



Pre-feasibility Study

GOAT FATTENING FARM

September 2023

The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, and revenues can change daily. For accurate financial calculations, utilize financial calculators on SMEDA's website and consult financial experts to stay current with market conditions

Small and Medium Enterprises Development Authority
Ministry of Industries and Production
Government of Pakistan

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1 DISCLAIMER

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2 EXECUTIVE SUMMARY

In goat fattening farm, goats preferably males from a specific breed such as Beetal, Teddy or Nachi are raised on nutritionally balanced Total Mixed Ration (TMR) to get targeted weight gain in a specified time. These goats are fattened in groups and each batch stays on farm for a period of 87-90 days. There would be four batches in a year in which goats preferably males would be raised with daily live body weight gain of 225 grams/ day. One batch may be considered for sacrificial purpose for Eid-Ul-Azha. Higher weight gains may be achieved with better farm management and through selection of breed and nutritionally balanced feeds. The project is proposed to be located in peri urban areas around metropolitan cities like Lahore, Multan, Bahawalpur, Faisalabad, Rawalpindi, Karachi, Hyderabad, Quetta, Ziarat, Peshawar, D.I. Khan etc. which are major markets of meat. The rural and peri-urban areas around the major cities with abundant water and availability of fodder make a better choice for farming; provided access to livestock mandies and veterinary services is ensured. Goats are sold in urban markets normally in livestock markets (Mandies) or the whole batch may be sold to interested parties.

A farm of 800 goats per annum is suggested in this pre-feasibility study. Farm will start its production at 100% capacity from the very first year of production. An estimated investment of Rs. 13.42 million is required, out of which capital investment is Rs. 7.80 million and working capital is Rs. 5.62 million. The Internal Rate of Return (IRR), Net Present Value (NPV) & payback period of the project are 37%, Rs. 3.08 million and 3.13 years respectively. The farm will provide employment opportunity to 3 individuals initially in year 1. The project is proposed to operate as a sole-proprietorship.

The most critical considerations or factors for success of the project are background knowledge and related experience for the application of good husbandry practices such as timely feeding, watering and vaccination so as to ensure animal's health and disease-free environment. Awareness about the supply and demand of goats in the market both for meat purpose and sacrificial purpose with efficient marketing of the project and bulk supply to wholesalers would be a milestone for achievements in the proposed business.

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.

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 facilitate potential investors in **Goat Fattening Farm** by providing them with a general understanding of the business with the intention of supporting potential investors in crucial 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 it's successful management.

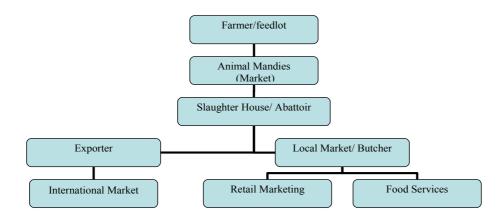
Apart from carefully studying the whole document one must consider critical aspects provided later on, which form basis of any Investment Decision.



5 BRIEF DESCRIPTION OF PROJECT & PRODUCT

Goat fattening venture suggested in this study is based on raising 800 goats per year at the farm premises with 1% mortality. The goats, preferably males, between 6-7 months of age, are fed on nutritionally balanced Total Mixed Ration (TMR) as major source of energy and protein for a period of maximum 90 days to get higher body weight gain. Live weight of these goats is around 20 kgs. If these goats are fed properly on formulated fattening feed, an additional weight up to 20 kg can be achieved. The daily weight gain varies between 225-230 grams depending on the quality of feed given to them. The project is supposed to provide employment to 3 persons.

The subject business can be set-up at any appropriate location with easy availability of feed, water and other related services. There is a year-round market, however, the demand increases before occasions like Eid-ul-Fitr and Eid-ul-Azha. On these occasions, well-fed animals are sold at a premium price higher than usual weight based price. The proposed legal structure of the business entity is sole proprietorship.



5.1 Goat Fattening Process

i. Selection of animals based on breed and age: It is recommended that goats (preferably male) of local goat breeds such as Beetal, Barbari, Chapper or Teddy may be selected, however, goats of Beetal and Teddy breeds may also be considered for fattening purpose (Please see annexure for breed characteristics).



- ii. For sacrificial purpose, the Beetal goats are preferred. The dressing percentage is usually 55-60%. After fattening, the fat to muscle composition is also acceptable.
- iii. For general batches, the carcass weight is desirable by meat traders and exporters.
- iv. Selection of animals with excellent body score and health conditions: initial live body weight should be around 20 kgs at 7-8 months of age. Little emaciated animals may also be accepted for fattening as research shows that these animals respond efficiently in terms of feed efficiency.
- v. Housing: Efficient housing leads to good management practices and ultimately optimum production. Generally, housing should be:
 - Less expensive
 - Well ventilated, comfortable and dry with hygienic environment
 - Easy drainage and removal of dung urine and waste material
 - Protective from extreme environmental conditions
 - Maximum sun exposure: axis of length to be east to west
 - Availability of feed and water for 24 hours
 - Planed so that future expansion may be possible when required
- vi. Feeding: Adequate weight gain through the use of TMR. Animal should be fed TMR @ 2.5 % of live body weight. Additionally, urea molasses blocks and salt blocks can help in better daily weight gains. The agriculture wastes such as citrus pulp, sugar beet pulp, postharvest waste of fruits and vegetables may be freely offered additionally in the days of abundant supplies. However, only TMR is also enough to fulfil the physiological and production requirements of the animal to get desirable body weight gains.
- vii. Watering: Daily supply of clean drinking water in clean troughs i.e. 5 to 8 liters of water consumption / animal / day maintains the production capacity of the animal. Due to TMR and salt, goats tend to consume more water.
- viii. Disease management: De-worming for endo-parasitic infestations is necessary in each batch shortly after arrival at farm. Timely vaccination against infectious diseases should be done as a prophylactic measure. At a well- managed farm, mortality should not exceed 3 % per annum in the fattened animals (for more details on some common diseases, please see annexure). Following is a tentative vaccination schedule;



Pleuropneumonia

4 months

Quantity/ Time for **Duration of Disease** Vaccine Vaccination Dose **Immunity** Foot and Mouth **FMD Vaccine** 5 ml 4 months March-April Disease (FMD) Contagious Pustular CPD vaccine 2-5 ml 4 months April-October Dermatitis (CPD) Anthrax spore Anthrax 0.5 ml March-April One year vaccine Anti-rabies As per Rabies 10 ml One year vaccine requirement Goat pox March-Goat Pox 1 ml 4 month September vaccine Enterotoxaemia Enterotoxaemia 2-3 ml January- July Six months

Table 1: Tentative Vaccination Schedule

(VRI: Veterinary Research Institute, Lahore)

vaccine

vaccine

Pleuropneumonia

ix. Record keeping for each batch: The animals should be ear-tagged on arrival at the farm. The information to be recorded includes breed of animal, initial live weight of animal, age of animals, date of purchase etc. The records for regular weight gain, medication and de-worming etc. are also important.

1 ml

October-

November

- x. Culling: Mortality loss would already serve as culling of sick and uneconomical animal.
- xi. Regular technical assistance from the livestock professionals and experts.

5.2 Installed and Operational Capacities

In this pre-feasibility study, 800 young goats of 7-8 months of age are raised per annum in 4 production batches; each having 200 goats, raised for 87-90 days on 'TMR Feed Lot Fattening' system. The mortality is assumed to be 3% per annum. The project will operate at 100% of its installed capacity from the very first year of operations.



6 CRITICAL FACTORS

The most critical considerations or factors for success of the project are:

- Background knowledge and related experience of the entrepreneur in goat fattening farm operations.
- Application of good husbandry practices such as timely feeding, watering and vaccination to ensure animal's health and disease-free environment.
- Awareness about the supply and demand of goats in the market both for meat purpose and sacrificial purpose.
- Efficient marketing of the project and bulk supply to wholesalers.

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

Metropolitan cities like Lahore, Multan, Bahawalpur, Faisalabad, Rawalpindi, Karachi, Hyderabad, Quetta, Ziarat, Peshawar, D.I. Khan etc. are major markets of meat. The rural and peri-urban areas around the major cities with abundant water and availability of fodder make a better choice for farming; provided access to livestock mandies and veterinary services is ensured.

8 POTENTIAL TARGET CUSTOMERS / MARKETS

Apart from Sialkot, Jhang, Rahim Yar Khan, Bahawalnagar, Bahawalpur, Sahiwal in the Punjab, livestock markets in peri-urban locations of all cities of other provinces such as Karachi, Hyderabad, Nawabshah, Larkana, Dadu, Qila saifullah, Panjgur, Pishin, Quetta, Bannu, Laki Marwat, Kohat, Peshawar are primary markets, in addition to specially arranged locations for larger cities during Eid festival in the urban markets. Normally animals are sold on 'Live Body Weight' basis; the price of fattened goats varies according to animals' health and market conditions. Following are some of the target clients for farmers;

- Livestock traders
- Contractors
- Slaughterhouse owners
- Butchers



9 PROJECT COST SUMMARY

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

The projected Income Statement, Cash Flow Statement and Balance Sheet are also attached as annexure.

9.1 Project Economics

The financial model for this pre-feasibility study indicates estimated revenue of Rs. 29.17 Million in year one. The capacity utilization during year one is 100 % and it remains the same till 10th year of project.

In order to financially appraise the project, a 100% Equity Based Business Model has been assumed. The following tables show Internal Rate of Return, Payback Period Net Present Value and Breakeven of the proposed venture:

Table2: Project Economics (Equity Financed)

| Description | Details |
|---|---------|
| Internal Rate of Return (IRR) | 37% |
| Payback Period (yrs.) | 3.08 |
| Net Present Value (Million Rs.) @discounted rate of 29% | 3,13 |

Calculation of break-even analysis is as follows:

Table 3: Breakeven (100% Equity Based)

| GOAT FATTENING FARM | | | | | | | | | | |
|--------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| BREAKEVEN ANALYSIS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
| Break Even Point (Sales) | 10,275,929 | 11,249,534 | 12,320,853 | 14,089,169 | 14,797,341 | 16,068,025 | 17,635,787 | 19,360,409 | 21,257,723 | 23,344,261 |
| Break Even Point (Unit) | 273 | 272 | 270 | 281 | 268 | 265 | 264 | 264 | 263 | 263 |
| Margin of Safety | 64.8% | 64.9% | 65.1% | 63.0% | 65.4% | 65.8% | 65.9% | 65.9% | 66.0% | 66.1% |

However, for the purposes of further explanation, the Project Economics based on Debt: Equity (i.e. 50:50) Model has also been computed. On the basis of Debt: Equity model, the Internal Rate of Return, Payback Period and Net Present Value of the proposed project are provided.



Table 4: Project Economics Based on Debt (50%) : Equity (50%)

| Description | Details |
|--|---------|
| Internal Rate of Return (IRR) | 38% |
| Payback Period (Yrs.) | 2.86 |
| Net Present Value (Million Rs.)@discounted rate of 29% | 3,92 |

The financial assumptions for Debt: Equity are as follows:

Table 5: Financial Assumptions for Debt: Equity Model

| Description | Details |
|-----------------------|---------|
| Debt | 50% |
| Equity | 50% |
| Interest Rate on Debt | 28% |
| Debt Tenure | 5 Years |
| Debt Payment / Year | Quarter |

The projected Income Statement, Cash Flow Statement and Balance Sheet enclosed as annexures are based on 100% Equity Based Business Model.



9.2 Project Cost

Following fixed and working capital requirements have been identified for operations of the proposed business.

Table6: Project Cost

| Description | Cost (Rs.) |
|-----------------------------|------------|
| Capital Cost | |
| Land | 1,040,000 |
| Building and infrastructure | 5,660,000 |
| Machinery and equipment | 604,000 |
| Furniture & Fixture | 128,300 |
| Office Vehicles | 120,750 |
| Pre-operating Cost | 250,000 |
| Total Capital Cost | 7,803,050 |
| Raw Material Inventory | 1,132,690 |
| Goats (One Batch) | 3,600,000 |
| Cash | 889,008 |
| Total Working Capital | 5,621,698 |
| Total Project Cost | 13,424,748 |

9.3 Space Requirement

The infrastructural requirements of the project mainly comprise of the construction of sheds, open space, dipping bath, feed store and other facilities. The farm building is purposefully constructed in conventional manner. Details of space requirement and cost of construction of building and infrastructure for the proposed farm is provided in the table below:

Table7: Space Requirment

| Description | Estimated Area (Sq.ft.) | Unit Cost (Rs.) | Total Cost (Rs.) |
|------------------|-------------------------|--------------------|---------------------|
| Shed for animals | 4,000 | 1,000 | 4,000,000 |
| Store | 300 | 2,000 | 600,000 |



| Dipping bath | 100 | 1,000 | 100,000 |
|------------------------|--------|-------|-----------|
| Open paddock (Grounds) | 8,000 | 100 | 800,000 |
| Wash room | 80 | 2,000 | 160,000 |
| Total | 12,480 | | 5,660,000 |

Approximately, 3 kanal of land would be required for setting up the proposed farm. As this business is land intensive, therefore, it is suggested to purchase the required land instead of rental or leased land Though, in order to avoid the initial high capital costs, the long-term lease contract for land acquisition may also be considered. The entrepreneur may be more risk free on purchased land because of making heavy investment on shed and boundary wall as well as future business expansion. The total cost for acquiring land is based on Rs. 3 Million per acre, hence assumed at Rs. 1.04 million.

The entrepreneur should make sure that the electricity connection and clean water supply are available at the farm site before setting up the farm:

9.4 Machinery & Equipment Requirements

Following farm machinery and equipment are needed to run the daily farm operation;

Table8: Machinery & Equipment

| Description | Quantity (No.) | Unit Cost (Rs.) | Total Cost (Rs.) |
|--|-------------------|--------------------|---------------------|
| Water Pump (3HP) & Tank (incl. boring) | 1 | 150,000 | 150,000 |
| Feeding Mangers (50ft*3ft*500 /sq.ft) | 2 | 75,000 | 150,000 |
| Water Trough(20ft*3ft*500/ sq.ft) | 2 | 30,000 | 60,000 |
| Hand Cart | 4 | 10,000 | 40,000 |
| Movable Weighing Scale (3*3 platform, 150kgs capacity) | 1 | 150,000 | 150,000 |
| Lights (shed) | 40 | 500 | 20,000 |
| Lights (open paddock) | 8 | 500 | 4,000 |
| Misc. farm equipment | 1 | 30,000 | 30,000 |
| Total | | | 604,000 |



9.5 Office Vehicle Requirements

Following is the detail of required office vehicles needed for the goat-fattening farm.

Table 9: Office Vehicle

| Description | No. | Cost (Rs.) |
|--|-----|------------|
| Motor Bike CD-70 (Road Prince) | 1 | 115,000 |
| Registration fee (5.0 % of office vehicles cost) | | 5,750 |
| Total | | 120,750 |

It is assumed that monthly vehicle running expense is Rs. 15,000.

9.6 Furniture & Fixtures Requirements

Details of the furniture and fixture required for the project are given below;

Table 10: Furniture & Fixture

| Description | Quantity (No.) | Unit Cost (Rs.) | Total Cost (Rs.) |
|----------------------------|-------------------|--------------------|---------------------|
| Chairs | 5 | 3,000 | 15,000 |
| Lights | 7-8 | 500 | 3,800 |
| Exhaust Fan | 4 | 5,000 | 20,000 |
| Ceiling Fan | 1 | 9,500 | 9,500 |
| Sanitary Fittings | 2 | 15,000 | 30,000 |
| Electric Wiring & Lighting | 1 | 50,000 | 50,000 |
| Total | | | 128,300 |

9.7 Human Resource Requirements

In order to run operations of goat fattening farm smoothly, details of human resources required along with number of employees and monthly salary are recommended as under;

Table 11: Human Resource Requirment

| Description | Employees (No.) | Monthly Salary (Rs.) |
|------------------------|-----------------|----------------------|
| Farm Owner/ Supervisor | 1 | 100,000 |
| Farm labor | 1 | 35,000 |
| Guard/ Labour | 1 | 35,000 |
| Total | 3 | 170,000 |



9.8 Procurement of Goats (1st Batch)

Details of purchase costs of goats are given below;

Table12: Costs of Goats (One Herd)

| Description | Live Weight (Kgs) | Purchase Price per kg (Rs.) | Herd Size (No. of Animals) | Total Cost (Rs.) |
|-------------|-------------------|-----------------------------|----------------------------|------------------|
| Goats | 20 | 900 | 200 | 3,600,000 |

9.9 Transportation Cost

It is assumed in this pre-feasibility study that goats of each herd will be transported from mandies to farm however, at the time of sale, the pick up of herd would be buyer's responsibility.

Table 13: Transportation Cost

| Description | Cost / Herd | Total Herds | Total Cost (Rs.) |
|--|-------------|----------------|------------------|
| Transportation of Goats (Entry: Mandies to Farm) | 80,000 | 4 | 320,000 |

9.10 Raw Material Requirement

The feeding requirements for the proposed goat-fattening farm are the most important part of the said farming operations. The feeding is totally on TMR based with 14-16% good quality Crude Protein content essential for getting the desirable daily weight gain of 0.225 kg as well as muscles development, hence resulting in 60% of carcass dressing percentage after slaughtering. The estimated costs considering that mortality rate is 3% are given below;

Table 14: Feed Requirements of Goats in Project Year 1 & 2

| Assumptions | | Details |
|--|-----------|-----------|
| Initial Live Body Weight (Kgs/ goat) | | 20 |
| Live Body Weight Gain (Kgs/ day) | | 0.225 |
| Feeding Duration (days/ goat) | | 87 |
| Daily Requirement of TMR (% of Live body wt./ goat) | | 2.5% |
| Price of Commercial TMR 14-16% Crude Protein (Rs./Kg) | | 80 |
| Description | Year 1 | Year 2 |
| Cost of TMR Feed/ Goat (Kgs) | 5,163 | 5,680 |
| Growth Rate in TMR price (%/ year) | 10% | 10% |
| Total Cost of TMR used on Farm (Rs./year) | 4,130,760 | 4,543,836 |



The cost of vaccination and medication is assumed to be Rs. 500 per goat in year 1.

9.11 Utilities and other costs

An essential cost to be borne by the project is the cost of electricity. The direct electricity expenses on farm are estimated to be Rs. 2,000 per month or Rs. 24,000 per year.

The communication expense is estimated as Rs.5000 per month whereas office vehicle monthly running expense is Rs, 15,000. For the miscellaneous farm expenses related to stationery, entertainment and janitorial services etc., Rs. 5,000 per month is estimated.

9.12 Revenue Generation

Based on the capacity utilization of 100% for fattened goats, sales revenue during the first year of operations is estimated as under;

Table 15: Revenue Generation - Year 1

| Description | Goats fattened (No.) | Mortality Loss @ 3% (No.) | Goats available for Sale (No.) | Sale Price / unit (Rs.) | Sales Revenue (Rs.) |
|---------------------------------|----------------------------|---------------------------------|---|----------------------------------|---------------------------|
| Sale of goats- Regular Batch | 800 | 24 | 776 | 37,596 | 29,174,690 |

^{*} Total 800 goats divided in four batches, each having 200 in first year of production with mortality loss @ 3%per annum. Figures have been rounded off to the nearest decimal place.



10 CONTACT DETAILS

In order to facilitate potential investors, contact details of private sector Service Providers relevant to the proposed project be given.

Raw Material/ Feed Suppliers

Hi-Tech Feeds (Pvt.) Ltd.

1-A, Shadman Chowk Jail Road, Lahore. Ph: 042-37564503

ICI Pakistan Cattle Feed

63-Mozang Road Lahore, Ph: 042-36370042

National Feeds Ltd.

171 Shadman - II Lahore. Ph: 042 37551405-8

Big Feed (PVT) Ltd.

2-A, Ahmad Block, New Garden Town, Lahore. Ph: 042-35835374-35835373

Meat Contractors/ Processors

Secretary General, All Pakistan Meat Exporters and Processors Association (APMEPA), 177-B Johar Town Lahore, Pakistan. Ph: o42-35169450-51

Fax:042-35169449, Email: info@apmepa.com

Chairman, Red Cow Meat Products of Pakistan, 125/13-B-1,

Township, Lahore. Ph: 042-35112603

Punjab Agriculture and Meat Company (PAMCO)/ Lahore Meat Complex, 18-Km, Multan Road,

Lahore. Ph: 042-35971430 - 33

Livestock Mandies

The animals may be procured from local goat breeders and livestock mandies scheduled in different districts e.g., Pattoki, Okara, Bahawalnagar, Lodhran, Vehari, Khanewal, Arifwala, Pakpattan etc. as per scheduled by Livestock and Dairy Development Department, Govt. of The Punjab Lahore. Landline: 0800-78685, 0800-78686.

Technical Experts/ Consultatnts

Livestock and Dairy Development Department (L&DD), Govt. of Punjab, 16-Cooper Road, Lahore. Toll free No: 0800-78685, 0800-78686.

Director, Directorate of Small Ruminants, L&DD, Multan. Ph: 061-9210417



11 USEFUL WEB LINKS

Links of Federal & Provincial Government, Semi Government and other (sector & Cluster based) Development organizations are given under to get benefit from the services offered.

| Const. 9. Madisum Funtamentana Davialan manut Assthanits | |
|--|------------------------------|
| Small & Medium Enterprises Development Authority (SMEDA) | www.smeda.org.pk |
| Government of Pakistan | www.pakistan.gov.pk |
| Ministry of Industries & Production | www.moip.gov.pk |
| Ministry of National Food Security & Research | www.mnfsr.gov.pk |
| Government of Punjab | www.punjab.gov.pk |
| Government of Sindh | www.sindh.gov.pk |
| Government of Khyber Pakhtunkhwa | www.khyberpakhtunkhwa.gov.pk |
| Government of Balochistan | www.balochistan.gov.pk |
| Government of Gilgit Baltistan | www.gilgitbaltistan.gov.pk |
| Government of Azad Jamu Kashmir | www.ajk.gov.pk |
| Trade Development Authority of Pakistan (TDAP) | www.tdap.gov.pk |
| Security Commission of Pakistan (SECP) | www.secp.gov.pk |
| State Bank of Pakistan (SBP) | www.sbp.org.pk |
| Technical Education and Vocational Training Authority (TEVTA) | www.tevta.org |
| Livestock & Dairy Development Department, Government of Punjab. | www.livestockpunjab.gov.pk |
| Punjab Board of Investment & Trade (PBIT) | www.pbit.gop.pk |
| All Pakistan Meat Exporters and Processors Association, Lahore, | www.apmepa.com |
| Punjab Agriculture and Meat Company (PAMCO) | www.pamco.bz |
| Pakistan Agricultural Research Council (PARC) | www.parc.gov.pk |
| University of Agriculture, Faisalabad, | www.uaf.edu.pk |
| Lasbela University of Agriculture, Water & Marine Sciences, Lasbela | www.luawms.edu.pk |
| Sindh Agriculture University, Tondojam | www.sau.edu.pk |
| Gomal College of Veterinary Sciences, Dera Ismail Khan | www.gu.edu.pk |
| KPK Agricultural University, Peshawar | www.aup.edu.pk |
| Pir Mehr Ali Shah Arid Agricultural University, Rawalpindi | www.uaar.edu.pk |
| University College of Veterinary & Animal Sciences, Islamia University Bahawalpur (IUB), | www.iub.edu.pk |
| University of Veterinary & Animal Sciences (UVAS), Lahore | www.uvas.edu.pk |
| Bahauddin Zakariya University (BZU), Multan | www.bzu.edu.pk |
| Veterinary Research Institute (VRI), Punjab | |
| Livestock & Fisheries Department, Government of Sindh | www.sindh.gov.pk |
| Agriculture & Livestock Department, Government of KPK | www.khyberpakhtunkhwa.gov.pk |
| Livestock & Dairy Development, Government of Balochistan | www.balochistan.gov.pk |



12 ANNEXURES

12.1 Income Statement

| Statement Summaries Income Statement | | | | | | | | | | SMEDA |
|---|------------|------------|------------|------------|------------|--------------|------------|-------------|------------|----------------|
| | | | | | | | | | | Rs. in actuals |
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
| P | 29,174,690 | 32,092,159 | 35,301,375 | 38,030,863 | 42,714,664 | 46,986,130 | 51,684,743 | 56,853,217 | 62,538,539 | 68,792,393 |
| Revenue Cost of Goods Sold | 29,174,090 | 32,092,139 | 33,301,373 | 36,030,603 | 42,/14,004 | 40,980,130 | 31,084,743 | 30,633,217 | 02,330,339 | 08,792,393 |
| COGS (Feed) | 4,130,760 | 4,543,836 | 4,998,220 | 5,498,042 | 6,047,846 | 6,652,630 | 7,317,893 | 8,049,683 | 8,854,651 | 9,740,11 |
| Cost of Calves | 14,400,000 | 15,840,000 | 17,424,000 | 19,166,400 | 21,083,040 | 23,191,344 | 25,510,478 | 28,061,526 | | 33,954,44 |
| | , , | . , , | | | , , | | | | 30,867,679 | |
| Direct Labor | 2,880,000 | 3,168,000 | 3,484,800 | 3,833,280 | 4,216,608 | 4,638,269 | 5,102,096 | 5,612,305 | 6,173,536 | 6,790,88 |
| Direct Electricity | 197,034 | 216,737 | 238,411 | 262,252 | 288,477 | 317,325 | 349,058 | 383,963 | 422,360 | 464,59 |
| Total Cost of Sales | 22,327,794 | 24,560,573 | 27,016,631 | 29,718,694 | 32,690,883 | 35,959,731 | 39,556,024 | 43,511,867 | 47,863,374 | 52,649,39 |
| Gross Profit | 6,846,896 | 7,531,586 | 8,284,744 | 8,312,169 | 10,023,781 | 11,026,399 | 12,128,719 | 13,341,350 | 14,675,165 | 16,143,002 |
| General administration & selling expenses | | | | | | | | | | |
| Utilities expense | 24,000 | 26,400 | 29,040 | 31,944 | 35,138 | 38,652 | 42,517 | 46,769 | 51,446 | 56,59 |
| Travelling & Comm. expense (phone, fax, etc.) | 60,000 | 66,000 | 72,600 | 79,860 | 87,846 | 96,631 | 106,294 | 116,923 | 128,615 | 141,47 |
| | , | , | , | | | | | | , | |
| Office vehicles running expense | 15,000 | 16,500 | 18,150 | 19,965 | 21,962 | 15,000 | 16,500 | 18,150 | 19,965 | 21,96 |
| Office expenses (stationary, etc.) | 60,000 | 66,000 | 72,600 | 79,860 | 87,846 | 96,631 | 106,294 | 116,923 | 128,615 | 141,47 |
| Depreciation expense | 368,305 | 368,305 | 368,305 | 368,305 | 368,305 | 387,752 | 387,752 | 387,752 | 387,752 | 387,75 |
| Amortization expense | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | - | - | - | - | - |
| Subtotal | 577,305 | 593,205 | 610,695 | 629,934 | 651,097 | 634,665 | 659,357 | 686,517 | 716,394 | 749,25 |
| Operating Income | 6,269,591 | 6,938,381 | 7,674,049 | 7,682,235 | 9,372,684 | 10,391,733 | 11,469,362 | 12,654,833 | 13,958,772 | 15,393,74 |
| | | | | | | | | | | |
| Other income | - | - | - | - | - | - | - | - | - | - |
| Gain / (loss) on sale of assets | - | - | - | - | 48,300 | - | - | - | - | - |
| Earnings Before Interest & Taxes | 6,269,591 | 6,938,381 | 7,674,049 | 7,682,235 | 9,420,984 | 10,391,733 | 11,469,362 | 12,654,833 | 13,958,772 | 15,393,74 |
| Interest expense | | | | | | | | | | |
| Earnings Before Tax | 6,269,591 | 6,938,381 | 7,674,049 | 7,682,235 | 9,420,984 | 10,391,733 | 11,469,362 | 12,654,833 | 13,958,772 | 15,393,744 |
| | 0,207,077 | 0,00,001 | 1,011,015 | 1,002,000 | 3,120,501 | 10,000,1,100 | 11,100,000 | 12,00 1,000 | 10,700,112 | 10,000,11 |
| Tax | 1,559,356 | 1,793,433 | 2,050,917 | 2,053,782 | 2,662,344 | 3,002,106 | 3,379,276 | 3,794,191 | 4,250,569 | 4,752,81 |
| NET PROFIT/(LOSS) AFTER TAX | 4,710,235 | 5,144,948 | 5,623,133 | 5,628,453 | 6,758,640 | 7,389,627 | 8,090,086 | 8,860,642 | 9,708,202 | 10,640,934 |
| | | | | | | | | | | |
| Balance brought forward | | 4,710,235 | 9,855,183 | 15,478,316 | 21,106,769 | 27,865,409 | 35,255,037 | 43,345,123 | 52,205,765 | 61,913,96 |
| Total profit available for appropriation | 4,710,235 | 9,855,183 | 15,478,316 | 21,106,769 | 27,865,409 | 35,255,037 | 43,345,123 | 52,205,765 | 61,913,967 | 72,554,90 |
| Dividend | - | - | - | - | - | - | - | - | - | - |
| Balance carried forward | 4,710,235 | 9,855,183 | 15,478,316 | 21,106,769 | 27,865,409 | 35,255,037 | 43,345,123 | 52,205,765 | 61,913,967 | 72,554,90 |
| | | | | | | | | | | |
| | | | | | | | | | | |

12.2 Balance Sheet

| Statement Summaries Balance Sheet | | | | | | | | | | | SMEDA |
|------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------------------|
| | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Rs. in actual Year 1 |
| | | | | | | | | | | | |
| Assets | | | | | | | | | | | |
| Current assets | | | | | | | | | | | |
| Cash & Bank | 889,008 | 5,023,683 | 9,384,360 | 13,970,547 | 18,256,468 | 23,108,545 | 28,307,902 | 33,666,359 | 39,140,247 | 44,669,409 | 82,012,41 |
| Accounts receivable | - | - | - | - | - | - | - | - | - | - | - |
| Finished goods inventory | - | - | - | - | - | - | - | - | - | - | - |
| Equipment spare part inventory | - | - | - | - | - | - | - | - | - | - | - |
| Raw material inventory | 4,732,690 | 5,726,555 | 6,929,131 | 8,384,382 | 10,145,220 | 12,275,619 | 14,853,641 | 17,973,022 | 21,747,528 | 26,314,321 | - |
| Pre-paid annual land lease | - | - | - | - | - | - | - | - | - | - | - |
| Pre-paid building rent | _ | - | | _ | - | | _ | _ | _ | _ | - |
| Pre-paid lease interest | - | - | _ | _ | - | _ | - | _ | _ | - | - |
| Pre-paid insurance | - | _ | - | | _ | _ | _ | - | | - | |
| Total Current Assets | 5,621,698 | 10,750,238 | 16,313,492 | 22,354,929 | 28,401,688 | 35,384,164 | 43,161,543 | 51,639,381 | 60,887,775 | 70,983,729 | 82,012,4 |
| rom curent roots | 3,021,070 | 10,750,250 | 10,515,152 | 22,551,525 | 20,101,000 | 22,201,101 | 10,101,010 | 21,000,001 | 00,007,772 | 10,505,125 | 02,012,1 |
| Fixed assets | | | | | | | | | | | |
| Land | 1,040,000 | 1,040,000 | 1,040,000 | 1,040,000 | 1,040,000 | 1,040,000 | 1,040,000 | 1,040,000 | 1,040,000 | 1,040,000 | 1,040,0 |
| Building/Infrastructure | 5,660,000 | 5,377,000 | 5,094,000 | 4,811,000 | 4,528,000 | 4,245,000 | 3,962,000 | 3,679,000 | 3,396,000 | 3,113,000 | 2,830,0 |
| - | 604,000 | 543,600 | 483,200 | 422,800 | 362,400 | 302,000 | 241,600 | 181,200 | 120,800 | 60,400 | 2,030,1 |
| Machinery & equipment | | | | | | | | | | | |
| Furniture & fixtures | 128,300 | 115,470 | 102,640 | 89,810 | 76,980 | 64,150 | 51,320 | 38,490 | 25,660 | 12,830 | 07.0 |
| Office vehicles | 120,750 | 108,675 | 96,600 | 84,525 | 72,450 | 254,844 | 223,322 | 191,800 | 160,278 | 128,756 | 97,2 |
| Office equipment | - | | - | | - | | | | | | |
| Total Fixed Assets | 7,553,050 | 7,184,745 | 6,816,440 | 6,448,135 | 6,079,830 | 5,905,994 | 5,518,242 | 5,130,490 | 4,742,738 | 4,354,986 | 3,967,2 |
| | | | | | | | | | | | |
| Intangible assets | | | | | | | | | | | |
| Pre-operation costs | 250,000 | 200,000 | 150,000 | 100,000 | 50,000 | - | - | - | - | - | - |
| Total Intangible Assets | 250,000 | 200,000 | 150,000 | 100,000 | 50,000 | - | - | - | - | - | |
| TOTAL ASSETS | 13,424,748 | 18,134,983 | 23,279,931 | 28,903,064 | 34,531,518 | 41,290,158 | 48,679,785 | 56,769,871 | 65,630,513 | 75,338,716 | 85,979,6 |
| F. L. W. C | | | | | | | | | | | |
| Liabilities & Shareholders' Equity | | | | | | | | | | | |
| Current liabilities | | | | | | | | | | | |
| Accounts payable | - | - | - | - | - | - | - | - | - | - | |
| Total Current Liabilities | - | - | - | - | - | - | - | - | - | - | |
| at the | | | | | | | | | | | |
| Other liabilities | | | | | | | | | | | |
| Long term debt | - | - | - | - | - | - | - | - | - | - | |
| Total Long Term Liabilities | - | - | - | - | - | - | - | - | - | - | |
| Thomas baldood a society | | | | | | | | | | | |
| Shareholders' equity | 12 424 746 | 12 424 746 | 12 424 740 | 12 424 746 | 12 424 740 | 12 424 746 | 12 424 746 | 12 424 740 | 12 424 740 | 12 424 740 | 10.404 |
| Paid-up capital | 13,424,748 | 13,424,748 | 13,424,748 | 13,424,748 | 13,424,748 | 13,424,748 | 13,424,748 | 13,424,748 | 13,424,748 | 13,424,748 | 13,424,7 |
| Retained earnings | - | 4,710,235 | 9,855,183 | 15,478,316 | 21,106,769 | 27,865,409 | 35,255,037 | 43,345,123 | 52,205,765 | 61,913,967 | 72,554, |
| Total Equity | 13,424,748 | 18,134,983 | 23,279,931 | 28,903,064 | 34,531,518 | 41,290,158 | 48,679,785 | 56,769,871 | 65,630,513 | 75,338,716 | 85,979,0 |
| OTAL CAPITAL AND LIABILITI | 13,424,748 | 18,134,983 | 23,279,931 | 28,903,064 | 34,531,518 | 41,290,158 | 48,679,785 | 56,769,871 | 65,630,513 | 75,338,716 | 85,979, |

12.3 Cash Flow Statement

| Statement Summaries | | | | | | | | | | | SMEDA |
|--|-------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| Cash Flow Statement | | | | | | | | | | | |
| | | | | | | | | | | | Rs. in actual: |
| | 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 | - | 4,710,235 | 5,144,948 | 5,623,133 | 5,628,453 | 6,758,640 | 7,389,627 | 8,090,086 | 8,860,642 | 9,708,202 | 10,640,93 |
| Add: depreciation expense | - | 368,305 | 368,305 | 368,305 | 368,305 | 368,305 | 387,752 | 387,752 | 387,752 | 387,752 | 387,75 |
| amortization expense | - | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | - | - | - | - | - |
| Deferred income tax | - | - | - | - | - | - | - | - | - | - | - |
| Accounts receivable | - | - | - | - | - | - | - | - | - | - | - |
| Finished good inventory | - | - | - | - | - | - | - | - | - | - | - |
| Equipment inventory | - | - | - | - | - | - | - | - | - | - | - |
| Raw material inventory | (4,732,690) | (993,865) | (1,202,577) | (1,455,251) | (1,760,837) | (2,130,399) | (2,578,022) | (3,119,381) | (3,774,506) | (4,566,792) | 26,314,32 |
| Pre-paid building rent | - | - | - | - | - | - | - | - | - | - | - |
| Pre-paid lease interest | - | - | - | - | - | - | - | - | - | - | - |
| Advance insurance premium | - | - | - | - | - | - | - | - | - | - | - |
| Accounts payable | - | - | - | - | - | - | - | - | - | - | - |
| Other liabilities | - | - | - | - | - | - | - | - | - | - | - |
| Cash provided by operations | (4,732,690) | 4,134,675 | 4,360,677 | 4,586,187 | 4,285,921 | 5,046,546 | 5,199,358 | 5,358,456 | 5,473,888 | 5,529,162 | 37,343,00 |
| Financing activities | | | | | | | | | | | |
| Change in long term debt | | | | | | | | | | | |
| Change in short term debt | - | - | - | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - |
| Change in export re-finance facility | - | - | - | - | - | - | - | - | - | - | - |
| Add: land lease expense | - | - | - | - | - | - | - | - | - | - | - |
| Land lease payment | - | - | - | - | - | - | - | - | - | - | - |
| Change in lease financing | | - | - | - | - | - | - | - | - | - | - |
| Issuance of shares | 13,424,748 | - | - | - | - | - | - | - | - | - | - |
| Purchase of (treasury) shares | - | - | - | - | - | - | - | - | - | - | |
| Cash provided by / (used for) financing | 13,424,748 | - | - | - | - | - | - | - | - | - | - |
| Investing activities | | | | | | | | | | | |
| Capital expenditure | (7,803,050) | - | - | - | - | (194,469) | - | - | - | - | - |
| Acquisitions | - | - | - | - | - | - | - | - | - | - | - |
| Cash (used for) / provided by investing: | (7,803,050) | - | - | - | - | (194,469) | - | - | - | - | - |
| NET CASH | 889,008 | 4,134,675 | 4,360,677 | 4,586,187 | 4,285,921 | 4,852,077 | 5,199,358 | 5,358,456 | 5,473,888 | 5,529,162 | 37,343,00 |
| | | | | | | | | | | | |
| Cash balance brought forward | | 889,008 | 5,023,683 | 9,384,360 | 13,970,547 | 18,256,468 | 23,108,545 | 28,307,902 | 33,666,359 | 39,140,247 | 44,669,40 |
| Cash available for appropriation | 889,008 | 5,023,683 | 9,384,360 | 13,970,547 | 18,256,468 | 23,108,545 | 28,307,902 | 33,666,359 | 39,140,247 | 44,669,409 | 82,012,4 |
| Dividend | - | - | - | - | - | - | - | - | - | - | - |
| Cash carried forward | 889,008 | 5,023,683 | 9,384,360 | 13,970,547 | 18,256,468 | 23,108,545 | 28,307,902 | 33,666,359 | 39,140,247 | 44,669,409 | 82,012,41 |
| | | | | | | | | | | | |

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

| Description | Details |
|--|---------|
| Transportation Cost (Rs./ Batch) | 80,000 |
| Office vehicle running expenses (Rs. Per annum) | 15,000 |
| Farm Expenses (entertainment, janitorial, stationery etc.) Rs. per month | 5,000 |

13.2 Production Cost Assumptions

| Description | Details |
|--|---------|
| Annual installed capacity (Goats) | 800 |
| Capacity utilization (%) | 100 |
| Maximum capacity (%) | 100 |
| Annual production (goats) in Year 1 | 800 |
| Number of goats fattened per production cycle | 200 |
| Number of production cycles per year | 4 |
| Fattening Duration (days) | 87-90 |
| Purchase price (Rs. Per goat) | 18,000 |
| Cost of vaccination and medication (Rs. Per goat) | 500 |
| Mortality/ Batch (%) | 3% |
| Mortality Loss of goats/ batch (No.) | 6 |
| Open Space per animal (Sq. ft) | 20 |
| Total Mixed Ration (TMR) requirement (% of live body weight) | 2.5 |
| Price of TMR (Rs. per kg) | 80 |

13.3 Revenue Assumptions

| Description | Details |
|---|---------|
| Production Capacity (Goats per annum) | 800 |
| Initial; Weight (Kgs/ goat) | 20 |
| Feeding Days (Days per batch) | 87 |
| Sale price growth rate (% per annum) Year 1 | 10 |
| Weight gain (Grams/day) | 225 |
| Selling rate (Rs. per Kg Live Body Wt.) | 950 |
| Sale price -(Rs./ goat) | 37,596 |

13.4 Important Goat Breeds

A: Beetal

This is dual type breed i.e. kept for both milk and meat and is found in almost all districts of central Punjab. It has golden-brown or red-spotted with white or black patches, having large size with average adult body weight of 45-55 kgs. It has massive head, Roman nose, long, broad & Beetal Female





pendulous ears, spiralled horns, longer in males, long stout legs, and short tail. Beetal males raised especially for sacrifice on Eid-ul-Azha may have body weight being 70-80 kg.

B: Teddy

It is kept mainly for meat purpose, found in Sargodha, Guirat, Jhelum & Rawalpindi districts in Punjab & adjoining areas of Azad Kashmir. It has creamy-white, brown, black or patched with these colours with small size having average adult body weight of 25-30 kgs. It has





Teddy Male

Teddy Female

compact body; small droopy ears, slightly prominent nose, horns may have spirals, both horned & polled specimens found; bucks often have beards; early maturity & high prolificacy is an important feature of this breed.

C: Dera Din Panah (DDP)

This is a dual type breed i.e. kept for both milk and meat. It is found mostly in Muzaffargarh and Multan districts of Punjab. It is large in size with adult body weight of 45-50 kgs average. It is characterized by large head with Roman nose, hair on the chin, long broad ears; cartilaginous appendages on sides





Dera Din Panah Male

Dera Din Panah Female

of neck, long and thick spiralled horns; hairy body; tail medium covered with rough hair.

D: Nachi

It is also dual type i.e. kept for both meat and milk purposes. It is mainly found in Bahawalpur, Multan, Muzaffargarh & Layyah districts it has black colour but black and white-spotted too. Its size is medium to large with average adult body weight of 40-50 kgs. It has medium head, Roman nose, small & thin horns,



Nachi Female

Nachi Male

medium ears; because of dancing gait, these goats called 'Nachi'.

E: Pothwari

It is kept mainly for meat purpose and is found in Pothwar area of Punjab & adjoining parts of Kotli & Mirpur districts in Azad Kashmir. It has black, grey or white colours with small size and adult average body weight of around 25-30 kgs. It has head & ears of medium size, hairy growth on chin, horns spiralled in males but smooth in females.

13.5 Common Diseases of Goats

| Infectious Diseases of Goats | | | | | |
|---|---|---|--|--|--|
| Disease | Symptoms | Preventive measures | Medication | | |
| Anthrax | Fever, grinding of teeth, release of blackish blood from natural openings, which doesn't clot. | Vaccinate as per schedule. Burry dead body 6 ft. deep pit, no postmortem. | Antibiotic therapy | | |
| Foot and mouth disease | Excessive salivation, Pustules on muzzle, tongue and cleft of hooves, staggering gait weakness due to inability of ingestion. | Vaccination as per schedule. | FMD Serum, cleaning of pustules by potassium permanganate solution, cleaning of hooves by phenyl solution | | |
| Enterotoxaemi a | Fever, grinding of teeth, Bloating, staggering gait | Vaccination as per schedule. | 5-10 ml of Sulfamethazone (33.5% soln.) in 20 ml water orally OR Chloromycine powder 20mg/kg of feed for 2 weeks | | |
| Pleuropneumo nia | Fever, difficult breathing with voice, coughing, weakness | Vaccination as per schedule. | Liquomycine , 1cc/10 kgs of body weight | | |
| CPD | Lowered appetite, pustules on lips, fever in severe condition with eruptions on other body parts | Vaccination as per schedule. | Clean pustules with 0.1 % soln. of potassium permanganate/ glycerin/ limewater (1 part), mustard oil (2 parts) and noshader solution (1 part), apply on wounds. | | |
| Goat pox | Fever, swelling on eyes, pox eruptions on hairless body parts | Vaccination as per schedule. | Ointment of boric acid on eruptions, Inj. Combiotic 1 gm for 4-6 days. | | |
| Non Contagious Diseases | | | | | |
| Indigestion | Loss of appetite, watering from mouth, bloating and pain in stomach | Avoid dietary causes. | 5 grams Stomach powder (mixed in feed or dissolved in water) twice a day | | |
| Bloating (air trapped in stomach) | Difficult breathing due to air trapped in stomach, animal may die due to suffocation | No grazing early in morning esp. on fodder with dewdrops. | Mustard (Sarson) oil & turpentine oil mixed with chloral hydrate mixed in drinking water. | | |
| Dysentery | Diarrhea, smelling feces, weakness | Avoid wheat straw or stiff feed during dysentery | Calcium carbonate, magnesium carbonate and bismuth carbonate dissolved in water OR entox tablets OR nimkol with sulfademadine (4-5 cc). Offer rice gruel to affected animals | | |
| Internal Parasites | | | | | |
| Liver flukes | Weakness, off feed, jaundice in severe cases, swollen joints | No grazing around stagnant water | Zanil or Carbon tetra chloride OR nilzan plus, oral administration | | |
| Round Worms | Weakness, diarrhea, anemia, hair fall from body coat | Fecal samples examination | Systamax or rental, oral administration | | |
| Ecto-parasites | | | | | |
| Flies or ticks or maggots | Irritation on body coat, sometimes holes in skin, loss of hair from body coat | Cleanliness in sheds, Spray of DDT in shed | Apply sulfur oil, tetmasol or ecoflax on wounds and dipping of all goats with a 0.15 % Neguvan Soln. | | |

Small and Medium Enterprises Development Authority HEAD OFFICE

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