**

6. CRITICAL FACTORS

Before making the decision to invest in Organic Chicken Farming and Shop, one should carefully analyze the associated risk factors. Important factors to be considered are as follows:

- Arrangement of good supplier of chicks
- Provision of GMO-free feed
- Up-to-date knowledge of market demands
- Availability of healthy feed and clean water
- Availability of specialized workforce
- Selection of appropriate machinery, technology and human resources
- Rigorous supervision of the production process at every level and;
- Quality production and customer satisfaction

7. GEOGRAPHICAL POTENTIAL FOR INVESTMENT

This farm is proposed to be established in the outskirts of Lahore, Karachi, Rawalpindi-Islamabad, Peshawar, Quetta, Faisalabad, Multan, Sialkot and Gujranwala This type of farm cannot be established in the main commercial or residential area of a city because it is not permitted by the environmental protection agencies like Pakistan Environmental Protection Agency (Pak-EPA).

Locating the farm in the outskirts of large developed cities would provide advantage of being close to the buyers to generate consistent orders, followed by an increased demand. The shop is proposed to be established in a main commercial area of the proposed cities, as it will ensure the delivery and sale of chickens on timely basis. Hence the flow of orders will not be disrupted and the demand will be consistent, as

these large cities have huge population. Moreover, the road network of these cities is strong therefore the delivery of chickens becomes easy and the chicks do not die during transportation (as the chicks are sensitive and could easily die if they are not safely transported). These cities have all the required facilities, which will help ensure uninterrupted supply of utilities, feed and medicine for the birds.

8. POTENTIAL TARGET MARKETS

The primary target market would be the rural areas of Pakistan. Organic chicken is always in demand in these areas because people prefer organic diet altogether but supply is limited to the number of chickens which are mostly domestic breeds.

In this modern era, as the urban population is coming to know about the health disadvantages of broiler chicken. With growing experience and awareness, they are also shifting towards organic foods. The importance of organic chicken and eggs is continuously increasing since they are better in taste, rich in protein and offer more health benefits for all age groups.

As per economic survey of Pakistan 2020-21 production of domestic poultry including cocks, hens, chicken and day-old chicks increased with a percentage of 0.6%, 1.8%, 0.7%, and 9.8% respectively from 2019 to 2020. Table 4 shows estimated domestic poultry production from 2017 to 2020.

Table 4: Estimated Domestic Poultry

Domestic Poultry	Units	2017	2018	2019	2020	Trend
Cocks	Millions	11.86	12.18	12.51	12.58	
Hens	Millions	42.39	43.15	43.93	44.72	
Chicken	Millions	32.91	33.16	33.4	33.65	
Day old Chicks	Millions	1,138	1,248	1,370	1,504	

Increase in production shows prospects of high demand for organic/domestic poultry in future. Further, Government of Pakistan has also taken an initiative to boost domestic and organic chicken farming in recent years. The present government under Prime Minister's Agriculture Emergency Program developed a project "Backyard Poultry Program'' worth Rs 329.13 million over a period of four years. The key objectives of this program are

- Providing opportunities for the landless farmer, mostly women
- Raising small flock sizes in traditional sheds
- Feeding on household/organic waste
- Source of eggs and meat for the poor; nutritional support and;

- Poverty alleviation through supplemental income from poultry product

9. PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of Organic Chicken Farming and Shop. Various costs and revenue related assumptions along with results of the analysis are outlined in this section.

The projected Income Statement, Cost of Goods Sold, Cash Flow Statement and Balance Sheet are attached as Annexure.

All the figures in this financial model have been calculated after carefully taking into account the relevant assumptions and target market.

9.1 Financial Feasibility Analysis

The financial feasibility analysis given in provides Table 5 the information regarding projected IRR, NPV and payback period of the study based on 100% equity.

Table 5: Financial Feasibility Analysis

Description	Values
IRR	38%
NPV (PKR)	18,762,849
Payback Period (years)	2.87
Projection Years	10
Discount Rate	15%

9.2 Financial Feasibility Analysis with 50% Debt

The financial feasibility analysis provides the information regarding projected IRR, NPV and payback period of the study on the basis of Debt: Equity Model (50:50), which is shown in Table 6.

Table 6: Financial Feasibility Analysis Debt

Description	Project
IRR	37%
NPV (PKR)	21,744,166
Payback Period (years)	2.91
Projection Years	10
Discount Rate	13%

9.3 Project Cost

Total cost of the project has been calculated to be PKR 13 million. The project will be financed through 100% Equity. Table 7 provides the detail of project cost of the proposed business.

Table 7: Project Cost

Description of Costs	Amount (PKR)
Capital Cost	
Land	-
Building / Infrastructure	9,733,700
Machinery & Equipment	258,000
Furniture & Fixtures	180,000
Equipment	676,000
Office Vehicles	2,171,500
Pre-operating Costs	156,271
Total Capital Cost	**13,175,471**
Inventory for Feed Cost	184,490
Upfront land lease rental (3 months)	300,000
Cash	500,000
Working Capital	**984,490**
Total Project Cost	**14,159,961**

Details of the listed items of the project cost are discussed in the following paragraphs:

9.3.1 Land

The Organic Chicken Farm will be started on a leased land with having an area of 9000 sq. ft. (2 Kanals), where the shed will be covering an area of 7,250 square feet on each floor. This has been proposed to avoid the high land cost. Agricultural land with required area for the proposed project is usually available in the suburbs of a metropolitan city. Therefore, no land cost has been added to the project cost. The shop is proposed to be set up in a 125 sq. ft. Breakup of the space requirement for the farm is provided in Table 8.

Table 8: Land Area

Cost Item	Break up	Area (Sq. feet)
Management building	7%	668
Controlled Shed (Ground Floor) Table 9	81%	7,250

Store for feed	2%	150
Labor living area	1%	132
Pavement/driveway	3%	300
Grounds	6%	500
Total	**100.00%**	**9,000**

Heat stress is the major problem in poultry farming. In Pakistan summers are not suitable for poultry as temperature crosses 45 degrees Celsius. To control the temperature and humidity, sheds are built to control the environment by equipping it with automatic water drinking systems and other equipment including exhaust fans for summer and heaters for winter season. Other advantages of farming in a controlled shed are:

- Maintaining consistent temperatures provides conducive environment.
- Temperature can be brought down by 10 to 15 degrees Celsius in controlled shed.
- Flock can be kept throughout the year in controlled shed as compared to traditional farming, where during summers chicken farming is stopped or reduced due to high temperature.
- In controlled shed, spread of disease can be minimized.
- Less labor is required in controlled shed as compared conventional farming.

The proposed project has a double storied controlled shed, further divided into 12 sheds of different sizes, having a total area of 7,250 (14,500/2) sq. ft. Table 9 shows area of controlled shed.

Table 9: Controlled Shed Area

Batch (Monthly)	Required Area/ Chick (sq. ft.)	Total Area (sq. ft.)
12th	0.50	500
11th	0.50	500
10th	0.75	750
9th	0.75	750
8th	1.00	1,000
7th	1.00	1,000
6th	1.25	1,250
5th	1.25	1,250
4th	1.50	1,500
3rd	1.50	1,500

2nd	2.00	2,000
1st	2.50	2,500
Total Area		**14,500**
Area for each storey	(14,500/2)	**7,250**

1-week-old chick requires an area of 0.5 square feet and it increases with the passage of time as the flock grows. 4 months old chicken requires area of 2.5 square feet to move freely. The proposed farm will have 12 sheds to accommodate batches of different ages.

9.3.2 Building/ Infrastructure

The details regarding building/infrastructure are given in Table 10.

Table 10: Building / Infrastructure

Cost Item	Break up	Area (Sq. feet)	Cost (PKR) / Sq. Feet	Total Cost (PKR)
Management building	7%	668	2,100	1,402,800
Controlled Shed (Double Storey)	81%	7,250	1,000	7,250,000
Store for feed	2%	150	1,500	225,000
Labor living area	1%	132	2,000	264,000
Pavement/driveway	3%	300	1,000	300,000
Grounds	6%	500	500	250,000
Shop Renovation Cost				41,900
Total		**9,000**		**9,733,700**

Table 11: Shop Renovation Cost

Cost Item	Unit of Measurement	Total Litres or Area/Number	Cost/Unit	Total Cost (PKR)
Paint Cost	Ltr	28	500	14,000
Labor Cost- Paint[4]	Sq. Ft.	2,800	8	22,400
Tiles	Sq. Ft.	100	40	4,000
Labor Cost- Tiles	Sq. Ft.	100	15	1,500
Total Cost				**41,900**

9.3.3 Machinery and Equipment Requirement

Table 12 provides details of machinery and equipment required for the project.

Table 12: Machinery and Equipment

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Feed Carrying Trolleys	2	15,000	30,000
Feed Baskets	10	5,000	50,000
Exhaust Fan	4	20,000	80,000
Safety Equipment (fire)	1	20,000	20,000
Heater – electric	12	4,000	48,000
Water Pump 1.5HP	2	15,000	30,000
Total			**258,000**

[4] Area for paint has been calculated on the basis of 100 sq. ft. shop area having wall height of 9 feet (wall for 3 sides).

9.3.4 Furniture & Fixtures Requirement

Table 13 provides details of the furniture and fixture requirement of the project.

Table 13: Furniture and Fixtures Requirement

Cost Item	No.	Unit Cost (PKR)	Cost (PKR)
Executive Table	1	30,000	30,000
Executive Chair	1	20,000	20,000
Staff Table	1	20,000	20,000
Staff Chairs	4	10,000	40,000
Guest Chairs	2	10,000	20,000
Sofa set	1	35,000	35,000
Table for Guests	1	15,000	15,000
Total			**180,000**

9.3.5 Equipment Requirement

Details of office equipment and shop equipment required for the project are provided in Table 14 and Table 15.

Table 14: Office Equipment

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Air Conditioners	2	90,000	180,000
Deep Freezer	1	60,000	60,000
Ceiling Fan 56"	3	4,500	13,500
Exhaust Fan	2	1,500	3,000
Water Dispenser	1	20,000	20,000
Laptop Computer	1	80,000	80,000
Printer	1	20,000	20,000
Security System (12 Cams, 2MP)	12	2,000	24,000
DVR	1	12,000	12,000
LED TV	1	40,000	40,000
Total (A)			**452,500**

Table 15: Shop Equipment

Cost Item	Number of Items	Unit Cost (PKR)	Cost (PKR)
Electronic Cash Register	1	30,000	30,000
Security System (cams, 2mp)	4	2,000	8,000
DVR	1	12,000	12,000
LED (Surveillance)	1	40,000	40,000
Ceiling Fan 56"	3	4,500	13,500
Exhaust Fan	2	1,500	3,000
Cages	1	20,000	20,000
Counter	1	25,000	25,000
Meat Cutting Tools	1	5,000	5,000
Meat Grinder (Electric)	1	6,000	6,000
Deep Freezer (402 Litres)	1	55,000	55,000
Weighing Scale	1	5,000	5,000
Waste Bins	2	500	1,000
Total (B)			**223,500**
Total Equipment Cost (A+B)			**676,000**

9.3.6 Office Vehicle Requirement

Detail of office vehicle required for the project is provided in Table 16.

Table 16: Office Vehicle Requirement

Cost Item	No.	Unit Cost (PKR)	Cost (PKR)
Pickup	1	1,000,000	1,000,000
Motorcycle	1	80,000	80,000
Registration Charges- Carrier		1%	10,800
Registration Charges-Motorcycle		1500	1500
Total Cost (PKR)			**1,091,500**

9.3.7 Pre-Operating Cost

Details of pre-operating cost for the project are provided in Table 17.

Table 17: Pre-Operating Cost

Particulars	Basis	No	Unit Cost (PKR)	Total Cost (PKR)
Admin Expenses	Months	1	40,000	40,000
Utilities	Months	1	116,271	116,271
Total Cost (PKR)				**156,271**

Admin expenses include salaries of security guards hired before commencement of business and utilities include water-boring charges of PKR 86,520 and electricity charges of PKR 29,751.

9.4 Breakeven Analysis

Breakeven analysis is provided in Table 18.

Table 18: Breakeven Analysis

Particulars	Amount First Year (PKR)	Ratios
Sales	10,891,920	
Variable Cost	5,526,322	
Contribution	5,365,598	
Fixed Cost	3,856,638	
Breakeven		
Breakeven No. of chickens		5,750
Breakeven Revenue		7,828,800
Breakeven Capacity		48%

9.5 Revenue Generation

Based on the initial year capacity utilization of the farm, sales revenue during the first year of operations is estimated in Table 19.

Table 19: Revenue Generation

Item	Sales Ratio	No. of Chickens Sold	Sale Price[5] (PKR/chicken)	Revenue (PKR)
Live Chicken (A)	80%	6,400	1,500	9,600,000
Meat	20%	1,600		
Total		**8,000**		**9,600,000**

Item	No. of Chickens Sold	Average Weight (Kg)	Total Weight	Yield[6]	Meat (Kg)	Sale Price PKR per kg meat	Revenue (PKR)
Meat (B)	1,600	1.5	2,400	65%	1,560	1,538	1,291,290
Total Revenue (A+B)							**10,891,920**

It has been assumed that 80% of revenue is generated through sale of live chicken and 20% revenue comes from sale of meat. Further live chicken is sold from both farm and shop and meat is sold only from shop.

9.6 Variable Cost Estimate

Variable costs of the project have been provided in detail in Table 20.

Table 20: Variable Cost Estimate

Variable Cost	Total Cost (PKR)
Labour	1,680,000
Chicks	264,000
Feed Cost	2,213,880
Maintenance (Barada/Boora)	291,200
Utilities	357,007
Vaccination cost	163,183

[5] Average Weight of per chicken has been assumed to be 1.5Kg.

[6] Generally organic chicken yields less meat than that of broiler. Broiler chicken's meat yield ranges from 65% to 70% of its total weight, whereas organic chicken has 63% to 65% meat yield.

Vehicle Running & Maintainence cost	299,052
Communications expense (phone, mail, internet, etc.)	72,000
Office vehicles running expense	114,000
Office expenses (stationery, entertainment, etc.)	72,000
Total	**5,169,679**

Table 21: Cost of Chicks

No of Chicks	Cost per Chick[7]	Cost of Chicks (PKR)
8,000	33	264,000

In a controlled environment shed, normally there is no mortality of grown-up chicken unless there is an outbreak of disease. Therefore, mortality of grown-up's chickens has not been considered as a cost. For 1-week-old chicks, 10% mortality has been assumed.

Table 22: Feed Cost

Feed Consumption per Chicken (KG) (A)	Feed Cost/ KG[8] (B)	Feed Cost/ Chicken C=(A*B)	Cost of Procured Chicks (PKR) D	Feed Cost (PKR) (C*D)
5.83 (5,863/1000)	48	276.735	8,000	2,213,880

Table 23: Organic Feed Composition

Feed	Price per KG	Composition %	Cost (PKR)
Maize	30	15%	5
Rice (tota)	70	15%	11
Bajra	80	20%	16
Vegetable Leaves (Spinnach, Radish etc.)	10	30%	3
Wheat	40	15%	6
Sunflower (50 Gram)	150	5%	8
Weighted Average Feed Cost			**48**

[7] Cost of 1 week old chick has been calculated by adding 10% mortality rate i.e. (30x1.1)

[8] Feed Consumption and Cost of feed per chicken has calculated based on feed schedule as shown in Table 1 and Table 23.

Table 24: Farm Maintenance Cost

Particulars	No, Amount
Price Per Sack (40 KG)	700
Consumption/ shed per year @1 weekly	52
No. of Sheds	12
No of Months in Initial Year[9]	8
Total Cost	**291,200**

[9] In first year, 8 flocks are procured.

Table 25: Vaccination Cost

Vaccine	Route of Administration	Cost	Doses (Packing)	Dose per chick (ML)	Cost per chick (PKR)
IBD intermediate	DW	2,400	2,000	1.20	1.44
IB	ED or DW	200	10	0.01	0.20
IBD intermediate Plus	DW	200	10	0.01	0.20
ND Live	ED or DW	9,000	1,000	0.10	0.90
Hydro	S/C	2,500	2,000	0.13	0.16
Fowl pox	Wing web	5,000	1,000	0.01	0.05
ND+H9 & ND live	S/C or IM & DW	9,600	1,300	0.20	1.48
H5 Oil Base	S/C or IM	2,000	250	0.25	2.00
Chicken Infectious Anaemia	S/C or IM & DW	1,000	1,000	0.03	0.03
ND+IB+EDS Oil Base	S/C	500	2,010	0.26	0.06
ND+IB	DW	270	310	0.16	0.14
Cost per Chick					**6.65**
No of Chicks					8,000
Vaccines Cost					53,183
Veternary Fee (11 visits at 10,000 per visit)					110,000
Total Vaccination Cost					**163,183**

9.7 Fixed Cost Estimate

Details of fixed cost for the project are provided in Table 26.

Table 26: Fixed Cost Estimate

Fixed Cost	Amount (PKR)
Promotional expense	163,379
Administration expense	720,000
Land lease rental expense	1,200,000
Utilities	275,810
Depreciation expense	1,466,195
Amortization of pre-operating costs	31,254
Total	**3,856,638**

9.8 Human Resource Requirement

For the 1st year of operations, the Organic Chicken Farming and Shop shall require the workforce at a salary cost as projected in Table 27.

Table 27: Human Resource Requirement

Post	No. of Employees	Monthly Salary (PKR)	Monthly Salary (PKR)	Annual Salary (PKR)
Labor *	4	20,000	80,000	960,000
Office Boy	1	20,000	20,000	240,000
Sales Staff	2	20,000	40,000	480,000
Driver	1	20,000	20,000	240,000
Security	2	20,000	40,000	480,000
Total			**200,000**	**2,400,000**

*2 Labors works in each shift of 12 hours totaling 4 for 2 shifts.

10. CONTACT DETAILS

Contact details of suppliers of Machinery and Equipment are provided in Table 28.

Table 28: Contact Details of Suppliers

Service Provider Name	Address	Contact Number	City
Sb Hatchery	Al-Meraj Arcade, Bahawalpur Rd, Chauburji, Lahore, Punjab	042-372471703	Lahore
Black Hen Farming	112 Yousaf ali block, khayaban-e-Quaid, Multan Chungi, Lahore	0336-4184535	Lahore
M.A Chicks Farming	Talla Rd, Malkhakr, Lahore,	0300-8444807	Lahore
Appie Farms	Plot 52 D, Commercial Area A Phase 2 Defence Housing Authority, Karachi	021-111127734	Karachi
Asim Chicken Point	Pajaggi Rd, Bashirabad Peshawar, Khyber Pakhtunkhwa		Peshawar
Atif Electric Store	Nasir Bagh, Peshawar, Khyber Pakhtunkhwa	0321-9185256	Peshawar
Pakistan Khalid Majeed & Co	156-B/2, New Muslim Town, Lahore, Pakistan	042-37560784	Lahore
AR Organic Poultry Farm	orth Karachi Power House Chowrangi, Karachi	0331 5550261	Karachi
Halal Organic Meat Farm	Unnamed Road, Naval Land Landhi Town, Karachi	0334 6746328	Karachi
ICONS Organic Poultry Farm	Madina town, Tarnol Street no 3, Islamabad	0315 2323232	Islamabad
OrganicS Poultry Farm	Toghi Rd, Quetta, Quetta District, Balochistan	0312 7002211	Quetta

11. USEFUL LINKS

Table 29: Useful Links

Organization	Link
Small and Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
National Business Development Program (NBDP)	www.nbdp.org.pk
Government of Pakistan	www.pakistan.gov.pk
Ministry of Industries and Production	www.moip.gov.pk
Government of Punjab	www.punjab.gov.pk
Government of Sindh	https://sindh.gov.pk
Government of Balochistan	https://balochistan.gov.pk
Government of Khyber Pakhtunkhwa	http://kp.gov.pk
Government of Gilgit Baltistan	https://gilgitbaltistan.gov.pk
Government of Azad Jammu & Kashmir	https://ajk.gov.pk
Pakistan Agicultural Reasearch Council	http://www.parc.gov.pk
Security and Exchange Commission of Pakistan	www.secp.gov.pk
State Bank of Pakistan	www.sbp.gov.pk
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	www.fpcci.com.pk
Punjab Small Industries Corporation	www.psic.gop.pk
Pakistan Poultry Association	https://pakistanpoultry.org
Livestock & Dairy Development Research Government of Khyber Pakhtunkhwa	http://livestockres.kp.gov.pk
Livestock & Dairy Development Department, Punjab	https://livestock.punjab.gov.pk
Livestock and Dairy Development Department, Balochistan	http://balochistan.gov.pk/departments/livestock-and-dairy-development/
Livestock & Fisheries Department, Sindh	https://livestock.sindh.gov.pk

12. ANNEXURES

12.1 Income Statement

Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	10,891,920	17,693,924	19,162,520	20,753,009	22,475,509	24,340,976	26,361,277	28,549,263	30,918,852	33,485,116
Cost of sales										
Chicks	264,000	428,868	464,464	503,015	544,765	589,980	638,949	691,981	749,416	811,617
Feed Cost	2,213,880	3,596,448	3,894,953	4,218,234	4,568,348	4,947,521	5,358,165	5,802,893	6,284,533	6,806,149
Labor	1,680,000	1,802,640	1,934,233	2,075,432	2,226,938	2,389,505	2,563,939	2,751,106	2,951,937	3,167,428
Maintenance (Barada/Boora)	291,200	473,054	512,318	554,840	600,892	650,766	704,780	763,276	826,628	895,238
Shop Rent	360,000	389,880	422,240	457,286	495,241	536,346	580,862	629,074	681,287	737,834
Utilities	357,007	582,636	633,908	689,692	750,385	816,419	888,263	966,431	1,051,476	1,144,006
Vaccination cost	163,183	205,525	222,584	241,059	261,066	282,735	306,202	331,617	359,141	388,950
Fuel Cost	299,052	323,873	350,755	379,867	411,396	445,542	482,522	522,572	565,945	612,919
Total cost of sales	5,329,270	7,479,052	8,084,700	8,739,557	9,447,635	10,213,271	11,041,159	11,936,378	12,904,418	13,951,223
Gross Profit	5,562,650	10,214,872	11,077,820	12,013,452	13,027,874	14,127,705	15,320,117	16,612,885	18,014,434	19,533,894
General administration & selling expenses										
Administration expense	720,000	772,560	828,957	889,471	954,402	1,024,073	1,098,831	1,179,045	1,265,116	1,357,469
Land lease rental expense	1,200,000	1,320,000	1,452,000	1,597,200	1,756,920	1,932,612	2,125,873	2,338,460	2,572,306	2,829,537
Utilities	275,810	300,081	326,489	355,220	386,479	420,489	457,492	497,751	541,553	589,210
Communications expense (phone, fax, mail, interne	72,000	77,256	82,896	88,947	95,440	102,407	109,883	117,905	126,512	135,747
Office vehicles running expense	114,000	123,462	133,709	144,807	156,826	169,843	183,940	199,207	215,741	233,647
Office expenses (stationery, entertainment etc.)	72,000	77,256	82,896	88,947	95,440	102,407	109,883	117,905	126,512	135,747
Promotional expense	163,379	265,409	287,438	311,295	337,133	365,115	395,419	428,239	463,783	502,277
Depreciation expense	1,466,195	1,466,195	1,466,195	1,466,195	1,466,195	1,466,195	1,301,920	1,923,317	1,923,317	1,923,317
Amortization of pre-operating costs	31,254	31,254	31,254	31,254	31,254	-	-	-	-	-
Subtotal	4,114,638	4,433,473	4,691,833	4,973,336	5,280,089	5,583,141	5,783,241	6,801,828	7,234,839	7,706,951
Operating Income	1,448,012	5,781,399	6,385,987	7,040,116	7,747,785	8,544,564	9,536,876	9,811,057	10,779,595	11,826,943
Waste sale	37,800	61,406	66,503	72,023	78,000	84,474	91,486	99,079	107,303	116,209
Gain / (loss) on sale of machinery & equipment	-	-	-	-	-	-	64,500	-	-	
Gain / (loss) on sale of office equipment	-	-	-	-	-	-	169,000	-	-	
Gain / (loss) on sale of office vehicles	-	-	-	-	-	-	542,875	-	-	
Earnings Before Interest & Taxes	1,485,812	5,842,805	6,452,490	7,112,138	7,825,785	8,629,038	10,404,737	9,910,136	10,886,897	11,943,152
Subtotal	-	-	-	-	-	-	-	-	-	-
Earnings Before Tax	1,485,812	5,842,805	6,452,490	7,112,138	7,825,785	8,629,038	10,404,737	9,910,136	10,886,897	11,943,152
Tax	136,149	1,172,841	1,378,371	1,609,248	1,859,024	2,140,163	2,761,657	2,588,547	2,930,413	3,300,102
NET PROFIT/(LOSS) AFTER TAX	**1,349,663**	**4,669,964**	**5,074,119**	**5,502,891**	**5,966,761**	**6,488,875**	**7,643,080**	**7,321,589**	**7,956,484**	**8,643,049**

12.2 Balance Sheet

Balance Sheet

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
Current assets											
Cash & Bank	500,000	2,350,070	5,762,388	8,298,170	10,509,538	12,530,405	14,443,977	16,902,426	25,970,275	35,645,731	47,283,421
Accounts receivable		298,409	391,587	504,883	546,788	592,171	641,322	694,551	752,199	814,632	882,246
Raw material inventory (Feed)	184,490	324,579	380,696	446,514	523,711	614,255	720,453	845,011	991,104	1,162,455	-
Pre-paid annual land lease	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Total Current Assets	984,490	3,273,058	6,834,671	9,549,566	11,880,037	14,036,831	16,105,751	18,741,989	28,013,579	37,922,818	48,465,668
Fixed assets											
Building/Infrastructure	9,733,700	8,760,330	7,786,960	6,813,590	5,840,220	4,866,850	3,893,480	2,920,110	1,946,740	973,370	-
Machinery & equipment	258,000	219,300	180,600	141,900	103,200	64,500	25,800	442,167	375,842	309,517	243,192
Furniture & fixtures	180,000	153,000	126,000	99,000	72,000	45,000	18,000	308,488	262,215	215,942	169,669
Office vehicles	2,171,500	1,845,775	1,520,050	1,194,325	868,600	542,875	217,150	4,423,777	3,760,210	3,096,644	2,433,077
Office equipment	676,000	574,600	473,200	371,800	270,400	169,000	67,600	1,158,545	984,763	810,982	637,200
Total Fixed Assets	13,019,200	11,553,005	10,086,810	8,620,615	7,154,420	5,688,225	4,222,030	9,253,087	7,329,770	5,406,454	3,483,137
Intangible assets											
Pre-operation costs	156,271	125,016	93,762	62,508	31,254	-	-	-	-	-	-
Legal, licensing, & training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	156,271	125,016	93,762	62,508	31,254	-	-	-	-	-	-
TOTAL ASSETS	**14,159,961**	**14,951,079**	**17,015,243**	**18,232,689**	**19,065,711**	**19,725,056**	**20,327,781**	**27,995,076**	**35,343,349**	**43,329,272**	**51,948,805**
Liabilities & Shareholders' Equity											
Current liabilities											
Accounts payable		116,287	182,885	199,471	217,676	237,678	259,674	283,889	310,573	340,012	316,495
Total Current Liabilities	-	116,287	182,885	199,471	217,676	237,678	259,674	283,889	310,573	340,012	316,495
Other liabilities											
Total Long Term Liabilities	-	-	-	-	-	-	-	-	-	-	-
Shareholders' equity											
Paid-up capital	14,159,961	14,159,961	14,159,961	14,159,961	14,159,961	14,159,961	14,159,961	14,159,961	14,159,961	14,159,961	14,159,961
Retained earnings		674,831	2,672,398	3,873,258	4,688,074	5,327,418	5,908,147	13,551,227	20,872,816	28,829,300	37,472,349
Total Equity	14,159,961	14,834,792	16,832,358	18,033,219	18,848,035	19,487,378	20,068,107	27,711,187	35,032,776	42,989,260	51,632,309
TOTAL CAPITAL AND LIABII	**14,159,961**	**14,951,079**	**17,015,243**	**18,232,689**	**19,065,711**	**19,725,056**	**20,327,781**	**27,995,076**	**35,343,349**	**43,329,272**	**51,948,805**

12.3 Cash Flow Statement

Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Operating activities											
Net profit		1,349,663	4,669,964	5,074,119	5,502,891	5,966,761	6,488,875	7,643,080	7,321,589	7,956,484	8,643,049
Add: depreciation expense		1,466,195	1,466,195	1,466,195	1,466,195	1,466,195	1,466,195	1,301,920	1,923,317	1,923,317	1,923,317
amortization of pre-operating costs		31,254	31,254	31,254	31,254	31,254	-	-	-	-	-
Accounts receivable		(298,409)	(93,178)	(113,296)	(41,905)	(45,383)	(49,150)	(53,230)	(57,648)	(62,433)	(67,614)
Raw material inventory	(184,490)	(140,089)	(56,116)	(65,818)	(77,197)	(90,544)	(106,198)	(124,558)	(146,093)	(171,351)	1,162,455
Accounts payable		116,287	66,597	16,586	18,206	20,002	21,996	24,214	26,684	29,439	(23,516)
Other liabilities		-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(184,490)	2,524,901	6,084,716	6,409,040	6,899,443	7,348,285	7,821,719	8,791,426	9,067,849	9,675,456	11,637,690
Financing activities											
Add: land lease expense		1,200,000	1,320,000	1,452,000	1,597,200	1,756,920	1,932,612	2,125,873	2,338,460	2,572,306	2,829,537
Land lease payment	(300,000)	(1,200,000)	(1,320,000)	(1,452,000)	(1,597,200)	(1,756,920)	(1,932,612)	(2,125,873)	(2,338,460)	(2,572,306)	(2,829,537)
Issuance of shares	14,159,961	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares											
Cash provided by / (used for) financ	13,859,961	-	-	-	-	-	-	-	-	-	-
Investing activities											
Capital expenditure	(13,175,471)	-	-	-	-	-	-	(6,332,977)	-	-	-
Acquisitions											
Cash (used for) / provided by investi	(13,175,471)	-	-	-	-	-	-	(6,332,977)	-	-	-
NET CASH	500,000	2,524,901	6,084,716	6,409,040	6,899,443	7,348,285	7,821,719	2,458,449	9,067,849	9,675,456	11,637,690

13. KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Table 30: Operating Cost Assumptions

Description	Details
Building rent growth rate	10%
Furniture and fixture depreciation	15%
Vehicle depreciation	15%
Office equipment depreciation	15%
Inflation rate	8.3%
Wage growth rate	7.3%
Electricity price growth rate	8.8%
Office equipment price growth rate	8.0%
Office vehicle price growth rate	10.7%

13.2 Revenue Assumptions

Table 31: Revenue Assumptions

Description	Details
Sale price growth rate	8.3%
Initial capacity utilization	66.7%
Capacity growth rate	33.3%
Maximum capacity utilization	100%

13.3 Debt Related Assumptions

Table 32: Debt Related Assumptions

Description of Cost	Details
Project Life (Years)	10
Debt: Equity	50:50
Discount Rate	13%

13.4 Financial Assumptions

Table 33: Financial Assumptions

Description	Details
Project life (Years)	10
Debt: Equity	0:100
Discount Rate used for NPV	15%

13.5 Cash Flow Assumptions

Table 34: Cash Flow Assumptions

Description	Details
Accounts receivable cycle (in days)	10
Accounts payable cycle (in days)	15