
Pre-Feasibility Study

FIBERGLASS BOAT MANUFACTURING UNIT



Small and Medium Enterprises Development Authority

Ministry of Industries and Production

Government of Pakistan

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May 2021

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1 DISCLAIMER

The objective of 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 have been taken to compile this document, the contained information may vary due to any of the concerned factors. The future is uncertain, 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 to be obtained by the user. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information necessary for making an informed decision, including taking professional advice from a qualified consultant/technical expert before making any decision to act upon the information.

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Document Control

Document No.	PREF-NO 22
Revision	No. 01
Prepared by	SMEDA Punjab – OS
Revision Date	May, 2021
For information	helpdesk.punjab@smeda.org.pk

2 EXECUTIVE SUMMARY

Fiberglass is very lightweight, solid and durable material, which can be fabricated into different type of products and shapes. Fiberglass boat manufacturing became popular in the 1960s and is perhaps the most common way boats are built today. Fiberglass boats are mainly used for fishing, tourism, transportation and water sports etc.

This particular pre-feasibility study provides basic information for setting up a 'Fiberglass Boat Manufacturing Unit'. The proposed unit can manufacture 188 Fiberglass Boats of 3 different sizes (i.e. 8 feet, 24 feet and 48 feet) per year based on 300 working days with 12 hours shift per day. However, starting operational capacity is assumed at 65% (i.e. 123 Boats) with an annual increase of 5% up to maximum capacity of 95% (i.e. 179 Boats) in year 7 (i.e. 179 boats). This production capacity is estimated to be economically viable and justifies the capital and operational cost of the project.

Entrepreneur's knowledge of the fiberglass manufacturing, availability of skilled worker and product quality are critical factors for the success of this business. Some of the recommended locations are Karachi, Ormara, Pasni and Gwadar for establishing the proposed business. The unit will operate on order manufacturing basis, especially targeting fishermen, beach resort owners, water sports organizers and administrators of water based recreational and tourist places.

The project cost is estimated as Rs. 55.77 million with a capital investment of Rs. 53.49 million and working capital of Rs. 2.27 million. Based on an equity finance model, the project NPV is around Rs. 47.28 million, with an IRR of 33% and a Payback Period of 3.70 years. The project will provide employment opportunities to 22 individuals, including the owner. The legal business status of this project is proposed as '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 the development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through the 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 investment areas have 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 the 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, production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in the Fiberglass Boat Manufacturing Unit 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 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 the basis of an informed Investment Decision.

5 BRIEF DESCRIPTION OF PROJECT AND PRODUCT

Fiberglass is a Fiber-Reinforced Polymer (FRP) made of plastic reinforced by glass fibers. It is an attractive, lightweight, solid and durable material. It is also highly resistant to environmental extremes and corrosion. FRP can be tooled, molded, and fabricated into almost any shape or design. Fiberglass products are chemically inert, structurally stable and exhibit the least amount of expansion and contraction with temperature fluctuations compared to traditional materials. In addition to that fiberglass products are very affordable and cost-effective solutions for virtually any application, component, or part. All these qualities make fiberglass ideal for the production of boats.

As a material for boat manufacturing, fibreglass has gained popularity over wood and metal in both developed and developing countries since 1960s, mainly due to

relatively simple manufacturing process, ability to produce many identical structures from a single mold and ease of repair and maintenance. Presently, fiberglass is perhaps the most common material used for manufacturing of all types of boats. Generally, fiberglass boats are used for multipurposes ranging from catching fish to water sports, tourism, recreational activities and transportation.

The key to producing high-quality fiber glass boats is a good mold. Once the mold is created, it can produce hundreds of boats with precisely the same shape as the original boat. The proposed unit will construct three sizes of molds (i.e. 8 feet, 24 feet and 48 feet) using wooden frames for manufacturing boats. The labour and time required in manufacturing of a boat will vary according to size of boat. Machinery will include Fiberglass Spray Gun, Compressor, Welding Plant and Gantry Crane. The raw material will be purchased from the local market.

The manufacturing unit is proposed to be established on the coastal belt, where the basic raw materials can easily be transported. Karachi, Keti Bandar, Gadani, Jiwani, Ormara, Pasni and Gwadar are some of the suitable locations. The unit will operate on order manufacturing basis, especially catering to needs of fishermen, beach resort owners, water sports organizers and administrators of water based recreational and tourist places. Financial analysis shows the unit shall be profitable from the very first year of operation. The legal status is proposed to be 'Sole Proprietorship'.

5.1 Production Process Flow

The brief overview of the production process flow of the proposed 'Fiberglass Manufacturing Unit' mainly comprises of the following steps.

Mold Design and Development:

Mold is the essential part of the process and should be developed by experts to view both customer requirements and design requirements to comply with the regulations. If the entrepreneur does not have the required expertise mold design and development should be outsourced.

Mold Preparation and Cleaning:

The mold should be thoroughly cleaned and prepared for the first gel coat. A coat of wax and mold release agents are applied at this step.

Application of Gel Coat and Curing:

Gel coat (resin) is applied to the surface of a mold before placing plastic material in the mold for production; the gel coat becomes an integral part of the finished laminate and improves surface appearance by providing the shiny clear coat to fiberglass reinforced plastic. It also acts as a separator between the fiberglass and the mold during the molding process.

Mixing:

Resin and other additives such as catalyst are mixed.

Application of Fiber Glass and Resin:

Fibers strands and resin can be applied through spray or manual lay-up; several resin layers are applied to achieve the required thickness.

Frame Development:

Based on the size of the boat, frames are developed at equal distances to provide structural support to the boat. These frames are from the ribs of the boat.

Curing:

The boat is cured at varying time and temperature, depending on the size and design of the boat and resin cure requirements.

De-molding:

The boat is carefully removed from the mold.

Cleaning of equipment:

Mold, tools, rollers, transfer hoses, drums, spray guns, and other tools and equipment that come in contact with resins are thoroughly cleaned.

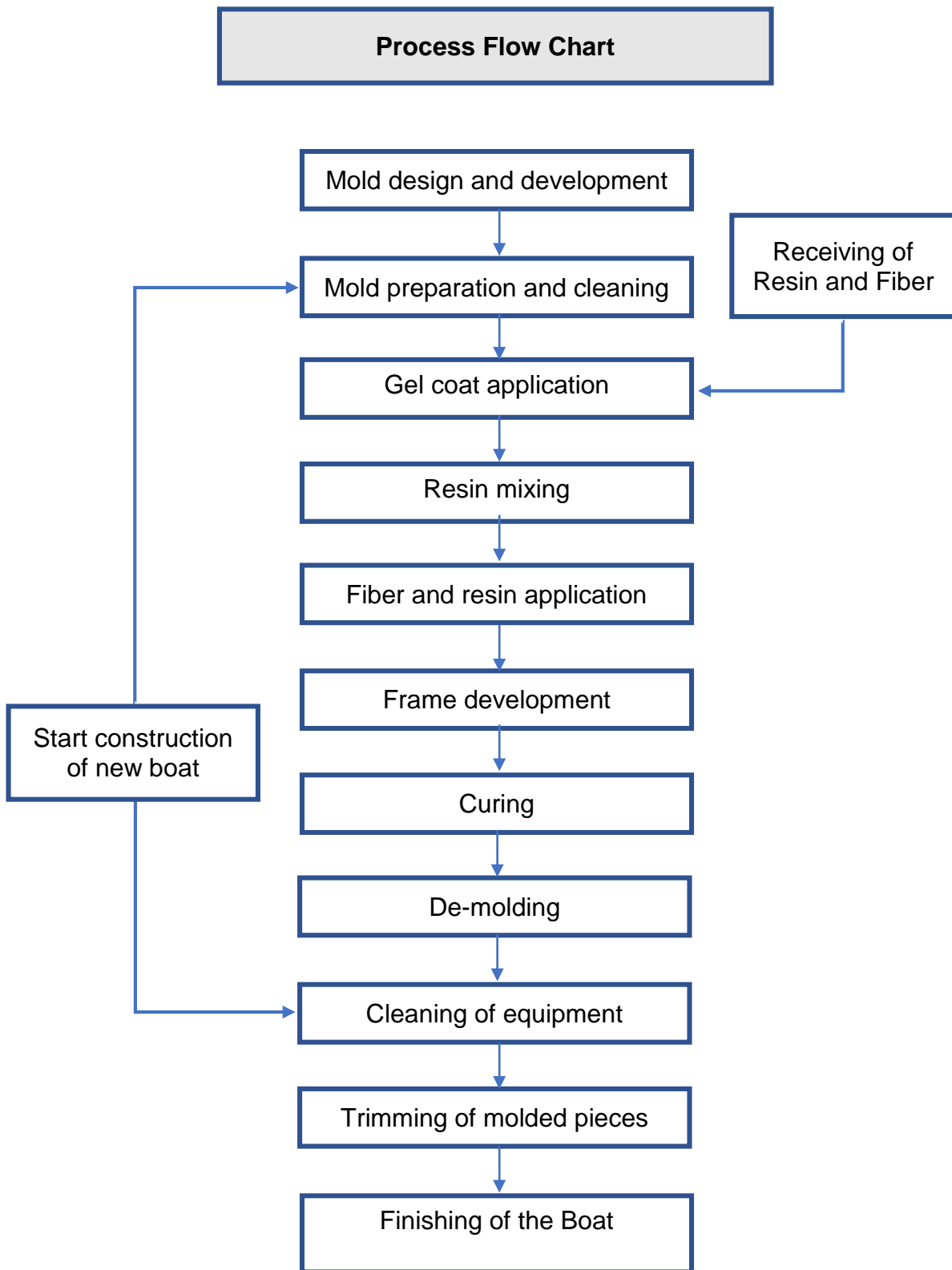
Trimming:

Trimming of the molded piece is done.

Finishing of the Boat:

The finishing touches are performed on the boat before the delivery

Figure 1: Process Flow Diagram



5.2 Proposed Product Mix

The proposed manufacturing unit will produce fiber glass boats of 8, 24 and 48 feet size in length. Detailed production mix is given in the table below:

Table 1: Product Mix

Boat Size	Production Percentage
8 Feet	53%
24 Feet	27%
48 Feet	20%
Total	100%

5.3 Installed and Operational Capacity

The installed and operational capacity of the Fiberglass Boat Manufacturing Unit mainly depends upon the installed machinery.

The proposed unit will have the capacity to manufacture 188 fiberglass boats per annum on 12 hours operational day basis. Subsequently, the unit is assumed to operate 300 days annually. However, during the 1st year of operation unit will operate at 65% capacity, while maximum capacity utilization of the unit is assumed at 95% in the 7th year of operation. The details of installed and operational capacity of the proposed unit is provided in the table below.

Table 2: Installed and Operational Capacity

Description	Total Installed Capacity	Operational Capacity 65% (Year 1)	Maximum Operational Capacity 95% (Year 7)
Fiberglass Boat (8 ft.)	100	65	95
Fiberglass Boat (24 ft.)	50	33	48
Fiberglass Boat (48 ft.)	38	25	36
Total	188	123	179

6 CRITICAL SUCCESS FACTORS

Following are critical success factors associated with this business:

- Background knowledge and related experience of the entrepreneur in the field of fiberglass manufacturing and mold making.

- Molds should be fabricated by experts who have extensive knowledge of the industry, keeping in view all the specific requirements.
- Selection of quality raw material based on the best analysis of cost and revenues; cost efficiency through better management.
- Exceed customer expectations by offering high-quality products at reasonable prices with short turnaround time.
- Stringent supervision of the production process.
- Induction of trained human resource for the handling of business operations, especially in production.
- Best management practices are essential in other areas of operations, such as resin and chemical management and storage, air filtration and ventilation, employee health and safety, and solid waste management and recycling.

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

The fiberglass boats can be used in lakes, rivers and dams for different purposes. However, significant demand exists in the coastal areas of Pakistan, especially for fishing. Therefore, proposed manufacturing unit may ideally be established on the coastal belt where the basic raw materials can easily be transported and other utilities, especially electricity, is readily available. Karachi, Ormara, Pasni and Gwadar are recommended for starting such a facility in Pakistan.

8 POTENTIAL TARGET CUSTOMERS / MARKETS

Fiberglass boats are primarily used for fishing, tourism, transportation and water sports etc. However, significant demand for boats comes from the fisheries sector. There are no distributors or whole sellers involved in the marketing of boats. Most buyers directly contact the manufacturer, and depending upon the requirements, design and materials are finalized. Therefore, unit will operate on order manufacturing basis.

9 PROJECT COST SUMMARY

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

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

9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 41.70 million in year one.

To financially appraise the project, a 100% Equity-Based Business Model has been assumed. The following table shows the Internal Rate of Return, Payback Period and Net Present Value of the proposed venture:

Table 3: Project Economics (Equity Financed)

Description	Details
Internal Rate of Return (IRR)	33%
Payback Period (Yrs.)	3.70
Net Present Value (Rs.)	47,277,068

Calculation of break-even analysis is as follows:

Table 4: Breakeven (100% Equity-Based)

Break-Even Analysis	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break-Even Revenue	17,194,001	17,462,280	17,832,176	18,387,529	18,947,088	19,333,559	20,102,342	21,071,520	22,147,802	23,341,399
Break-Even Units	31	29	28	27	26	24	24	23	23	22
Margin of Safety	59%	64%	68%	71%	74%	76%	78%	79%	79%	80%

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

Table 5: Project Economics Based on Debt (50%):Equity (50%)

Description	Details
Internal Rate of Return (IRR)	33%
Payback Period (Yrs.)	3.58
Net Present Value (Rs.)	62,943,127

The financial assumptions for Debt: Equity is as follows:

Table 5.1: Financial Assumptions for Debt: Equity Model

Description	Details
Debt	50%

Equity	50%
Interest Rate on Debt	12%
Debt Tenure (Years)	5
Debt Payment / Year	1

The projected Income Statement, Balance Sheet and Cash Flow Statement attached as annexures are based on a 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.
Capital Cost	
Land	18,757,895
Building / Infrastructure	23,809,981
Machinery and Equipment	9,092,856
Pre-operating Costs	1,036,000
Office Equipment	549,500
Furniture And Fixtures	168,200
Office Vehicle (Motor Bike)	80,237
Total Capital Cost	53,494,669
Working Capital	
Cash	1,303,506
Raw Material Inventory	545,440
Up-Front Insurance Payment	321,058
Equipment Spare Parts Inventory	102,500
Total Working Capital	2,272,504
Total Project Cost	55,767,173

9.3 Land and Building Requirement

Approximately 4 Kanals of land would be required for the establishment of the proposed unit. The cost of land is estimated at the rate of Rs. 4.4 million per Kanal. The infrastructural requirements of the project mainly comprise of production and finishing area, storage etc. However, the units operating in the industry do not follow any set pattern.

The following table provides the details of the space requirement and cost of construction.

Table 7: Infrastructure Requirement

Description	Area (Sq.Ft.)	Unit Cost (Rs.)	Total Cost (Rs.)
Production Area	11,500	1,250	14,375,000
Finishing Area	4,850	1,250	6,062,500
Store	1,425	1,250	1,781,250
Design Cost			580,731
Management Office	225	2,500	562,500
Boundary Wall	560	800	448,000
Total			23,809,981

9.4 Machinery and Equipment Requirement

Machinery and equipment for the proposed project are stated below:

Table 8: Machinery and Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Fiberglass Spray Gun	1	2,211,712	2,211,712
Generator (Hyundai-Korea Diesel 80KW)	1	1,989,000	1,989,000
Compressor	1	845,546	845,546
Welding Plant	1	775,075	775,075
Gantry Crane	1	732,323	732,323
Mold 48 Ft.	1	1,314,200	1,314,200
Mold 24 Ft.	1	657,100	657,100
Mold 8 Ft.	1	167,900	167,900

Installation Cost (Fabrication Cost)	1	200,000	200,000
Mics Tools	1	200,000	200,000
Total			9,092,856

9.5 Furniture and Fixtures Requirement

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

Table 9: Furniture and Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Sitting Chairs	5	13,160	65,800
Table	2	25,000	50,000
Sofas	1	25,000	25,000
Guest Chairs	3	5,800	17,400
Sofa Table	1	10,000	10,000
Total			168,200

9.6 Office Equipment Requirement

Following office equipment will be required for Fiberglass Boat Manufacturing Unit.

Table 10: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Laptop	2	65,000	130,000
AC	1	83,000	83,000
Flood Lights	8	7,000	56,000
Fridge	1	51,500	51,500
Water Cooler	1	45,000	45,000
LED	1	32,500	32,500
Desktop Computers	1	30,000	30,000
Fans	10	3,000	30,000
CCTV	1	30,000	30,000
Energy Savers	23	800	18,400
Computer Printer	1	16,000	16,000
Water Dispenser	1	16,000	16,000

Microwave Oven	1	7,500	7,500
Telephones	3	1,200	3,600
Total			549,500

9.7 Raw Material Requirement

The raw material required for manufacturing fiberglass boat will be 'unsaturated polyester' Following are the details of the raw material necessary for the proposed project.

Table 11: Raw Material Requirement (Year 1)

Description	Unit Price (Kg/Qty)	8 Feet Boat		24 Feet Boat		48 Feet Boat	
		Kgs/Qty	(Rs.)	Kgs/Qty	(Rs.)	Kgs/Qty	(Rs.)
Unsaturated Polyester	360	40	14,400	160	57,600	400	115,200
Resins							
MEKP	1,000	1	1,000	4	4,000	10	8,000
COBALT	3,000	1	3,000	4	12,000	10	24,000
Chopped Stlan MAT	330	6	1,980	24	7,920	60	15,840
Woven Roving	400	6	2,400	24	9,600	60	19,200
PU Form	1,000	2	2,000	8	8,000	20	16,000
Hook – Qty	100	3	300	10	1,000	25	2,000
Rubber – Feet	75	3	2,250	100	7,500	250	15,000
Aluminium Plate - Qty	1,000	1	1,000	4	4,000	8	8,000
OAR Holder – Qty	1,200	1	1,200	3	3,600	6	7,200
Planks	1,350	3	4,050	12	16,200	20	32,400
Total			33,580		131,420		262,840

9.8 Human Resource Requirement

In order to run the operations of Fiberglass Boat Manufacturing Unit smoothly, details of human resources required along with the number of employees and monthly salary are recommended as under:

Table 12: Human Resource

Description	No. of Employees	Monthly Salary Per Person (Rs.)
CEO	1	100,000
Foreman/Quality In charge	1	40,000
Admin And Accounts Officer	1	35,000
Skilled Labor	17	20,000
Office Boy	1	18,000
Security Guards	1	18,000
Total	22	

For this particular pre-feasibility, the salary amount will be Rs. 551,000 per month in Year 1.

9.9 Utilities and Other Costs

An essential cost to be borne by the project is the cost of electricity. The electricity expenses are estimated to be around Rs. 4.78 million in year 1. Furthermore, promotional expense being essential for marketing of Fiberglass Boat unit is calculated as 5.0% of revenue.

9.10 Revenue Generation

Based on the operational capacity utilization of 65%, sales revenue during the first year of operations is provided in the table below.

Table 13: Revenue Generation (Year 1)

Description	No. Of Units Produced / Sold	Sale Price/ Unit (Rs.)	Sales Revenue (Rs.)
Fiberglass Boat (8 Ft.)	65	150,000	9,750,000
Fiberglass Boat (24 Ft.)	33	400,000	13,200,000
Fiberglass Boat (48 Ft.)	25	750,000	18,750,000
Total	123		41,700,000

10 CONTACT DETAILS

In order to facilitate potential investors, contact details of private-sector vendors relevant to the proposed project are given below.

Table 14: Private Sector Vendors

Name of Supplier	Type of Supplies	Address	Phone
ARY Sahulat Bazar	Generator	www.arysahulatbazar.pk/hyundai-korea-diesel-generator-100-kva-80-kw-3-phase	92-333-1666981
Alibaba	Machinery		0300-7447245
High Tech Office Furniture	Furniture	(Gulberg III Lahore)	0322-4927264
Craft Vision	Security Cameras	www.facebook.com/craftvisionpk/	042-34004994, 0324-4790092
Haier Pakistan	Air conditioners	8th Floor, Mega Tower, Main Boulevard Gulberg II, Lahore	042-111142437
Industrial Techno International	Experts	Dera Muhammad Din Village Handoo Momon Pura Road Ring Road Lahore, Pakistan	+9242-36546681 +92-300-8433290, +92-321-8433290

11 USEFUL WEB LINKS

Small and Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
Government of Pakistan	www.pakistan.gov.pk
Ministry of Industries and Production	www.moip.gov.pk
Ministry of Education, Training and Standards in Higher Education	http://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 Jamu Kashmir	www.ajk.gov.pk
Trade Development Authority of Pakistan (TDAP)	www.tdap.gov.pk
Security and Exchange 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
Punjab Vocational Training Council (PVTC)	www.pvtc.gov.pk
Technical Education and Vocational Training Authority (TEVTA)	www.tevta.org
Industrial Techno International	www.itipk.com/
Faisalabad Industrial Estate Development and Management Company (FIEDMC)	www.fiedmc.com.pk
Punjab Industrial Estate Development and Management Company (PIEDMC)	www.pie.com.pk
Punjab Small Industries Corporation	www.psic.gov.pk
Sundar Industrial Estate	www.sie.com.pk
Quaid-e-Azam Industrial Estate	www.qie.com.pk
Sindh Small Industries Corporation	www.ssic.gos.pk
Korangi Industrial Area	www.kati.pk
Sundar Industrial Estate, Lahore	www.sie.com.pk
Khyber Pakhtunkhwa Economic Zones Development And Management Company	www.kpezdmc.org.pk
Lasbela Industrial Estates and Development Authority	www.lieda.gov.pk/IndustrialEstates

12 ANNEXURES

12.1 Income Statement

Calculations										
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	41,700,000	48,106,250	55,701,125	62,735,992	72,048,560	81,830,872	93,292,577	100,289,521	107,811,235	115,897,077
<i>Cost of sales</i>										
Cost of goods sold - 8 Feet	2,182,700	2,468,130	2,776,646	3,109,844	3,469,419	3,857,178	4,275,039	4,488,791	4,713,231	4,948,892
Cost of goods sold - 24 Feet	4,336,860	4,829,685	5,505,841	6,085,403	6,868,899	7,547,802	8,453,538	8,876,215	9,320,025	9,786,027
Cost of goods sold - 48 Feet	6,571,000	7,451,514	8,403,652	9,128,105	10,223,477	11,405,567	12,680,307	13,314,322	13,980,038	14,679,040
Operation costs 1 (direct labor)	4,560,000	5,016,000	5,517,600	6,069,360	6,676,296	7,343,926	8,078,318	8,886,150	9,774,765	10,752,241
Operating costs 2 (machinery maintenance)	1,230,000	1,386,000	1,565,550	1,736,438	1,944,810	2,156,916	2,398,771	2,518,710	2,644,645	2,776,878
Operating costs 3 (direct electricity)	4,646,876	5,330,218	6,159,763	7,097,226	8,156,675	9,353,915	10,706,692	11,628,851	12,643,227	13,759,039
Total cost of sales	21,344,736	24,013,417	27,152,406	30,116,531	33,870,157	37,808,125	42,317,626	45,224,248	48,362,700	51,753,225
Gross Profit	20,355,264	24,092,833	28,548,719	32,619,461	38,178,403	44,022,746	50,974,951	55,065,273	59,448,534	64,143,853
<i>General administration & selling expenses</i>										
Administration expense	2,052,000	2,257,200	2,482,920	2,731,212	3,004,333	3,304,767	3,635,243	3,998,767	4,398,644	4,838,509
Administration benefits expense	205,200	225,720	248,292	273,121	300,433	330,477	363,524	399,877	439,864	483,851
Electricity expense	135,912	149,503	164,454	180,899	198,989	218,888	240,776	264,854	291,339	320,473
Water expense	60,000	63,000	66,150	69,458	72,930	76,577	80,406	84,426	88,647	93,080
Gas expense	180,000	189,000	198,450	208,373	218,791	229,731	241,217	253,278	265,942	279,239
Travelling expense	205,200	225,720	248,292	273,121	300,433	330,477	363,524	399,877	439,864	483,851
Communications expense (phone, fax, mail, internet, etc.)	123,120	135,432	148,975	163,873	180,260	198,286	218,115	239,926	263,919	290,311
Office vehicles running expense	56,166	61,782	67,961	74,757	82,232	90,456	99,501	109,451	120,397	132,436
Office expenses (stationary, entertainment, janitorial services, etc.)	102,600	112,860	124,146	136,561	150,217	165,238	181,762	199,938	219,932	241,925
Promotional expense	2,085,000	2,105,850	2,126,909	2,148,178	2,169,659	2,191,356	2,213,270	2,235,402	2,257,756	2,280,334
Insurance expense	321,058	288,672	256,285	223,898	191,512	163,648	130,918	98,189	65,459	32,730
Professional fees (legal, audit, consultants, etc.)	417,000	481,063	557,011	627,360	720,486	818,309	932,926	1,002,895	1,078,112	1,158,971
Depreciation expense	2,242,552	2,242,552	2,242,552	2,242,552	2,242,552	2,282,712	2,282,712	2,282,712	2,282,712	2,282,712
Amortization of pre-operating costs	207,200	207,200	207,200	207,200	207,200	-	-	-	-	-
Subtotal	8,393,008	8,745,554	9,139,596	9,560,561	10,040,028	10,400,920	10,983,895	11,569,594	12,212,589	12,918,421
Operating Income	11,962,256	15,347,280	19,409,123	23,058,900	28,138,375	33,621,826	39,991,056	43,495,679	47,235,945	51,225,431
Other income (interest on cash)	185,087	508,361	886,304	1,333,052	1,849,724	2,459,246	3,182,912	3,999,009	4,886,162	5,879,641
Gain / (loss) on sale of office equipment	-	-	-	-	219,800	-	-	-	-	-
Gain / (loss) on sale of office vehicles	-	-	-	-	32,095	-	-	-	-	-
Earnings Before Interest & Taxes	12,147,343	15,855,641	20,295,427	24,391,952	30,239,994	36,081,072	43,173,968	47,494,688	52,122,107	57,105,072
Earnings Before Tax	12,147,343	15,855,641	20,295,427	24,391,952	30,239,994	36,081,072	43,173,968	47,494,688	52,122,107	57,105,072
Tax	3,371,570	4,669,474	6,223,399	7,657,183	9,703,998	11,748,375	14,230,889	15,743,140	17,362,737	19,106,775
NET PROFIT/(LOSS) AFTER TAX	8,775,773	11,186,167	14,072,028	16,734,769	20,535,997	24,332,697	28,943,080	31,751,548	34,759,370	37,998,297

12.2 Balance Sheet

Calculations											SMEDA
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	1,303,506	13,503,437	27,165,464	43,738,834	62,905,299	85,072,636	111,667,025	142,965,971	176,954,734	213,938,224	256,433,077
Equipment spare part inventory	102,500	121,275	143,835	167,512	196,994	229,403	267,882	295,340	325,612	358,987	-
Raw material inventory	545,440	645,283	766,520	883,815	1,041,375	1,213,028	1,418,764	1,564,187	1,724,516	1,901,279	-
Pre-paid insurance	321,058	288,672	256,285	223,898	191,512	163,648	130,918	98,189	65,459	32,730	-
Total Current Assets	2,272,504	14,558,667	28,332,104	45,014,060	64,335,179	86,678,715	113,484,589	144,923,686	179,070,322	216,231,220	256,433,077
<i>Fixed assets</i>											
Land	18,757,895	18,757,895	18,757,895	18,757,895	18,757,895	18,757,895	18,757,895	18,757,895	18,757,895	18,757,895	18,757,895
Building/Infrastructure	23,809,981	22,619,482	21,428,983	20,238,484	19,047,985	17,857,486	16,666,987	15,476,488	14,285,989	13,095,490	11,904,991
Machinery & equipment	9,092,856	8,183,570	7,274,285	6,364,999	5,455,714	4,546,428	3,637,142	2,727,857	1,818,571	909,286	-
Furniture & fixtures	168,200	151,380	134,560	117,740	100,920	84,100	67,280	50,460	33,640	16,820	-
Office vehicles	80,237	64,190	48,142	32,095	16,047	129,222	103,378	77,533	51,689	25,844	-
Office equipment	549,500	439,600	329,700	219,800	109,900	701,317	561,053	420,790	280,527	140,263	-
Total Fixed Assets	52,458,669	50,216,117	47,973,565	45,731,013	43,488,461	42,076,448	39,793,735	37,511,023	35,228,310	32,945,598	30,662,885
<i>Intangible assets</i>											
Pre-operation costs	1,036,000	828,800	621,600	414,400	207,200	-	-	-	-	-	-
Total Intangible Assets	1,036,000	828,800	621,600	414,400	207,200	-	-	-	-	-	-
TOTAL ASSETS	55,767,173	65,603,584	76,927,268	91,159,473	108,030,840	128,755,163	153,278,324	182,434,709	214,298,632	249,176,818	287,095,963
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable		1,060,637	1,198,155	1,358,332	1,494,930	1,683,256	1,873,720	2,087,025	2,199,401	2,318,217	2,239,064
Total Current Liabilities	-	1,060,637	1,198,155	1,358,332	1,494,930	1,683,256	1,873,720	2,087,025	2,199,401	2,318,217	2,239,064
<i>Other liabilities</i>											
<i>Shareholders' equity</i>											
Paid-up capital	55,767,173	55,767,173	55,767,173	55,767,173	55,767,173	55,767,173	55,767,173	55,767,173	55,767,173	55,767,173	55,767,173
Retained earnings		8,775,773	19,961,940	34,033,968	50,768,737	71,304,733	95,637,431	124,580,510	156,332,058	191,091,428	229,089,725
Total Equity	55,767,173	64,542,946	75,729,113	89,801,141	106,535,910	127,071,907	151,404,604	180,347,684	212,099,231	246,858,601	284,856,899
TOTAL CAPITAL AND LIABILITIES	55,767,173	65,603,584	76,927,268	91,159,473	108,030,840	128,755,163	153,278,324	182,434,709	214,298,632	249,176,818	287,095,963

12.3 Cash Flow Statement

Calculations											SMEDA
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		8,775,773	11,186,167	14,072,028	16,734,769	20,535,997	24,332,697	28,943,080	31,751,548	34,759,370	37,998,297
Add: depreciation expense		2,242,552	2,242,552	2,242,552	2,242,552	2,242,552	2,282,712	2,282,712	2,282,712	2,282,712	2,282,712
amortization of pre-operating costs		207,200	207,200	207,200	207,200	207,200	-	-	-	-	-
Equipment inventory	(102,500)	(18,775)	(22,560)	(23,677)	(29,482)	(32,409)	(38,479)	(27,458)	(30,272)	(33,375)	358,987
Raw material inventory	(545,440)	(99,843)	(121,236)	(117,296)	(157,559)	(171,654)	(205,736)	(145,423)	(160,329)	(176,763)	1,901,279
Advance insurance premium	(321,058)	32,387	32,387	32,387	32,387	27,864	32,730	32,730	32,730	32,730	32,730
Accounts payable		1,060,637	137,518	160,177	136,598	188,326	190,464	213,305	112,375	118,816	(79,153)
Cash provided by operations	(968,998)	12,199,931	13,662,027	16,573,370	19,166,464	22,997,876	26,594,389	31,298,946	33,988,763	36,983,490	42,494,853
<i>Financing activities</i>											
Issuance of shares	55,767,173	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	55,767,173	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(53,494,669)	-	-	-	-	(830,539)	-	-	-	-	-
Cash (used for) / provided by investing activities	(53,494,669)	-	-	-	-	(830,539)	-	-	-	-	-
NET CASH	1,303,506	12,199,931	13,662,027	16,573,370	19,166,464	22,167,337	26,594,389	31,298,946	33,988,763	36,983,490	42,494,853

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Description	Details
Operating Costs Growth Rate	5.0%
Administration Benefits Expense	10.0% of Admin Expense
Travelling Expense	10.0% of Admin Expense
Communication Expense	6.0% of Admin Expense
Office Expenses (Stationary, Entertainment, Janitorial Services, Etc.)	5.0% of Admin Expense
Promotional Expense	5.0% of Revenue
Professional Fees (Legal, Audit, Consultants, Etc.)	1.0% of Revenue
Machinery And Equipment Insurance Rate	3.5%
Office Vehicles Insurance Rate	3.5%
Depreciation Method	Straight Line Method
Depreciation Rate	5% on Building & Infrastructure 10% on Machinery & Equipment and Furniture & Fixture 20% on Vehicle and Office Equipment

13.2 Production Cost Assumptions

Description	Details
Machinery Maintenance	Rs. 10,000 Per Unit
Raw Material Cost - 8 Ft. Boat	Rs. 33,580
Raw Material Cost - 24 Ft. Boat	Rs. 131,420
Raw Material Cost - 48 Ft. Boat	Rs. 262,840
Cost Of Goods Sold Growth Rate	5.0%
Hours Operational / Day	12
Operational Days in a Year	300

13.3 Revenue Assumptions

Description	Details
Sale Price - Year 1 - 48 Ft. Boat	Rs.750,000
Sale Price - Year 1 - 24 Ft. Boat	Rs.400,000
Sale Price - Year 1 - 8 Ft. Boat	Rs.150,000
Sale Price Growth Rate	7.5%
Production Capacity (No. of Fiberglass Boats)	188
Production Capacity Utilization	65%
Production Capacity Utilization Growth Rate	5%
Maximum Capacity Utilization	95%