



Pre-Feasibility Study

(Camel Farming)



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Ministry of Industries & Production
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Note: All SMEDA Services / information related to PM's Youth Business Loan are Free of Cost

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1 DISCLAIMER

This information memorandum is to introduce the subject matter and provide a general idea and information on the subject. 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 exercised 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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2 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, production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in **Camel Farming** business 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 & 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 basis of any investment decision.

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, institutional collaboration and networking initiatives.

Preparation and dissemination of prefeasibility studies in key areas of investment has been a 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 / consultants and delivery of need based capacity building programs of different types in addition to business guidance through help desk services.

4 INTRODUCTION TO SCHEME

Prime Minister's 'Youth Business Loan' scheme, for young entrepreneurs, with an allocated budget of Rs. 5.0 Billion for the year 2013-14, is designed to provide subsidised financing at 8% mark-up per annum for one hundred thousand (100,000) beneficiaries, through designated financial institutions, initially through the National Bank of Pakistan (NBP) and the First Women Bank Ltd. (FWBL).

Loans from Rs. 0.1 million to Rs. 2.0 million with tenure upto 8 years inclusive of 1 year grace period and a debt : equity of 90 : 10 will be disbursed to SME beneficiaries across Pakistan, covering; Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan, Gilgit Baltistan, Azad Jammu & Kashmir and Federally Administered Tribal Areas (FATA).

5 EXECUTIVE SUMMARY

This particular Pre-feasibility is for setting up a "Camel Farm". Camel is a source of milk and meat in rangelands of Balochistan, coastal areas and desert area of Cholistan. Moreover, Cholistan desert has long been famous for raising different breeds of livestock including camel and supplying excellent quality of livestock products, which contribute a significant share to national meat, milk and livestock by-products production.

Camel milk is as nutritious as cow milk. The milk contains three times more vitamin C than cow's milk and is also considered to be rich in iron. Similarly, its meat contains higher polyunsaturated fatty acid as compared to beef. The nutritional value that it carries for humans makes it a viable business opportunity to establish a camel farm.

The total project cost for setting up a Camel Farm is estimated at Rs. 2.10 million out of which capital cost is Rs. 1.80 million and working capital Rs. 0.30 million. The project is proposed to be financed through 90% debt and 10% equity. The project NPV is around Rs. 3.95 million, with an IRR of 32% and a payback period of 4.22 years.

The project can be set up in peri-urban areas of Southern Punjab (Bahawalpur, Rahim Yar Khan, Cholistan) and desert areas of Sindh and Balochistan. A breeding herd of 11 camels would be purchased from local animal market. The project will employ 2 workers. The total herd milk production in first year would be 14,490 litres at 70% herd fertility capacity. The male calves would be sold in the market after 2 years.

6 BRIEF DESCRIPTION OF PROJECT & PRODUCT

This project is about setting up a camel farm. The camels would be purchased from local livestock market and raised in conventional farming system. The project can be started on a leased land.

The camels would be reared for both milk and meat production. Camel milk would be sold directly to consumers or processing companies. In addition, the farm would raise camels for sacrificial and routine meat supply purposes.

7 CRITICAL FACTORS

- Selection of location keeping in view the proximity of free grazing area is imperative.
- Background knowledge and experience of entrepreneur in this field.
- Suitable breed and optimal sourcing of animals.
- Efficient marketing of the project, and bulk supply to wholesalers.
- Implementation of good husbandry practices.
- Record keeping for milk production, calving, breeding, vaccination, medication etc.
- Proper storage of surplus milk preferably in cool places.

8 INSTALLED AND OPERATIONAL CAPACITIES

A breeding herd of 11 camels, (1 male and 10 females) would be raised for milk and meat production. It is assumed that 70% of the camel cows in the parent herd are pregnant and would give birth to 7 calves every 2 years. The probability of male / female progeny is 50:50.

The male camel calves are sold after being raised for two years. The female calves would be added to the breeding herd and would reproduce after 5 years and add to the milk production. Each camel cow would produce approximately 4,500 litres of milk in one lactation period. Total milk production for the first year of operations is estimated to be 14,490 liters.

9 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

The proposed project can be set up in rangelands of Balochistan, coastal areas and desert area of Thar, Cholistan, Thal and Tharparker. The project can also be established in peri-urban vicinities of Southern Punjab region particularly Layyah and Bhakkar. The Pakistani camel breeds are highly diversified in terms of milk production in ordinary grazing conditions especially in desert areas of Pakistan. The Cholistani pastoralists keep two distinct camel breeds, Marrecha and Barela.

10 POTENTIAL TARGET MARKET

The marketing of camel milk and meat follows the traditional channels of distribution. The prospective target market for its products is bigger cities like Lahore, Faisalabad, Multan, Bahawalpur, Rahim Yar Khan and Karachi.

The male progeny will be sold in various livestock market across Pakistan, particularly as a sacrificial animal. Additionally, the culled animals will be sold in the local butchers and meat traders.

11 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of 'Camel Farming' project under the Prime Minister's Small Business Loan Scheme. Various cost 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 attached as appendix

11.1 Project Economics

A Camel Farm with a breeding herd of 11 camels would produce 14,490 litres of milk in year one. It is assumed that 3 male calves would ready in year 3 to be sold in the market. The following table shows Internal Rates of Return and payback period.

Table 1: Project Economics

Description	Details
Internal Rate of Return (IRR)	32%
Payback Period (yrs)	4.22
Net Present Value (NPV) - Rs.	3,946,151

Returns on the scheme and its profitability are highly dependent on the application of 'Good Livestock Husbandry Practices' with appropriate feeding and regular disease management to maintain required body weight and milk production.

11.2 Project Financing

Following table provides details of the equity required and variables related to bank loan;

Project 2: Project Financing

Description	Details (Rs.)
Total Equity (10%)	210,026
Bank Loan (90%)	1,890,236
Markup to the Borrower (%age/annum)	8%
Tenure of the Loan (Years)	8
Grace Period (Years)	1

11.3 Project Cost

Following requirements have been identified for operations of the proposed camel farm.

Table 3: Capital Investment for the Project

Capital Investment	Amount (Rs.)
Animals	1,680,000
Farm Equipment	50,000
Furniture & fixtures	10,000
Pre-operating costs	60,000
Total Capital Costs	1,800,000
Working Capital	Amount (Rs.)
Upfront building rent	180,000
Cash	50,000
Raw material inventory	70,263
Total Working Capital	300,263
Total Investment	2,100,263

11.4 Space Requirement

The area has been calculated on the basis of conventional farm requirement such as sheds for breeding animals, calves and open paddock, labourer's room, kitchen, washrooms and store. Following table shows calculations for project space requirement.

Table 4: Space Requirement

Space Requirement	Space (Sq.ft)
Shed for breeding animals	1,800
Shed for other animals	1,500
Open area for animals	6,600
Labourer's room	180
Store	180
Kitchen	100
Washroom	72
Total Infrastructure	10,432

The shed may be expanded in line with increase in number of animals. It is assumed that the shed would be acquired on monthly rent of Rs 15,000 per month.

11.5 Machinery and Equipment

Following table provides list of machinery and equipment required for the proposed camel farm.

Table 5: List of Machinery and Equipment

Description	Total Amount (Rs.)
Farm Equipment (milking buckets, feeding mangers etc.)	50,000
Total Furniture cost	10,000
Total	60,000

For the camel farm, the basic equipments are milking buckets, feeding mangers, water troughs etc.

11.6 Office Equipment

No typical office equipment is required for this project.

11.7 Raw Material Requirements

The raw materials in this project are the camels, animal feed and medications.

Table 6: Cost of Material

	Unit	Rate (Rs.)	Qty	Total (Rs.)
Female breeding animals	Per animal	150,000	10	1,500,000
Male breeding animal	Per animal	180,000	1	180,000
Feed stuff for herd				281,050
Vaccination/ Medication for herd				6,000
Total Cost				1,967,050

11.8 Human Resource Requirement

Table 7: Human Resource Requirement

Description	No.	Monthly Salary (Rs.)
Farm Supervisor	1	20,000
Laborer for animals	1	10,000
Total	2	30,000

The table above provides details of human resource required to run project of camel farming. Salaries of all employees are estimated to increase at 10% annually.

11.9 Revenue Generation

Table 8: Revenue Generation

Description	Unit	Sale Price (Rs.)	First Year Production	First Year Sales Revenue (Rs.)
Saleable milk production	Liters	85	14,490	1,231,650
Total Revenue				1,231,650

11.10 Other Costs

An essential cost to be borne by the farm is electricity expense which is assumed to be only Rs. 5,000 per year. It is assumed that the communication expenses would be Rs. 3,600 per annum. The travelling expenses are Rs. 1,200 per annum. To cover unforeseen expenses, a miscellaneous expense of Rs 12,000 is estimated.

12 Contact Details of Experts and Consultants

Name	Addresses
Prof. Dr. Muhammad Younis	Department of Livestock Management, Faculty of Animal Husbandry, University of Agriculture, Faisalabad, Pakistan Ph: +92-41-9200161-170
Dr. Abdul Raziq Kakar	Dean, Lasbella University of Agriculture, Water and Marine Sciences, Uthal, Lasbella, Balochistan President, Society of Animal, Veterinary and Environmental Scientists (SAVES) Email: raziq2007@gmail.com Ph: +92-0853-610921

13 Annexure

13.1 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	1,231,650	1,354,815	1,816,997	1,639,326	2,845,552	2,695,269	4,225,970	4,122,414	6,060,676	6,242,313
<i>Cost of sales</i>										
Feed expense	281,050	309,155	386,444	425,088	582,492	661,316	866,470	1,027,802	1,298,800	1,549,172
Direct labor	120,000	131,683	144,504	158,573	174,012	190,954	209,546	229,948	252,336	276,903
Total cost of sales	401,050	440,838	530,948	583,662	976,120	1,093,847	1,607,485	1,842,365	2,515,751	2,887,152
Gross Profit	830,600	913,977	1,286,049	1,055,665	1,869,432	1,601,422	2,618,485	2,280,049	3,544,925	3,355,161
<i>General administration & selling expenses</i>										
Administrative Salaries expense	240,000	263,367	289,008	317,147	348,025	381,909	419,092	459,895	504,671	553,807
Electricity expense	5,000	5,500	6,050	6,655	7,321	8,053	8,858	9,744	10,718	11,790
Water expense	2,000	2,200	2,420	2,662	2,928	3,221	3,543	3,897	4,287	4,716
Travelling expense	1,200	1,320	1,452	1,597	1,757	1,933	2,126	2,338	2,572	2,830
Communications expense (phone)	3,600	3,960	4,356	4,792	5,271	5,798	6,378	7,015	7,717	8,489
Animal Medication Expense	6,000	6,600	7,260	7,986	8,785	9,663	10,629	11,692	12,862	14,148
Amortization of pre-operating costs	12,000	12,000	12,000	12,000	12,000	-	-	-	-	-
Miscellaneous expense 1	12,000	13,200	14,520	15,972	17,569	19,326	21,259	23,385	25,723	28,295
Subtotal	461,800	506,147	554,866	608,391	667,193	719,794	790,765	868,736	954,396	1,048,504
Operating Income	368,800	407,830	731,182	447,274	1,202,239	881,629	1,827,720	1,411,312	2,590,528	2,306,657
Earnings Before Interest & Taxes	368,800	407,830	731,182	447,274	1,202,239	881,629	1,827,720	1,411,312	2,590,528	2,306,657
Interest expense on long term debt (Project Loan)	156,889	143,633	126,211	107,343	86,909	64,778	40,811	14,855	-	-
Subtotal	156,889	143,633	126,211	107,343	86,909	64,778	40,811	14,855	-	-
Earnings Before Tax	211,911	264,197	604,971	339,931	1,115,331	816,850	1,786,909	1,396,457	2,590,528	2,306,657
Tax	-	-	20,497	-	89,799	45,027	204,882	131,968	370,132	308,831
NET PROFIT/(LOSS) AFTER TAX	211,911	264,197	584,474	339,931	1,025,531	771,823	1,582,027	1,264,489	2,220,396	1,997,826

13.2 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											
<i>Current assets</i>											
Cash & Bank	50,000	248,885	276,053	634,255	676,680	1,491,320	1,939,131	3,341,091	4,296,037	6,785,388	9,903,769
Raw material inventory	70,263	77,289	96,611	106,272	145,623	165,329	216,618	256,951	324,700	387,293	-
Total Current Assets	300,263	524,174	590,464	980,107	1,085,841	1,946,541	2,474,630	3,948,810	5,006,583	7,597,112	9,903,769
<i>Fixed assets</i>											
Animals	1,680,000	1,680,000	1,680,000	1,680,000	1,680,000	1,680,000	1,680,000	1,680,000	1,680,000	1,680,000	1,680,000
Farm equipment	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Furniture & fixtures	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Total Fixed Assets	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000	1,740,000
<i>Intangible assets</i>											
Pre-operation costs	60,000	48,000	36,000	24,000	12,000	-	-	-	-	-	-
Total Intangible Assets	60,000	48,000	36,000	24,000	12,000	-	-	-	-	-	-
TOTAL ASSETS	2,100,263	2,312,174	2,366,464	2,744,107	2,837,841	3,686,541	4,214,630	5,688,810	6,746,583	9,337,112	11,643,769
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Total Current Liabilities	-	-	-	-	-	-	-	-	-	-	-
<i>Other liabilities</i>											
Deferred tax	-	-	-	20,497	20,497	110,297	155,324	360,205	492,174	862,306	1,171,137
Long term debt (Project Loan)	1,890,236	1,890,236	1,680,330	1,453,001	1,206,805	940,174	651,413	338,684	-	-	-
Long term debt (Working Capital Loan)	-	-	-	-	-	-	-	-	-	-	-
Total Long Term Liabilities	1,890,236	1,890,236	1,680,330	1,473,498	1,227,302	1,050,470	806,737	698,890	492,174	862,306	1,171,137
<i>Shareholders' equity</i>											
Paid-up capital	210,026	210,026	210,026	210,026	210,026	210,026	210,026	210,026	210,026	210,026	210,026
Retained earnings	-	211,911	476,108	1,060,582	1,400,513	2,426,044	3,197,867	4,779,894	6,044,383	8,264,780	10,262,605
Total Equity	210,026	421,938	686,134	1,270,608	1,610,539	2,636,071	3,407,893	4,989,921	6,254,409	8,474,806	10,472,632
TOTAL CAPITAL AND LIABILITIES	2,100,263	2,312,174	2,366,464	2,744,107	2,837,841	3,686,541	4,214,630	5,688,810	6,746,583	9,337,112	11,643,769

13.3 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
<i>Operating activities</i>											
Net profit		211,911	264,197	584,474	339,931	1,025,531	771,823	1,582,027	1,264,489	2,220,396	1,997,826
Add: depreciation expense		-	-	-	-	-	-	-	-	-	-
amortization of pre-operating costs		12,000	12,000	12,000	12,000	12,000	-	-	-	-	-
Deferred income tax		-	-	20,497	-	89,799	45,027	204,882	131,968	370,132	308,831
Raw material inventory	(70,263)	(7,026)	(19,322)	(9,661)	(39,351)	(19,706)	(51,289)	(40,333)	(67,750)	(62,593)	387,293
Cash provided by operations	(250,263)	198,885	237,075	585,530	288,622	1,081,271	736,572	1,714,688	1,293,631	2,489,351	3,118,380
<i>Financing activities</i>											
Project Loan - principal repayment		-	(209,906)	(227,329)	(246,197)	(266,631)	(288,761)	(312,728)	(338,684)	-	-
Additions to Project Loan	1,890,236	-	-	-	-	-	-	-	-	-	-
Issuance of shares	210,026	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	2,100,263	-	(209,906)	(227,329)	(246,197)	(266,631)	(288,761)	(312,728)	(338,684)	-	-
Capital expenditure	(1,800,000)	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing activities	(1,800,000)	-	-	-	-	-	-	-	-	-	-
NET CASH	50,000	198,885	27,168	358,201	42,426	814,640	447,811	1,401,959	954,946	2,489,351	3,118,380

13.4 Useful Project Management Tips

Technology

- **List of Machinery & Equipment** (As per Section 11.5)
- **Machinery Suppliers:** Should be asked for training and after sales services under the contract with the machinery suppliers.
- **Quality Assurance Equipment & Standards:** Whatever means required products quality standards need to be defined on the packaging and a system to check them instituted, this improves credibility.

Marketing

- **Product Development & Packaging:** Expert's help may be engaged for product / service and packaging design & development.
- **Ads & P.O.S. Promotion:** Business promotion and dissemination through banners and launch events is highly recommended. Good quality product brochures.
- **Price - Bulk Discounts, Cost plus Introductory Discounts:** Price should never be allowed to compromise quality. Price during introductory phase may be lower and used as promotional tool. Product cost estimates should be carefully documented before price setting. Government controlled prices shall be displayed.

Human Resources

- **List of Human Resource** (As per Section 11.8)
- **Adequacy & Competencies:** Skilled and experienced staff should be considered an investment even to the extent of offering share in business profit.
- **Performance Based Remuneration:** Attempt to manage human resource cost should be focused through performance measurement and performance based compensation.
- **Training & Skill Development:** Encouraging training and skill of self & employees through experts and exposure of best practices is route to success. Least cost options for Training and Skill Development (T&SD) may be linked with compensation benefits and awards.

13.5 Useful Links

- Prime Minister's Office, www.pmo.gov.pk
- Government of Pakistan, www.pakistan.gov.pk
- Ministry of Industries & Production, www.moip.gov.pk
- Small & Medium Enterprises Development Authority (SMEDA), www.smeda.org.pk
- Ministry of National Food Security & Research, www.mnfsr.gov.pk
- Ministry of Education, Training & Standards in Higher Education, www.moptt.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 Jammu Kashmir, www.ajk.gov.pk
- Trade Development Authority of Pakistan (TDAP), www.tdap.gov.pk
- Security Commission of Pakistan (SECP), www.secp.gov.pk
- Federation of Pakistan Chambers of Commerce and Industry (FPCCI), www.fpcci.com.pk
- Punjab Board of Investment & Trade (PBIT), www.pbit.gop.pk
- Sindh Board of Investment (SBI), www.sbi.gos.pk
- State Bank of Pakistan (SBP), www.sbp.org.pk
- National Bank of Pakistan (NBP), www.nbp.com.pk
- First Women Bank Limited (FWBL), www.fwbl.com.pk
- Society of Animal, Veterinary and Environmental Scientists (SAVES) Organization, Quetta, www.saves.org.pk
- Camel Association of Pakistan (CAP), Quetta, c/o SAVES, www.saves.org.pk
- Pakistan Agricultural Research Council (PARC), Islamabad, www.parc.gov.pk
- National Agricultural Research Centre (NARC), Islamabad, www.parc.gov.pk
- National Veterinary Laboratory, NARC, Islamabad, Tel. 051-9255108
- Balochistan Agricultural Research Centre (BARC), Quetta, Tel: 081-9213286-7, www.parc.gov.pk
- Southern-zone Agricultural Research Centre (SARC), Karachi, Tel: 021-99261661, 99261561, www.parc.gov.pk
- Arid Zone Research Institute (AZRI), Bahawalpur, Tel: 0622-876833, www.parc.gov.pk
- Punjab Livestock & Dairy Development Board (PLDDB), www.plddb.pk

- Faculty of Animal Husbandry, University of Agriculture, Faisalabad, www.uaf.edu.pk
- Faculty of Veterinary Sciences, University of Agriculture, Faisalabad, www.uaf.edu.pk
- Faculty of Veterinary and Animal Sciences, Lasbela University of Agriculture, Water & Marine Sciences, Lasbela, www.luawms.edu.pk
- Faculty of Veterinary Sciences and Animal Husbandry, 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), www.uvas.edu.pk
- Bahauddin Zakariya University (BZU), Multan, www.bzu.edu.pk
- Animal Husbandry In-Service Training Institute (AHITI), Peshawar, Tel. 091-2960109, 9210309
- Veterinary Research Institute (VRI), Ghazi Road, Lahore Cantt., Tel. 042-99220140
- Agribusiness Support Fund (ASF), Lahore, www.asf.org.pk
- Directorate of Livestock Farms, L&DD, Lahore, Tel: 042-99201126-7
- Govt. Livestock Farm, Camel Breeding & Research Station, Rakh Mahni, Dist. Bhakkar c/o L&DD, Lahore, Tel: 042-99201126-7
- Govt. Livestock Farm (GLF) Kallurkot District Bhakkar, Tel: 0453-200928
- Livestock Experiment Station (LES), Rakh Ghulaman, District Bhakkar, Tel: 0453-446134
- Livestock Experiment Station (LES), Khizarabad, District Sargodha, Tel: 048-3019835
- Research & Development Centre, Rakh Khairewala, District Layyah
- Livestock Experiment Station (LES), Khushab Tel: 0454-215543
- Livestock Experiment Station (LES), Chak Katora District Bahawalpur, Tel: 062-2442589
- Livestock Experiment Station (LES), Haroonabad, District Bahawalnagar, Tel: 063-2252960
- Livestock Experiment Station (LES), Dera Chahl Lahore, L&DD, Punjab, Tel: 042-99239818, 99239819
- Directorate of BLPRI, Kherimurat (Attock), L&DD, Punjab, Tel: 057-2213422, 2212130, 2210781

- Directorate of Livestock Training Centre (LSTC), Bahadurnagar, Okara, Tel: 044-2661393
- Livestock Training Centre (LSTC), Sheikhpura, Tel: 056-9200056
- 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

14 Key Assumptions

Table A: Revenue Calculation basis

No. of Male camels in parent herd	1
No. of Female camels in parent herd	10
Calving interval (years)	2
Fertility percentage in herd	70%
Mortality percentage in new born	2%
Mortality percentage in breeder	2%
Culling percentage in all herds	3%
Age of female camel at first calving (years)	5
Male to female ratio in new born	50:50
Gestation time period (days)	388
Lactation Period (days)	300
Milk production per animal per year (litres)	4,500
Saleable Milk per animal per year (litres)	4,140
Sales price per litre of milk (Rs.)	85
Sales price of 2 year old male camels (Rs.)	90,000
Sales price of female breeder camels for culling (Rs.)	90,000
Sales price growth rate	10%
Cost of female breeders (Rs.)	150,000
Cost of male breeders (Rs.)	180,000
Cost of goods sold growth rate	10%
Per day feed cost for pregnant/lactating camels (Rs.)	110
Per day feed cost for other animals (Rs.)	70

Table B: Economy Related Assumptions

Inflation rate	10%
Electricity growth rate	10%
Water price growth rate	10%
Wage growth rate	10%