



Pre-feasibility Study

TROUT REEFER VAN

May 2022

“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

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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2. EXECUTIVE SUMMARY

Maize Silage processing unit is proposed to be located at fodder sufficient areas with suitable land, water, and climatic conditions. These areas include, Jafferabad, and Lasbela (Baluchistan), Bannu, Charsada, D.I. Khan, Kohat, Mardan, Nowshera, and Swabi (Khyber Pakhtunkhwa), Badin, Hyderabad, Mirpurkhas, Tando Adam, and Tando Jam (Sind), Arifwala, Bhurewala, Chiniot, Faisalabad, Khanewal, Multan, Melsi, Sahiwal, and Vehari (Punjab). Few areas of GB may also be considered for the project.

The proposed project will have the installed capacity of 10,800,000 Kg/ year but keeping in view the ground realities of Pakistan, the operation will start with a capacity of 60% (6,480,000 Kg/Year) and continue with the same.

The total Project Cost is **Rs. 8,611,590** including the Capital Cost of **Rs. 7,861,590** and the Working Capital of **Rs. 750,000**. Given the cost assumptions, Internal Rate of Return (IRR) and payback are **30%** and **3.57** years respectively, hence making the project viable. The NPV @ 17% is **Rs. 5,371,732**.

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

- Location must have sufficient maize crop. It should preferably be an area with 10,000 tons, however with a minimum 6,000 tons of harvest area the machine will need to be moved to nearest area for capacity optimization.
- Availability of 03 phase electricity and tractor.
- Proximity of commercial dairy farms.

3. 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 Tilapia Aquaculture 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 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.

4. 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.

5. BRIEF DESCRIPTION OF PROJECT AND PRODUCT

The project is related to setting up Trout Reefer Van with following detail:

- **Technology:** The proposed reefer van will start be a refrigerated van mounted on 2600 cc vehicle while equipped with controlled temperature container installed on it.
- **Location:** The unit may be located at areas having abundant supply or sufficient demand of cold water fish.
- **Product:** The van will transport fry (1" to 4" size), live fish, and fish meat.
- **Target Market:** Trout fish hatcheries, fish farms, hotels, restaurants, and super stores.
- **Employment Generation:** The proposed project will initially provide direct employment to 02 persons. The indirect employment is at the time of maize harvesting season.
- **Profitability:** The Financial Analysis shows the unit to be profitable from the very first year of the operation.

5.1) Process Flow

Trout fish being reared in areas having cold weather during summer, is consumed in same areas due to the high influx of tourists. In winters, the demand comes from major cities like, Islamabad, Karachi, and Lahore.

Live Trout Fry Transportation

50% of orders: The van will carry live fry from hatcheries to farms from November to April.

Live Trout Fish Transportation

40% of orders: From the month of May to September, live trout fish will be transported from farms to other farms, hotels, and restaurants having own system for stocking.

Fish Meat Transportation

10% of orders: Owing to the demand in major cities, the van will continue transportation to Islamabad, and Lahore from December to February.

5.2) Installed and Operational Capacities

The stocking capacity of this specific reefer van is as given below:

Live Fish	:	200 Kg
Fish Meat	:	4 Tons
Live Fry (1 inch size)	:	100,000 fry
Live Fry (2 inch size)	:	50,000 fry
Live Fry (4 inch size)	:	10,000 fry

Though the reefer van may charge against services on the basis of the above capacity but keeping in view the practices of logistics sector, the revenue stream of this van will be based upon Rupees per kilometer. Thus, the installed capacity of this specific reefer van is 52,800 Km per year (200 Km/Day x 22 Days x 12 Months). The project will start with 80% utilization in first year, and optimize at 95% while growing at 50% per year.

6. CRITICAL FACTORS

The following factors should be considered thoroughly:

- Located in an area with over 50 trout fish farms and preferably a hatchery.
- Strong marketing campaign.
- Backward and forward Linkages.

7. GEOGRAPHICAL POTENTIAL FOR INVESTMENT

These areas include:

- ✚ Gilgit, Hunza, and Skradu (GB).
- ✚ Kalam, Naran, and Madyan (KP).

8. POTENTIAL TARGET CUSTOMER/MARKETS

Live fry customers are the trout fish farms whereas live fish is transported to small fish farms, local hotels and restaurants. The fish meat is transported to restaurants and super stores of Karachi, Islamabad, and Lahore. Another chunk of fish meat customers, is the affluent people buying trout as gift to friends and relatives in major cities.

9. PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of the Trout Reefer Van. Various cost and revenue related assumptions along with results of the analysis are outlined in this section.

9.1) Project Economics

All the figures in this financial model have been calculated for installed and operational capacity as mentioned in the above section.

The following table shows internal rates of return and payback period.

Table 1 - Project Economics

Description	Details
Internal Rate of Return (IRR)	30%
Payback Period	3.57 Years
Net Present Value (NPV)	Rs. 5,371,732

9.2) Project Financing

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

Table 2 - Project Financing

Description	Details
Total Equity (50%)	Rs. 4,305,384
Bank Loan (50%)	Rs. 4,305,384

9.3) Project Cost

Following requirements have been identified for operations of the proposed business.

Table 3: Project Cost

Description	Amount Rs.
Capital Cost	
Land (500 Sq Ft)	617,500
Infrastructure Development	573,000
Machinery and Equipment	6,000,000
Furniture and Fixtures	464,000
Office Equipment	170,000
Pre-operating Cost	37,090
Total Capital Cost	7,861,590
Working Capital	
Raw Material Inventory	-
Upfront Insurance Payment	300,000
Cash	450,000
Total Working Capital	750,000
Total Project Cost	8,611,590

9.4) Space Requirement

This proposed project may be established on 500 Sq. Ft land acquired on ownership or lease. This study assumes own land for working.

Table 4: Space Requirement

Space Requirement (in Sq. ft.)	Rs/Unit	Units	Amount (Rs.)
Shed for Reefer Van	1,500	200	300,000
Office	1,500	100	150,000
Washroom	1,800	25	48,000
Others	-	-	75,000
Total			573,000

9.5) Machinery and Equipment

Following table provides list of machinery and equipment. Costs may vary from area to area and underground water table.

Table 5: List of Machinery and Equipment

Space Requirement (in Sq. ft.)	Rs/Unit	Units	Amount (Rs.)
Reefer Van 2600 cc	5,950,000	01	5,950,000
Miscellaneous Tools/Utensils	-	-	50,000
Total			6,000,000

9.6) Furniture and Fixtures

Table 6: List of Furniture and Fixtures

Description	Units	Cost Rs/unit	Total (Rs.)
Chairs	06	3,000	18,000
Solar System (3 Kw)	01	400,000	400,000
DC Room Coolers	03	7,000	21,000
Lighting and Electrification	-	-	15,000
Miscellaneous			10,000
Total			464,000

9.7) Office Equipment

Table 7: List of Office Equipment

Description	Units	Cost Rs/unit	Total (Rs.)
Desktop Computer	01	80,000	80,000
Printer	01	50,000	50,000
Cell Phone	01	40,000	40,000
Total			170,000

9.8) Human Resource Requirement

Table 8: Payroll For Financial Analysis (Human Resource Requirements)

Description	No.	Monthly Salary/ Person (Rs.)	Months (No.)	First Year Salaries (Rs)
Driver	01	25,000	12	300,000
Cleaner	01	18,000	12	216,000
Total Cost				516,000

9.9) Utilities and Other Costs

Being a service oriented business concern, the project incurs the following expenses:

Table 9: Miscellaneous

Description	Rs./Production Cycle
Machinery Maintenance	72,000
Communication Expenses	18,000
Fuel @ Rs. 25.5/Km	807,840
Total	897,840

9.10) Revenue Generation

The revenue stream is calculated on the basis of service charges against provision of transportation to clients. Rs. 70/Km will be charged against core transportation

activity of trout. However, for increased efficiency, transportation of warm water fish on way back from Islamabad and Lahore will result in Rs. 100/Km revenues.

Table 10: Revenue Generation

Product	Unit	Service Charges (Rs./Unit)	First Year Travel	First Year Revenue (Rs)
Trout Fry and Fish	Km	100	42,240	4,224,000
Total Revenue				4,224,000

10. CONTACTS

Zakariya and Sons

Business: Machinery suppliers.
 Contact Person: Waqar Tanoli
 Contact Detail: Phone: +92 3005519099
 Email: zakariaandsons@gmail.com

11. USEFUL WEB LINKS

Small & Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
Government of Pakistan	www.pakistan.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
Security Commission of Pakistan (SECP)	www.secp.gov.pk
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	www.fpcci.com.pk
State Bank of Pakistan (SBP)	www.sbp.org.pk
Fisheries Development Board	Phone: +92 51 923 0348-9 Fax: +92 51 8365937
NARC	www.parc.gov.pk

12. ANNEXURES

12.1) Income Statement

	Rs. in actuals									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	4,224,000	5,517,600	6,069,360	6,676,296	7,343,926	8,078,318	8,886,150	9,774,765	10,752,241	11,827,466
Cost of goods sold	1,693,229	2,103,994	2,312,899	2,542,549	2,795,005	3,072,531	3,377,618	3,713,002	4,081,693	4,487,000
Gross Profit	2,530,771	3,413,606	3,756,461	4,133,747	4,548,921	5,005,787	5,508,532	6,061,763	6,670,548	7,340,466
<i>General administration & selling expenses</i>										
Administration expense	-	-	-	-	-	-	-	-	-	-
Rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	-	-	-	-	-	-	-	-	-	-
Travelling & Comm. expense (phone, fax, etc.)	-	-	-	-	-	-	-	-	-	-
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	-	-	-	-	-	-	-	-	-	-
Promotional expense	-	-	-	-	-	-	-	-	-	-
Insurance expense	300,000	270,000	240,000	210,000	180,000	150,000	120,000	90,000	60,000	30,000
Professional fees (legal, audit, etc.)	21,120	27,588	30,347	33,381	36,720	40,392	44,431	48,874	53,761	59,137
Depreciation expense	692,050	692,050	692,050	692,050	692,050	692,050	692,050	692,050	692,050	692,050
Amortization expense	7,253	7,253	7,253	7,253	7,253	-	-	-	-	-
Property tax expense	-	-	-	-	-	-	-	-	-	-
Miscellaneous expense	126,720	165,528	182,081	200,289	220,318	242,350	266,584	293,243	322,567	354,824
Subtotal	1,147,143	1,162,419	1,151,731	1,142,974	1,136,341	1,124,791	1,123,065	1,124,167	1,128,378	1,136,011
Operating Income	1,383,628	2,251,187	2,604,730	2,990,773	3,412,580	3,880,996	4,385,467	4,937,596	5,542,170	6,204,455
Other income	-	-	-	-	-	-	-	-	-	-
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	1,383,628	2,251,187	2,604,730	2,990,773	3,412,580	3,880,996	4,385,467	4,937,596	5,542,170	6,204,455
Interest expense	537,878	432,103	343,006	242,326	128,558	-	-	-	-	-
Earnings Before Tax	845,750	1,819,084	2,261,724	2,748,447	3,284,022	3,880,996	4,385,467	4,937,596	5,542,170	6,204,455
Tax	270,640	582,107	723,752	879,503	1,050,887	1,241,919	1,403,349	1,580,031	1,773,494	1,985,426
NET PROFIT/(LOSS) AFTER TAX	575,110	1,236,977	1,537,972	1,868,944	2,233,135	2,639,077	2,982,118	3,357,565	3,768,675	4,219,029

12.2) Balance Sheet

	Rs. in actuals										
	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	450,000	505,564	1,582,793	1,969,546	2,149,408	2,214,520	3,087,647	3,936,279	4,786,419	5,652,453	6,543,092
Accounts receivable	-	347,178	400,340	476,176	523,794	576,173	633,791	697,170	766,887	843,576	927,933
Finished goods inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment spare part inventory	-	-	-	-	-	-	-	-	-	-	-
Raw material inventory	-	-	-	-	-	-	-	-	-	-	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	300,000	270,000	240,000	210,000	180,000	150,000	120,000	90,000	60,000	30,000	-
Total Current Assets	750,000	1,122,742	2,223,133	2,655,722	2,853,202	2,940,693	3,841,438	4,723,449	5,613,306	6,526,028	7,471,026
<i>Fixed assets</i>											
Land	617,500	617,500	617,500	617,500	617,500	617,500	617,500	617,500	617,500	617,500	617,500
Building/Infrastructure	573,000	544,350	515,700	487,050	458,400	429,750	401,100	372,450	343,800	315,150	286,500
Machinery & equipment	6,000,000	5,400,000	4,800,000	4,200,000	3,600,000	3,000,000	2,400,000	1,800,000	1,200,000	600,000	-
Furniture & fixtures	464,000	417,600	371,200	324,800	278,400	232,000	185,600	139,200	92,800	46,400	-
Office vehicles	-	-	-	-	-	-	-	-	-	-	-
Office equipment	170,000	153,000	136,000	119,000	102,000	85,000	68,000	51,000	34,000	17,000	-
Total Fixed Assets	7,824,500	7,132,450	6,440,400	5,748,350	5,056,300	4,364,250	3,672,200	2,980,150	2,288,100	1,596,050	904,000
<i>Intangible assets</i>											
Pre-operation costs	36,267	29,014	21,760	14,507	7,253	-	-	-	-	-	-
Legal, licensing, & training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	36,267	29,014	21,760	14,507	7,253	-	-	-	-	-	-
TOTAL ASSETS	8,610,767	8,284,206	8,685,293	8,418,579	7,916,755	7,304,943	7,513,638	7,703,599	7,901,406	8,122,078	8,375,025
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	96,759	126,391	139,030	152,933	168,226	185,049	203,554	223,909	246,300	270,930
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	96,759	126,391	139,030	152,933	168,226	185,049	203,554	223,909	246,300	270,930
<i>Other liabilities</i>											
Lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	270,640	852,747	960,000	960,000	960,000	768,000	576,000	384,000	192,000	0
Long term debt	4,305,384	3,323,868	2,638,506	1,864,046	988,907	-	-	-	-	-	-
Total Long Term Liabilities	4,305,384	3,594,508	3,491,253	2,824,046	1,948,907	960,000	768,000	576,000	384,000	192,000	0
<i>Shareholders' equity</i>											
Paid-up capital	4,305,384	4,305,384	4,305,384	4,305,384	4,305,384	4,305,384	4,305,384	4,305,384	4,305,384	4,305,384	4,305,384
Retained earnings	-	287,555	762,266	1,150,119	1,509,532	1,871,333	2,255,205	2,618,661	2,988,113	3,378,394	3,798,712
Total Equity	4,305,384	4,592,939	5,067,650	5,455,503	5,814,915	6,176,717	6,560,589	6,924,045	7,293,497	7,683,778	8,104,095
TOTAL CAPITAL AND LIABILITY	8,610,767	8,284,206	8,685,293	8,418,579	7,916,755	7,304,943	7,513,638	7,703,599	7,901,406	8,122,078	8,375,025

12.3) Cash Flow Statement

	Rs. in actuals										
	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	-	575,110	1,236,977	1,537,972	1,868,944	2,233,135	2,639,077	2,982,118	3,357,565	3,768,675	4,219,029
Add: depreciation expense	-	692,050	692,050	692,050	692,050	692,050	692,050	692,050	692,050	692,050	692,050
amortization expense	-	7,253	7,253	7,253	7,253	7,253	-	-	-	-	-
Deferred income tax	-	270,640	582,107	107,253	-	-	(192,000)	(192,000)	(192,000)	(192,000)	(192,000)
Accounts receivable	-	(347,178)	(53,162)	(75,837)	(47,618)	(52,379)	(57,617)	(63,379)	(69,717)	(76,689)	(84,358)
Finished good inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment inventory	-	-	-	-	-	-	-	-	-	-	-
Raw material inventory	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(300,000)	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Accounts payable	-	96,759	29,632	12,639	13,903	15,293	16,823	18,505	20,355	22,391	24,630
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(300,000)	1,324,634	2,524,858	2,311,331	2,564,533	2,925,352	3,128,332	3,467,293	3,838,254	4,244,428	4,689,352
<i>Financing activities</i>											
Change in long term debt	4,305,384	(981,515)	(685,362)	(774,459)	(875,139)	(988,907)	-	-	-	-	-
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	4,305,384	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financ	8,610,767	(981,515)	(685,362)	(774,459)	(875,139)	(988,907)	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(7,860,767)	-	-	-	-	-	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by invest	(7,860,767)	-	-	-	-	-	-	-	-	-	-
NET CASH	450,000	343,119	1,839,496	1,536,872	1,689,393	1,936,445	3,128,332	3,467,293	3,838,254	4,244,428	4,689,352

13. KEY ASSUMPTIONS

13.1) Operating Cost Assumptions

Description	Details
Hours Operational Per Day	200
Days Operational Per Month	22
Days Operational Per Year	264
Operating Cost Growth Rate (per annum)	10%

13.2) Production Cost Assumptions

Description	Details
COGS Annual Growth Rate	10%

13.3) Revenue Assumptions

Description	Details
Sales Price Growth Rate	10%
Maximum Capacity Utilization	95%
Initial Capacity Utilization	80%

13.4) Economy Related Assumptions

Description	Details
Inflation Rate	10%
Electricity Price Growth Rate	10%
Wage Growth Rate	10%

Small and Medium Enterprises Development Authority

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