



Pre-feasibility Study

CALF FATTENING FARM

(Premium Feed Lot Fattening System)

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

TABLE OF CONTENTS

1	DISCLAIMER	3
2	EXECUTIVE SUMMARY	4
3	INTRODUCTION TO SMEDA.....	4
4	PURPOSE OF THE DOCUMENT.....	5
5	BRIEF DESCRIPTION OF PROJECT & PRODUCT	5
5.1	INSTALLED AND OPERATIONAL CAPACITIES.....	6
5.2	CALF FATTENING PROCESS	6
6	CRITICAL FACTORS	8
7	GEOGRAPHICAL POTENTIAL FOR INVESTMENT	8
8	POTENTIAL TARGET CUSTOMERS / MARKETS	8
9	PROJECT COST SUMMARY.....	9
9.1	PROJECT ECONOMICS.....	9
9.2	PROJECT COST.....	10
9.3	SPACE REQUIREMENT	11
9.4	MACHINERY & EQUIPMENT	12
9.5	FURNITURE & FIXTURE.....	12
9.6	VEHICLE	12
9.7	PROCUREMENT OF ANIMALS (1 ST HERD)	13
9.8	TRANSPORTATION COST	13
9.9	RAW MATERIAL REQUIREMENT.....	13
9.10	HUMAN RESOURCE REQUIREMENT	14
9.11	UTILITIES AND OTHER COSTS.....	14
9.12	REVENUE GENERATION	15
10	CONTACT DETAILS.....	16
11	USEFUL WEB LINKS.....	17
12	ANNEXURE	18
12.1	INCOME STATEMENT	18
12.2	BALANCE SHEET	19
12.3	CASH FLOW STATEMENT	20
13	KEY ASSUMPTIONS	21
13.1	OPERATING COST ASSUMPTIONS	21
13.2	PRODUCTION COST ASSUMPTIONS	21
13.3	REVENUE ASSUMPTIONS.....	21
13.4	FINANCIAL ASSUMPTIONS	21

1 DISCLAIMER

This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data / information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant / technical expert before taking any decision to act upon the information.

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Document Control

Document No.	PREF-NO 24
Prepared by	SMEDA-BSDS
Revision	5
Revision Date	September 2023
For information	adnan.ali@smeda.org.pk

2 EXECUTIVE SUMMARY

This prefeasibility study is based on the business analysis of setting a calf fattening farm on export oriented commercial feedlot regime where calves preferably males from different local cattle breeds are raised totally on Total Mixed Ration (TMR) which is a high energy and protein rich nutritionally balanced formulated feed to get targeted weight gain in a specified time. These calves are raised in groups and each batch stays on farm for a period of 87-90 days. The expected live body weight gain is expected to reach 1 kg per day. Higher yields are achievable with better farm management, and by selecting better quality breeds. Calves are raised in rural and peri urban areas and sold to meat exporters in the form of carcass with 60% dressing percentage. A farm of 800 calves (200 calves / batch) per annum is suggested in this pre-feasibility study; however, farm will start its production at its full capacity from day one.

Most critical considerations or factors for success of the project are background knowledge and related experience for application of Good Animal Husbandry Practices (GAHP), market / demand of meat, understanding of feed lot fattening system, importance of TMR feeding for getting optimum results from good farm and labour management etc.

A farm of 800 calves 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. 38.41 million is required, out of which capital investment is Rs. 10.84 million and working capital is Rs. 27.57 million. The project will be established using 100% equity financing. The Net Present Value (NPV) of project is Rs. 3.43 million with an Internal Rate of Return (IRR) of 32% and a Payback period of 4.06 years. Further, this project is expected to generate revenues of Rs. 131.84 million during 1st year of project.

The farm will provide employment opportunity to 3 individuals initially in year 1. The legal status of the project is proposed to be a sole proprietorship.

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 **Calf Fattening Farm** on export oriented feedlot fattening regime 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

Calf fattening venture suggested in this study is based on raising 800 calves per year (200 calves / batch) at the farm premises. The calves, preferably males, between 12-18 months of age, are fed on nutritionally balanced concentrate ration or Total Mixed Ration (TMR) as major source of energy and protein for a period of 87 days to get higher body weight gain. Live weight of these calves is around 200 kg per calf. If these calves are fed properly on formulated fattening feed, an additional weight up to 87- 90 kg can be achieved during 87 days.

The daily body weight gain varies between 0.9 to 1.2 kg grams depending on the quality of feed given to them. However, in this pre-feasibility study it is assumed that each calf will gain 1 kg of live body weight per day. The subject

business can be set-up at any appropriate location with easy availability of feed, water and related veterinary services. There is a year-round export oriented market for beef carcass of well fed calves having 60% dressing percentage, fetching a relatively premium price higher than usual weight based price in local markets. The fattened calves would be transported from farm to meat processing plant where these would be slaughtered and sold in the form of dressed carcass. The proposed legal structure of the business entity is sole proprietorship.

5.1 Installed and Operational Capacities

In this pre-feasibility study, 800 young calves of 12 to 18 months of age are raised per annum in 4 production batches solely for beef exporters; each having 200 calves, raised for 87 days on Total Mixed Ration (TMR) based 'Feedlot Fattening' system. The mortality is assumed to be 1%. The detail is given in table below;

Table 1: Installed and Operational Capacity

Description	No. of Herd / Year	Calves / Herd	Total Calves	Total Calves after Mortality
Total Calves	4	200	800	792

5.2 Calf Fattening Process

a) Selection of Breed and Calves:

It is recommended that calves (preferably male) of local cattle breeds such as Sahiwal, Cholistani and Red Sindhi may be selected, however, calves of Tharparkar, Rojhan, Dhanni, Lohani, Bhagnari may also be considered for fattening purpose. The cross breed calves of Brahaman, Angus and Charolais etc. may also be considered depending on the availability. The Sahiwal and Cholistani male calves are raised for good meat production and dressing percentage i.e. 60% which is desirable by meat processors and exporters.

b) Procurement of Animals:

Initial live body weight should be around 200 kgs at 12-18 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 and feed conversion ratio.

c) Fattening of Animals:

i. Housing:

A good 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

ii. Feeding:

Adequate weight gain is attained through the use of nutritionally balanced Total Mixed Ration (TMR) purchased from well reputed companies or formulated accordingly. Animal should be fed Total Mixed Ration (TMR) @ 2.5 % of live body weight.

iii. Watering:

Adequate supply of fresh and clean drinking water improves the palatability of feed and ensures desirable weight gains. A healthy calf may drink up to 15 to 20 liters of water /day depending upon environmental stress and body condition. Due to TMR and its salt ingredients, animal tends to consume more water.

iv. Disease Management:

De-worming for endoparasitic 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 1 % per annum in the fattened animals

v. Record Keeping (Batch wise):

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.

vi. Culling:

In livestock projects, culling is considered an essential part of Good Husbandry Practices to remove uneconomical animals from herd. In this prefeasibility, the expected loss of calves is calculated through mortality (1%).

vii. Selling to Meat Processors and Exporters:

After fattening the animals, these will be sold to meat processors and exporters as they have year round demand to fulfil export orders.

6 CRITICAL FACTORS

Following are the factors critical for the success of this business venture:

- Background knowledge and related experience of the entrepreneur in calf 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 calves for meat exporters and processors.
- Selection of appropriate farm tools and equipment.
- Sanitation and disinfection program should be strictly followed and regularly monitored.
- Calves should be given enough space according to their age and weight to avoid in-house stress.
- Proper feed storage for long time to avoid poisonous fungal growth.

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 these and other major cities across the country with abundant water and availability of feed make a better choice for such 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 calves varies according to animals' health and market conditions. Following are some of the target clients for farmers;

- Livestock exporters and traders
- Contractors
- Slaughter house owners

9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of Calf 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

All the figures in this financial model have been calculated for estimated revenues of Rs. 131.84 Million in the year one.

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:

Table 2: Project Economics (Equity Financed)

Description	Details
Internal Rate of Return (IRR)	32%
Payback Period (Years)	4.06
Net Present Value (Million Rs.) @discounted rate of 29%	3.43

Calculation of break-even analysis is as follows:

Table 3: Breakeven (100% Equity Based)

Calf 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)	18,566,725	20,365,434	22,344,222	24,521,077	26,915,730	29,290,057	32,180,073	35,359,121	38,856,333	42,703,046
Break Even Point (Unit)	112	112	111	111	111	110	110	110	109	109
Margin of Safety	85.9%	86.0%	86.0%	86.0%	86.1%	86.2%	86.2%	86.2%	86.3%	86.3%

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 below;

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

Description	Details
Internal Rate of Return (IRR)	33%

Payback Period (Years.)	3.77 years
Net Present Value (Million Rs.) @ discounted rate of 29%	5.53

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.

Table 6: Project Cost

Description	Amount (Rs.)
Land	1,540,000
Building / Infrastructure	8,060,000
Machinery & Equipment	816,000
Furniture & Fixtures	128,300
Office Vehicles	120,750
Pre-operating Cost	180,000
Total Capital Costs	10,845,050
Raw material inventory (Feed and vaccines))	8,656,400
Initial Purchase of Calves (1 herd)	18,000,000
Cash	912,096
Total Working Capital	27,568,496
Total Investment	38,413,546

9.3 Space Requirement

Approximately, 4 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. Although, in order to avoid the initial high capital costs, the long-term lease contract for land acquisition may be considered, but 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. 1.54 million.

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:

Table 7: Space Requirement

Description	Area (Sq.ft.)	Cost / Sq.ft	Amount (Rs.)
Rest/Wash room	80	2,000	160,000
Shed for animals (@30 sq.ft. per calf)	6,000	1,000	6,000,000
Store	300	2,000	600,000
Dipping bath	100	1,000	100,000
Open paddock (@60 sq.ft.)	12,000	100	1,200,000
Total Infrastructure	18,480		8,060,000

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

- i. Electricity Connection
- ii. Clean Water Supply

9.4 Machinery & Equipment

Detail of Machinery & Equipment required for the farm is given below in table;

Table 8: Machinery & Equipment

Description	Quantity	Unit Cost	Amount (Rs.)
Water Pump (3HP) & tank (incl. boring)	1	150,000	150,000
Feeding Mangers (100'*3'*Rs.500/sq.ft)	2	150,000	300,000
Water Trough (20'*3'* Rs.500/sq.ft)	2	30,000	60,000
Hand Cart	4	10,000	40,000
Movable Weighing Scale (3'*3' platform with capacity of 200 Kgs)	1	200,000	200,000
Lights (Shed)	60	500	30,000
Lights (Grounds)	12	500	6,000
Misc. Farm Equipment	1	30,000	30,000
Total Machinery & Equipment			816,000

9.5 Furniture & Fixture

Detail of Furniture & Fixture required for the farm is given below in table;

Table 9: Furniture & Fixture

Description	Quantity	Cost	Amount (Rs.)
Chairs	5	3,000	15,000
Lighting	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 Furniture & Fixtures			128,300

9.6 Vehicle

A bike will be used for procurement of feed for animals and other business operations. The cost of bike is estimated at Rs. 115,000. The registration fee @5% of vehicle cost i.e. Rs. 5,750.

9.7 Procurement of Animals (1st Herd)

Detail of cost related to procurement of Calves for 1st herd is given in table below;

Table 10: Procurement of Animals*

Description	Live Weight (Kgs)	Purchase Price per kg (Rs.)	Herd Size (No. of Animals)	Total Cost (Rs.)
Calves	200	450	200	18,000,000

9.8 Transportation Cost

It is assumed in this pre-feasibility study that all the calves of each herd will be transported to potential meat exporters/ processor's facility as the premium sale price for beef carcass with 60% dressing are offered by exporters.

Table 11: Transportation Cost

Description	Cost / Herd	Total Herds	Total Cost (Rs.)
Transportation of Calves (Entry: Mandies to Farm)	150,000	4	600,000
Transportation of Calves (Exit: Farm to Slaughter House)	150,000	4	600,000
Total	300,000		1,200,000

9.9 Raw Material Requirement

The feeding is totally on TMR based with 14-16% good quality Crude Protein content essential for getting the desirable daily weight gain of 1 kg as well as muscles development, hence resulting in 60% of carcass dressing percentage after slaughtering. Detail of feed requirement is given as following;

Table 12: Feed Requirements of Calves in Project Year 1 & 2

Assumptions	Details	
Initial Live Body Weight (Kgs/ calf)	200	
Live Body Weight Gain (Kgs/ day)	1	
Feeding Duration (days/ calf)	87	
Daily Requirement of TMR (% of Live body wt./ calf)	2.5%	
Price of Commercial TMR 14-16% Crude Protein (Rs./Kg)	80	
Description	Year 1	Year 2
Total Cost of TMR Feed (Kgs/calf)	42,282	46,510

Growth Rate in TMR price (%/ year)	10%	10%
Total Cost of TMR used on Farm (Rs./year)	33,825,600	37,208,160

The cost of vaccination and medication is Rs. 1,000 per calf in first year of operation.

9.10 Human Resource Requirement

In order to run operations of Calf Fattening Farm smoothly, details of human resources required in first year of operation along with monthly salary are recommended as under:

Table 13: Human Resource Requirement (Year 1)

Description	No. of Employees	Monthly Salary (Rs.)
Farm Owner/ Manager	1	100,000
Farm Labour	1	35,000
Guard/ Farm Labour	1	35,000
Total	3	170,000

9.11 Utilities and Other Costs

An essential cost to be borne by the project is the cost of electricity which is estimated to be Rs. 239,000 in the first year of operations.

The expense related to running of office vehicle is estimated to be around Rs. 25,000 in first year of project. Likewise, expenses related to farm management and communication are estimated around Rs. 60,000 and Rs. 60,000 respectively in year one.

9.12 Revenue Generation

Revenue along with its assumption for the 1st and 2nd years of operations is given in table below;

Table 14: Revenue Generation (Year 1 & 2)

Description	Details	
	Year 1	Year 2
Production Capacity- Calves (No./ year)	800	800
No. of Calves per herd	200	200
Herds (No./ year)	4	4
Days per herd (No. of Fattening Days)	87	87
Starting Capacity Utilization (%)	100%	100%
Mortality Loss (No.)	8	8
Saleable Calves (No.)	792	792
Sale Price (Rs/calf)	166,460	183,106
Revenue (Rs./ year)	131,836,320	145,019,952

Herd will be kept on farm for 87-90 days.

10 CONTACT DETAILS

In order to facilitate potential investors, contact details of consultants and experts relevant to the proposed project are provided below:

Technical Support	
Department of Livestock Production University of Veterinary & Animal Sciences (UVAS), Lahore Ph: 042-99211374, 99211449 http://www.uvas.edu.pk	Department of Livestock Management, Faculty of Animal Husbandry, University of Agriculture, Faisalabad Ph: 041-9200161-70 http://www.uaf.edu.pk
Department of Livestock Production and Management PMAS-Arid Agriculture University, Rawalpindi. Ph: 051-9292159 http://www.uaar.edu.pk	Livestock and Dairy Development Departments Govt. of The Punjab 16-Cooper Road, Lahore Ph: 042-99201117 Toll free No: 0800-78685, 0800-78686.
Feed Suppliers	
Hi-Tech Feeds Pvt. Ltd. (for TMR) Address: 1-A, Shadman Chowk, Jail Road, Lahore. Ph: 042-37564503	Panjnad Feeds (TMR Supplier) Head Office: 171 Shadman II, Lahore. Ph: 042-35961021-28
Maxim Agri Address: 7-B, Aziz Ave, Gulberg V, Lahore Ph: 0323-4007000	ICI Corporate Office Address: 63-Mozang Road, Lahore UAN: 042-111-100-200
Shareef Feeds Pvt. Ltd. Address: 7-A, New Muslim Town, Lahore. Ph: 04235758233-5	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), Address: 177-B Johar Town, Lahore Ph: 042-35169450-51 Fax:042-35169449,	Red Cow Meat Products of Pakistan Address: 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 cattle 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.	

11 USEFUL WEB LINKS

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 ANNEXURE

12.1 Income Statement

Statement Summaries										SMEDA
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Rs. in actuals									
Revenue	131,836,320	145,019,952	159,521,947	175,474,142	193,021,556	212,323,712	233,556,083	256,911,691	282,602,860	310,863,146
Cost of Goods Sold										
COGS (Feed)	33,825,600	37,208,160	40,928,976	45,021,874	49,524,061	54,476,467	59,924,114	65,916,525	72,508,178	79,758,995
Cost of Calves	72,000,000	79,200,000	87,120,000	95,832,000	105,415,200	115,956,720	127,552,392	140,307,631	154,338,394	169,772,234
Direct Labor	2,040,000	2,244,000	2,468,400	2,715,240	2,986,764	3,285,440	3,613,984	3,975,383	4,372,921	4,810,213
Direct Electricity	239,383	263,321	289,653	318,619	350,480	385,528	424,081	466,489	513,138	564,452
Total Cost of Sales	110,104,983	121,115,481	133,227,029	146,549,732	161,204,625	177,324,768	195,057,245	214,562,889	236,019,338	259,621,032
Gross Profit	21,731,337	23,904,471	26,294,918	28,924,410	31,816,931	34,998,944	38,498,838	42,348,802	46,583,522	51,242,114
<i>General administration & selling expenses</i>										
Utilities expense	24,000	26,400	29,040	31,944	35,138	38,652	42,517	46,769	51,446	56,591
Travelling & Comm. expense (phone, fax, etc.)	60,000	66,000	72,600	79,860	87,846	96,631	106,294	116,923	128,615	141,477
Office vehicles running expense	25,000	27,500	30,250	33,275	36,603	25,000	27,500	30,250	33,275	36,603
Office expenses (stationary, etc.)	60,000	66,000	72,600	79,860	87,846	96,631	106,294	116,923	128,615	141,477
Depreciation expense	509,505	509,505	509,505	509,505	509,505	528,952	528,952	528,952	528,952	528,952
Amortization expense	36,000	36,000	36,000	36,000	36,000	-	-	-	-	-
Subtotal	714,505	731,405	749,995	770,444	792,938	785,865	811,557	839,817	870,904	905,099
Operating Income	21,016,832	23,173,066	25,544,923	28,153,966	31,023,993	34,213,078	37,687,281	41,508,985	45,712,618	50,337,016
Other income	-	-	-	-	-	-	-	-	-	-
Gain / (loss) on sale of assets	-	-	-	-	48,300	-	-	-	-	-
Earnings Before Interest & Taxes	21,016,832	23,173,066	25,544,923	28,153,966	31,072,293	34,213,078	37,687,281	41,508,985	45,712,618	50,337,016
Interest expense	-	-	-	-	-	-	-	-	-	-
Earnings Before Tax	21,016,832	23,173,066	25,544,923	28,153,966	31,072,293	34,213,078	37,687,281	41,508,985	45,712,618	50,337,016
Tax	6,720,891	7,475,572	8,305,722	9,218,887	10,240,302	11,339,577	12,555,548	13,893,144	15,364,416	16,982,955
NET PROFIT/(LOSS) AFTER TAX	14,295,942	15,697,494	17,239,201	18,935,078	20,831,991	22,873,502	25,131,734	27,615,841	30,348,203	33,354,061
Balance brought forward		14,295,942	29,993,435	47,232,636	66,167,714	86,999,705	109,873,207	135,004,941	162,620,781	192,968,984
Total profit available for appropriation	14,295,942	29,993,435	47,232,636	66,167,714	86,999,705	109,873,207	135,004,941	162,620,781	192,968,984	226,323,045
Dividend	-	-	-	-	-	-	-	-	-	-
Balance carried forward	14,295,942	29,993,435	47,232,636	66,167,714	86,999,705	109,873,207	135,004,941	162,620,781	192,968,984	226,323,045

12.2 Balance Sheet

Statement Summaries											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Rs. in actuals Year 10
Assets											
<i>Current assets</i>											
Cash & Bank	912,096	10,155,698	19,625,306	29,214,208	38,777,898	47,961,585	56,844,707	64,937,041	71,824,003	76,979,410	259,069,356
Raw material inventory	26,656,400	32,254,244	39,027,635	47,223,439	57,140,331	69,139,672	83,659,003	101,227,355	122,485,185	148,206,933	-
Total Current Assets	27,568,496	42,409,942	58,652,941	76,437,646	95,918,230	117,101,257	140,503,710	166,164,396	194,309,189	225,186,343	259,069,356
<i>Fixed assets</i>											
Land	1,540,000	1,540,000	1,540,000	1,540,000	1,540,000	1,540,000	1,540,000	1,540,000	1,540,000	1,540,000	1,540,000
Building/Infrastructure	8,060,000	7,657,000	7,254,000	6,851,000	6,448,000	6,045,000	5,642,000	5,239,000	4,836,000	4,433,000	4,030,000
Machinery & equipment	816,000	734,400	652,800	571,200	489,600	408,000	326,400	244,800	163,200	81,600	-
Furniture & fixtures	128,300	115,470	102,640	89,810	76,980	64,150	51,320	38,490	25,660	12,830	-
Office vehicles	120,750	108,675	96,600	84,525	72,450	254,844	223,322	191,800	160,278	128,756	97,235
Office equipment	-	-	-	-	-	-	-	-	-	-	-
Total Fixed Assets	10,665,050	10,155,545	9,646,040	9,136,535	8,627,030	8,311,994	7,783,042	7,254,090	6,725,138	6,196,186	5,667,234
<i>Intangible assets</i>											
Pre-operation costs	180,000	144,000	108,000	72,000	36,000	-	-	-	-	-	-
Total Intangible Assets	180,000	144,000	108,000	72,000	36,000	-	-	-	-	-	-
TOTAL ASSETS	38,413,546	52,709,487	68,406,981	85,646,181	104,581,260	125,413,251	148,286,752	173,418,486	201,034,327	231,382,530	264,736,590
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	-	-	-	-	-	-	-	-	-	-
<i>Other liabilities</i>											
Long term debt	-	-	-	-	-	-	-	-	-	-	-
Total Long Term Liabilities	-	-	-	-	-	-	-	-	-	-	-
<i>Shareholders' equity</i>											
Paid-up capital	38,413,546	38,413,546	38,413,546	38,413,546	38,413,546	38,413,546	38,413,546	38,413,546	38,413,546	38,413,546	38,413,546
Retained earnings	-	14,295,942	29,993,435	47,232,636	66,167,714	86,999,705	109,873,207	135,004,941	162,620,781	192,968,984	226,323,045
Total Equity	38,413,546	52,709,487	68,406,981	85,646,181	104,581,260	125,413,251	148,286,752	173,418,486	201,034,327	231,382,530	264,736,590
TOTAL CAPITAL AND LIABILITY	38,413,546	52,709,487	68,406,981	85,646,181	104,581,260	125,413,251	148,286,752	173,418,486	201,034,327	231,382,530	264,736,590
<i>Note: Total assets value will differ from project cost due to first installment of leases paid at the start of year 0.</i>											

12.3 Cash Flow Statement

Statement Summaries											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Rs. in actuals Year 10
<i>Operating activities</i>											
Net profit	-	14,295,942	15,697,494	17,239,201	18,935,078	20,831,991	22,873,502	25,131,734	27,615,841	30,348,203	33,354,061
Add: depreciation expense	-	509,505	509,505	509,505	509,505	509,505	528,952	528,952	528,952	528,952	528,952
amortization expense	-	36,000	36,000	36,000	36,000	36,000	-	-	-	-	-
Deferred income tax	-	-	-	-	-	-	-	-	-	-	-
Equipment inventory	-	-	-	-	-	-	-	-	-	-	-
Raw material inventory	(26,656,400)	(5,597,844)	(6,773,391)	(8,195,803)	(9,916,893)	(11,999,341)	(14,519,331)	(17,568,352)	(21,257,830)	(25,721,747)	148,206,933
Accounts payable	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(26,656,400)	9,243,603	9,469,607	9,588,902	9,563,691	9,378,155	8,883,122	8,092,334	6,886,962	5,155,407	182,089,946
<i>Financing activities</i>											
Change in long term debt	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	38,413,546	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing	38,413,546	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(10,845,050)	-	-	-	-	(194,469)	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing	(10,845,050)	-	-	-	-	(194,469)	-	-	-	-	-
NET CASH	912,096	9,243,603	9,469,607	9,588,902	9,563,691	9,183,686	8,883,122	8,092,334	6,886,962	5,155,407	182,089,946
Cash balance brought forward		912,096	10,155,698	19,625,306	29,214,208	38,777,898	47,961,585	56,844,707	64,937,041	71,824,003	76,979,410
Cash available for appropriation	912,096	10,155,698	19,625,306	29,214,208	38,777,898	47,961,585	56,844,707	64,937,041	71,824,003	76,979,410	259,069,356
Dividend	-	-	-	-	-	-	-	-	-	-	-
Cash carried forward	912,096	10,155,698	19,625,306	29,214,208	38,777,898	47,961,585	56,844,707	64,937,041	71,824,003	76,979,410	259,069,356

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Description	Details
Communication Expense (Rs./ month)	5,000
Travelling Expenses	25,000
Operating Cost Growth Rate (Year 1)	10%

13.2 Production Cost Assumptions

Description	Details
Initial Weight at the time of Purchase (Kgs)	200
Weight Gain / Day (kg)	1
Total Mixed Ration (TMR) Rs./ Kg	80
Calf Purchasing Cost (Rs./ Kg Live body weight)	450
Vaccination Cost (Rs./ calf)	1,000
Production Cost Growth Rate (Year 1)	10%

13.3 Revenue Assumptions

Description	Description
Sales Price (Rs/ Kg)	580
Live body Weight at the time of Sales (Kgs/ Calf)	287
Growth in Sale Price (Year 1)	10%

13.4 Financial Assumptions

Description	Details
Equity	100%
Debt	0%
Inflation Growth Rate (Year 1)	10%
Electricity Price Growth Rate (Year 1)	10%
Salaries Growth Rate (Year 1)	10%

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