



## **Pre-Feasibility Study**

### **A Process for the Production of De-Foamer for Emulsion Paint**

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*Note: All Services / information related to PM's Youth Business Loan are Free of Cost*

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## **1. DISCLAIMER**

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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, and production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in De-foamer by providing them 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 models 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.

## **3. INTRODUCTION TO PCSIR LABORATORIES COMPLEX KARACHI.**

Applied Chemistry Research Centre (ACRC) Pakistan Council of Scientific and Industrial Research (PCSIR) is the leading research and development (R&D) organization first of its kind in Pakistan for polymers (plastic and rubber), industrial chemicals, chemical pesticides and fungicides, fertilizers, textile (dyes and pigments), intermediate chemicals research. ACRC has over several years developed the potential to undertake wide-ranging of analyses and testing of not only polymers or polymeric related materials, textile and other materials. Consequently ACRC has served a number of

industries in helping the evaluation of their polymers or polymeric related materials, textile and other materials. The ACRC is actively occupied in scientific/technological research and development relating to polymers, textile, pesticides, fungicides and fertilizers. The ACRC has attained sufficient know-how to perform the research and offer technical support and services to all Government agencies, educational institutes, autonomous bodies, as well as various private and public sector organizations. Our task is also to encourage the basic and applied research, analytical testing and improve fundamental appreciative of plastic/rubber, textile auxiliaries, pesticides and fungicides, fertilizers

#### **4. EXECUTIVE SUMMARY**

This meticulous pre-feasibility is for manufacturing of De-foamer for emulsion paints in any industrial bunch of any major city of Pakistan falls in the segment of light industry. Paint Industry of Pakistan, including emulsion based manufactured, is ranked among Pakistan's top 15 export earners, contributing significantly to the national exchequer, saving billion of dollars by reducing foreign imports of the paint auxiliaries. International demand for Pakistan products, low investment as compared to other sectors, easy availability of raw material and availability of skilled labor are some of the encouraging factors that provide a potent opportunity for a new entrant to venture into paint Industry business. The business project entail involves a total investment of near about Rs. 1.8 - 2.0 million. The project will generate direct employment opportunity at least for 8 persons. Higher return on investment and a steady growth of business is expected with the industrialist having some prior experience or education in the related field of business. This pre-feasibility encompasses essential information regarding various aspects of starting a de-foamer manufacturing unit.

#### **5. INTRODUCTION TO SCHEME**

Prime Minister's 'Youth Business Loan', for young entrepreneurs, with an allocated budget of Rs. 5.0 Billion for the year 2013-14, is designed to provide subsidized financing at 8% mark-up per annum for one hundred thousand (100,000) beneficiaries, through designated financial institutions, initially by 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 up to 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).

## **6. BRIEF DESCRIPTION OF PROJECT & PRODUCT**

De-foamer is useful and necessary additives especially for the manufacturing of emulsion and latex paints. Without anti-foam, the formation of bubbles and foams in the preparation of water dispersible paints may reach almost fantastic proportions. This shows down not only the actual processing of the paints but also becomes a real nuisance in filling the paint container. De-foam, as indispensable aids in the prevention and reduction of foam formation, effect considerable savings in production time and cost. They also make the job of the painter much easier, when the paint is being brushed.

Most of the De-foamer is imported from all over the world for the fulfillment of the requirement and need of the paint industries. Our country invests a lot of money on import. This project is the import substitution of paint auxiliaries and for Anti-foams. Therefore, it is comparatively preferable to developed De-foamer locally to save the expenditure on import.

The De-foamer unit (on small scale) requires Rs. 180,000/= (approx.) for the production of De-foamer at PCSIR Laboratories Complex Karachi

## **7. CRITICAL FACTORS**

- Availability of skilled labor.
- Lack of marketing and advertising of the products in public sector.
- Higher return on investment and a steady growth of business is closely associated with regular training and capacity building of the entrepreneur and employees.
- Prior experience and related /education in the related field of business.

## **8. INSTALLED & OPERATIONAL CAPACITIES**

See the number 12 (PROJECT COST SUMMARY)

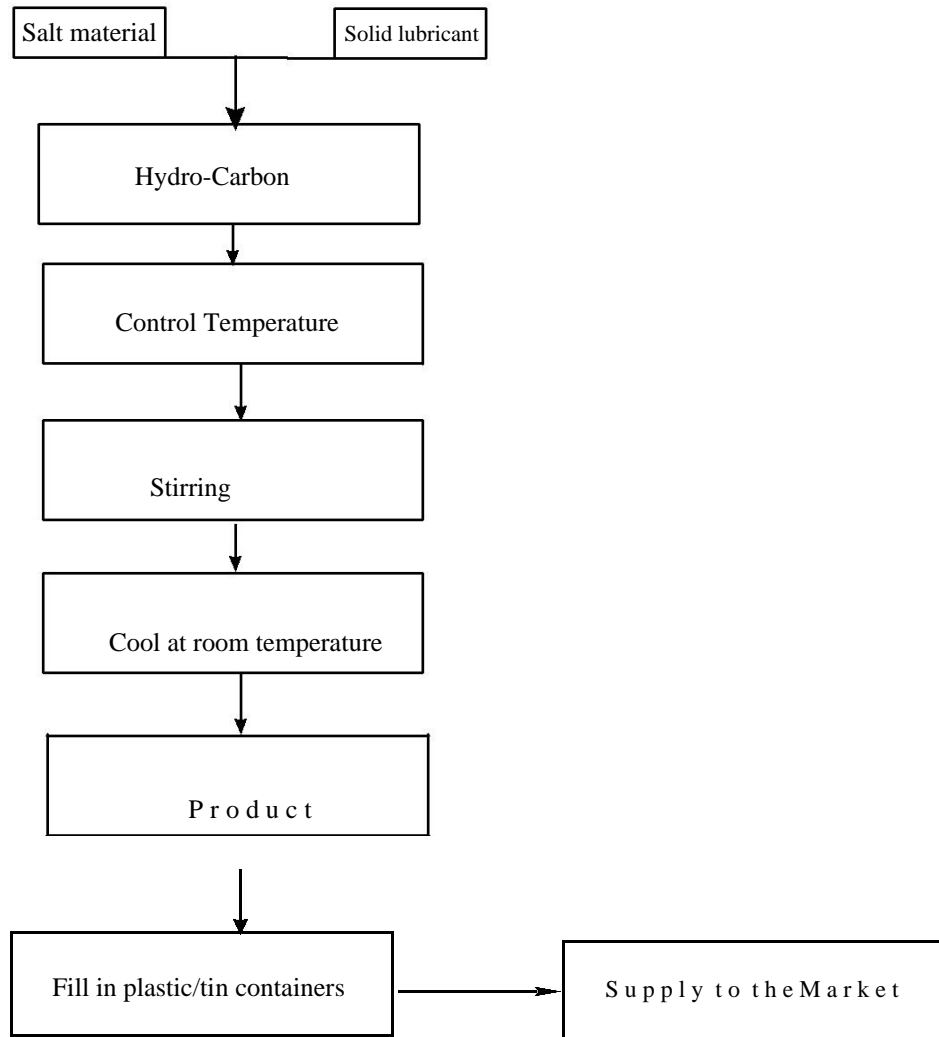
## **9. GEOGRAPHICAL POTENTIAL FOR INVESTMENT**

Karachi, and Lahore are two key bunches of paint manufacturing area's. Production unit can be established in the suburbs / periphery areas of these cities.

## 10. POTENTIAL TARGET MARKETS

Local Paint Industries

## 11. PRODUCTION PROCESS FLOW



## 12. PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of fat-liquor under the 'Prime Minister's Youth Business Loan' scheme the project. Various cost and revenue related assumptions along with results of the analysis are outlined in this section.

<b>Name of product/ Activity:</b>	De-Foamer
<b>Capacity:</b>	500 kg/Batch
<b>Production time per batch:</b>	Per day
<b>Packing Size:</b>	10 and 25 Kg (According to demand)

### 12.1 Project Economics

Production capacity 20,000 -28,000 kg (500 kg/week) per year.

The following table shows internal rate of return, payback period and Net Present Value;

**Table 1: Project Economics**

Description	Details
Internal Rate of Return (IRR)	80%
Payback Period (yrs)	---
Net Present Value (NPV)	---

### 12.2 Project Financing

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

**Table 2: Project Financing**

Description	Details
Total Equity (10%)	Rs. 177080
Bank Loan (90%)	Rs. 15,03,720
Markup to the Borrower (% age/annum)	8%
Tenure of the Loan (Years)	8
Grace Period (Year)	1

### 12.3 Project Cost

Following requirements have been identified for the operation of the proposed business. A rental premise has been recommended for this project.

**Table 3: Project Cost**

Capital Investment	Amount (Rs.)
Machinery	6,50,000.0
Furniture and Fixture	140000.0
Office Equipment	140000.0
Technology Charged TBIC	300000.0
Preoperational expenses	250,000
<b>Total Capital Cost</b>	<b>1480000.0</b>

Initial Working Capital	500000.0
Total Project Cost	1980000.0

#### 12.4. Space Requirement

The area has been calculated on the basis of space requirement for production, management and storage. However, the units operating in the industry do not follow any set pattern. Following table shows calculations for project space requirement.

**Table 4: Space Requirement**

Space Requirement	Yards
Management building	80
Processing area	80
Open area	50
<b>Total Area</b>	<b>230 yards</b>

Premises will be obtained on rent @ Rs. 30,000-50,000 per month.

#### 12.5 Machinery and Equipment

Following table provides list of machinery and equipment required for an average De-Foamer processing unit raw to finish.

**Table 5: Machinery & Equipments**

Equipment Description	Quantity	Cost Rs/unit	Total Rs.
Reaction Vessel with stirrer	One	450000	450000
Packing Machine	One	50000	50000.0
Pumps/Electrical Motor	3	25000	75000.0
Shaker (Stainless Steel)	1	20000	20000.0
Plastic drums 600 kg capacity	3	2000	6000.0
Bucket ( 20 liters )	4	400	1600.0
Mugs	4	50	200.0
Working tables with stone surface	4	5000	20000.0
Gloves	4	100	400.0
Lab coats	6	250	1500.0
Glasses (Experimental)	8	400	3600.0
Packing drums	25		3000
Tools, gauges, patterns, knives, etc		5000	5000.0
<b>Total</b>			<b>615900.0</b>

**Note:** The cost may vary at the time of purchase.

### 12.6 Furniture & Fixture

Following furniture and fixture will be required for the unit:

**Table 6: Furniture & Fixture**

Details	Quantity	Cost	Amount (Rs.)
Office / Visitor Chairs	6	6,000	36000.0
Office Tables	2	10,000	20000.0
Fans (Pedestal and Ceiling)	5	3,500	17,500.0
Air Conditioner (1.5 ton Split) for office	1	65,000	65,000.0
<b>Total</b>			<b>Rs. 138500.0</b>

### 12.7. Office Equipment

Office equipment comprises of necessary IT equipment items.

**Table 7: Office Equipment**

Details	Quantity	Cost	Amount
Computer laptop	1	65,000	65,000.0
Computer desktop (used)	1	35,000	35,000.0
Computer printer	2	18,000	18,000.0
Flat bed scanner	1	10,000	10,000.0
Networking	1	5000.0	5000.0
Telephone	3	1,500	1,500.0
<b>Total</b>	9		<b>Rs. 134500.0</b>

### 12.8 Raw Material Requirements

The raw materials are easily available in local market..

**Table 8: Cost of Materials**

Unit	Rate (Rs.)	Amount for 500 kg
Chemicals	160-180 per kg	78750
Total Chemicals	10000	15000
Electric , water ,	1000.0	1000.0
<b>Cost per Unit</b>		<b>94750/-</b>

*Cost Rs.190/kg*



## 12.9 Human Resource Requirement

Following table provides details of human resource required for this venture:

**Table 9: Human Resource Requirement**

<b>Description</b>	<b>No. of Employees</b>	<b>Salary per employee per month (Rs.)</b>
Scientists/ Technologist	2	100,000
Un-skilled persons	3	20,000
<b>Total Staff</b>	<b>5</b>	<b>1,20,000</b>

Salaries of all employees are estimated to increase at 10% annually.

## 12.10 Revenue Generation

**Table 10: Revenue Generation**

<b>Product</b>	<b>Sales Price (Rs./Unit)</b>	<b>First Year production Quantity</b>	<b>First Year Sales Revenue (Rs)</b>
Anti-foam	Rs. 250-280/kg	20000-28000 kg*	Approx 5 Million*

\* As per demand

## 13. CONTACT DETAILS

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