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DOLPHIN FILAMENTS (TZ) LIMITED

PROJECT TO MANUFACTURE

HDPE NYLON INSECT / MOSQUITO WINDOW NET"

& PP ROPES & TWINES

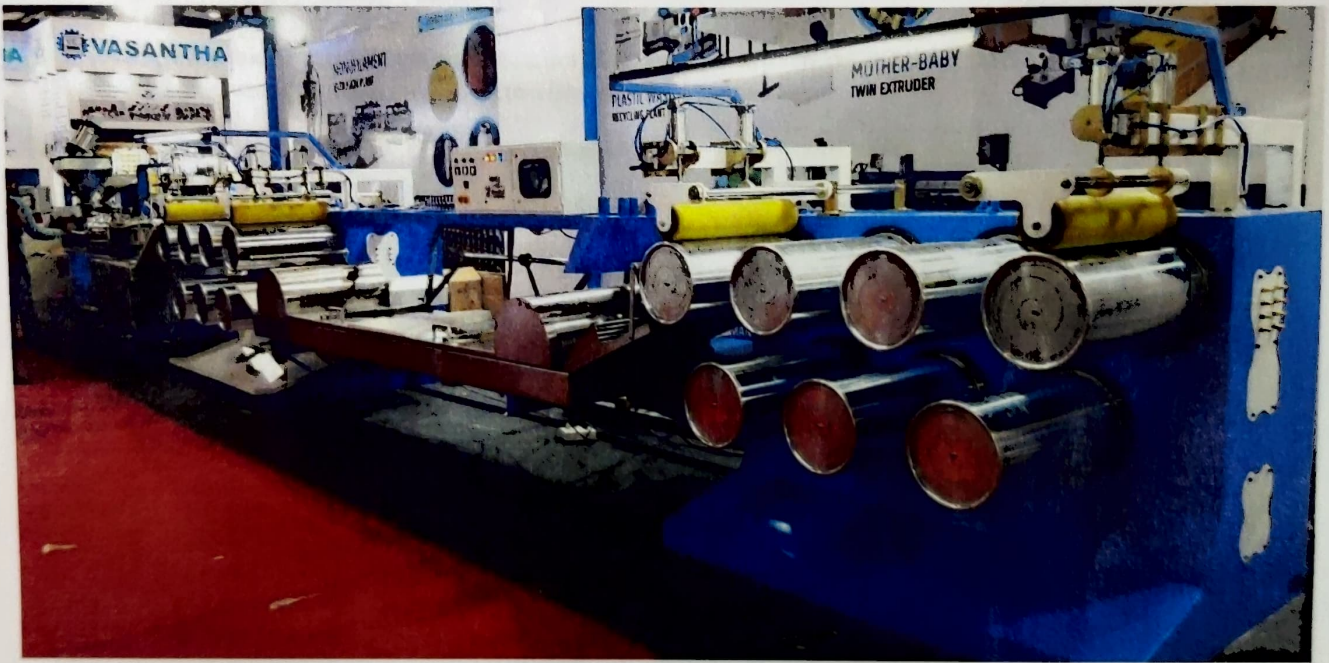
BUSINESS PLAN

PREPARED BY:

DOLPHIN FILAMENTS (TZ) LTD.

P.O.BOX 7594

DAR ES SALAAM



1. INTRODUCTION

1.1 FOREWORD

This project Feasibility Study Report sets out proposals by M/s DOLPHIN FILAMENTS (TZ) LIMITED of Adding new Machinery to manufacture HDPE WOVEN INSECT WINDOW NET (MESH) & importing new steel constructure for constructing factory

1.2 OBJECTIVE OF STUDY

The purpose of this Feasibility Study is to work out the technical and commercial details and the financial viability for the establishment of new Machinery to manufacture HDPE WOVEN WINDOW NET (MESH).

1.3 PROJECT PROMOTERS

The following sponsors are promoting the proposed HDPE WOVEN WINDOW NET (MESH).Project as a joint venture among them. Directors (shareholders) are namely:

Name of Directors	Percentage of Share	Nationality
Zainab.J. Thoriyawala	25%	Tanzanian
Juzer .Y. Thoriyawala	25%	Indian
Murtaza .S. Musani	25%	Indian
Maria .M. Musani	25%	Indian

	100%	

1.4 STUDY LAYOUT

This study is presented in one document comprising the following major chapters.

Chapter One	-Introduction
Chapter two	-Executive Summary
Chapter three	-Market Analysis
Chapter four	-Production Technology
Chapter five	-Machinery and Equipment
Chapter six	-Production Inputs
Chapter Seven	-Manpower and Plant Organization
Chapter Eight	-Investment and Financing
Chapter nine	-Operating Costs

2. EXECUTIVE SUMMARY

2.1 INTRODUCTION

The Study examines the possibility of manufacturing. A techno-economic evaluation has been carried out to determine the feasibility of project

2.2 MARKET AND MARKETING ASPECTS

The market survey carried out reveals that the current demand HDPE WOVEN WINDOW NET (MESH) is higher than its import. There is wide gap between supply and demand and therefore, business opportunity exists for setting up manufacturing facilities to satisfy the market requirement. With local production, country will save huge amount of foreign exchange also which is otherwise being used to import the difference at present. The project plans to acquire appropriate trucks and recruit qualified personnel for distribution of the products throughout the country.

2.3 PROCESS AND TECHNOLOGY

- ▶ Add Raw Material Granules i: e (Monofilament Grade) HDPE, it may be Virgin material with Master Batch or Pigment % wise. Shake the mixture machine 5 to 6 Minutes so that the Granules will get colored properly.
- ▶ Color Granules will be ready for Extruder i:e for the second process
- ▶ The Final Filaments which comes out from 2nd Goddet that to be winded in (Ply) Bunch Winding as per required Denier through Bobbin Winder.
- ▶ Bunch (Ply) Filaments Feeded Bobbin which goes in to Weaving Machine Looms (12Nos)
- ▶ The Final Filaments which comes out from Bobbin Winder that feeded Bobbin will go to Rapier Loom with Dobby for weaving to convert into Net (Mesh) Fabric.
- ▶ Finished Mesh is applied Tension Control Device to Increase Quality of Net.
- ▶ Finished net which comes out is set at a cutter to cut in 25 mt / 30 mt length & goes for Roll Package which gives Final Package as above.

2.4 PRODUCTION INPUTS

The basic Raw Materials for HDPE WOVEN WINDOW NET (MESH). I.e. HDPE-Granules', Monofilament Plant with Warping Beam Winder, Rapier Loom with Electronic Dobby-with its complete accessories & Wrapping Machine with its complete accessories shall be imported. The raw materials are available from various sources in large quantities and prices vary from one source to another.

2.5 LOCATION

The plant will be located in industrial Warehouse at plot no. P21573, KIWALANI, proximity of Dar es Salaam region. Initially, production will be carried out in private property in ILALA district.

2.6 MANPOWER REQUIREMENTS

The whole project will comprise of a total work force of 75 peoples. Initially there will be a few technical expatriates and engineers who will give training to the local staff. Maximum employment will be given to the local work force. The plant will be organized into three functions namely:

Production and Technical Services

Marketing

Finance and administration

2.7 IMPLEMENTATION

The project is planned to undergo three phases

Phase I: Major activities involved include registration of the project and approvals by the Tanzania Investment Centre (TIC), and mobilization of funds from sponsors. Other activities involve are Import of Plant & Machinery, importing steel structure for construction of factory building, staff recruitment and training of core personnel. Production of goods will commence during this phase. A total of five months period is planned for the above activities after completion of this study and therefore trial production is planned in approximately by feb' 2024

Phase II: The second phase will involve full production of goods is envisaged in Nov' 2024

Operation costs change, selling prices will change proportionally to preserve the profit margins.

The project has adopted the currency exchange rate of United States Dollar 1= Tanzanian shilling 2600.00 as prevailing during Aug'23.

8.1 SUMMARY OF CAPITAL COSTS

On completion of project implementation, the total investment will reach to USD 239,000/-

COST STRUCTURE

PARTUCULAR	AMOUNT USD
Construction and importing materil for factory	450,000
machinery and equipments	350,000
staff car & Bikes	20,000
machinery Assembling & Fixtures	50,000
Pre exp	35,000
Others	70,000
Working Capital	75,000
TOTAL	1,050,000

8.2 BUILDING AND CIVIL WORKS COSTS

Initially, the factory will be constructed, and for construction of factory steel construction is imported. the main civil works required for the plant to be installed and operated will be renovations, partitions, electrification and water supply, over tank, etc.

8.3 PLANT MACHINERY AND EQUIPMENT COSTS

The main machinery and equipment for the envisaged project will be monofilament plant with wrapping Beam, 12 sets Rapier loom with Dobby & wrapping machine.

the total investment on machinery and equipment is based on a quotation received from india for main production machinery and amount of USD 180,000/- approximately.

8.4 MACHINERY/PLANT ASSEMBLING AND FITTINGS

They have estimated at USD 30,000/- the items to be purchased will comprise office furniture, computers, & other equipments for the office and factory use.

8.5 VEHICLES

For company work, we intend to procure the following types of vehicles:

S/N	TYPE OF VEHICLE
1	Light Duty Distribution Truck
2	Bikes – Marketing, Sales, Purchase etc

8.6 PRE-PRODUCTION CAPITAL EXPENDITURES

These include project development cost for feasibility study and start-up expenses, transportation of machinery, installation, and other overheads during installation. A budget of US\$ 7,000/- is considered adequate for this item

8.7 INITIAL WORKING CAPITAL

Initial net working capital requirement at maximum for the proposed project works out at about US\$ 40,000. This is mainly for the procurement of initial stocks of raw materials rest of requirement of the working capital will be raised from commercial banks as and when the need arises. This will fluctuate as per stocks in hand.

8.8 FINANCING PATTERN

The financing of the project will be from shareholder's equity as well as bank loans & Dolphin filaments T ltd funding. It is anticipated that the following pattern will be adopted in financing this project.

2.8 PROJECT ECONOMICS

28.1 CAPITAL INVESTMENT REQUIREMENTS

COST STRUCTURE

PARTUCULAR	AMOUNT USD
Construction and importing materil for factory	450,000
machinery and equipments	350,000
staff car & Bikes	20,000
machinery Assembling & Fixtures	50,000
Pre exp	35,000
Others	70,000
Working Capital	75,000
TOTAL	1,050,000

2.8.2 Expenditure and Profitability

The major expenditure item is the import of steel for factory construction, raw material, master batch, packing materials.

Project revenue will accrue from sale HDPE ROPES & TWINES. Total revenue from this project will increase from USD 310,000 in the first year of operation to 388,000 in the fifth year. This is shown in the follwing summary.

REVENUE PROJECTION

	YEARS				
PRODUCTS	2025 USD	2026 USD	2027 USD	2028 USD	2029 USD
SALE REVENUEW	500,000	515,000	531,775	548,863	577,563
	500,000	515,000	531,775	548,863	577,563

2.9 RECOMMENDATIONS

The study shows the production of HDPE WOVEN WINDOW NET (MESH) is both technically and financially a feasible undertaking. Furthermore, it will create local employment for the national benefit. In view of the findings, the project is recommended for implementation.

3. MARKET AND MARKETING

In this chapter, we look into whether there is a market for the proposed products and how the promoters would approach that market.

3.1 PRODUCT

The products, which this company will produce for sale is HDPE WOVEN WINDOW NET (MESH).

3.2 DEMAND

The entire Tanzania is big consumers WOVEN WINDOW NET (MESH) of followed by the Construction, Domestic, Shipping, Agriculture, & Hardware. Other industrial users and household consumers have a significant combined demand.

3.2.1 BASIS OF PROJECTED DEMAND

The demand has been projected on basis of Construction, Shipping, Agriculture, Hardware & Other industrial users and household consumers as a Basic needed commodity.

3.3 DISTRIBUTION CHANNEL

The company will involve itself with bulky & voluminous products. Hence, they can be easily distributed to final consumers either directly (one level channel) or by using only one intermediary who will resale to final consumers (two level channel). It is important for these channels to be adopted because they reduce costs of distribution and avoid several profit margins of distributors, hence marking the product price competitive in the market place. However, the company is exploring all sales and distribution avenues that will work to the company's advantage, given the stiff competition anticipated in the market. The company has therefore budgeted for the development of a modern distribution/sales network that will comprise of modern and adequate number of distribution trucks as well as recruitment and training of qualified sales and marketing personnel.

4. PRODUCTION PROCESS AND TECHNOLOGY

4.1 BASIC PRODUCTION PROCESS

As Explained & Elaborated in Clause no 2.30

4.2 QUALITY CONTROL SYSTEM

Required quality control gadgets will be provided such as digital calipers for measuring the Thickness, Diameter & length of Roll, Strength test unit, socketing machine and industrial weighing scale.

4.3 ENVIRONMENT PROTECTION

Our aim is to make this project environment friendly. Therefore, we have recommended re-cycling at least 20 % of HDPE Waste specially in making granules'. By using re-cyclable Goods, we can save the country's environment in particular and global environment in general. The company will strive to observe stringent environment protection.

5. MACHINERY EQUIPMENT AND CIVIL WORKS

5.1 MACHINERY

Production of HDPE ROPES & TWINES is extruder base technology proposed by the project promoters and adopted in this study. The main equipment involved includes:

- Monofilament Plant with Warping Beam- 1SET
- Rapier Loom with Electronic Dobby- 12 SETS
- Wrapping Machine- 1 SET

The above are the main plant & machineries to be imported with its full set of accessories. The big machines have variations of more heaters (and bigger in sizes), complex control panel, and powerful pullers.

5.2 PLANT LOCATION AND CIVIL WORKS

5.2.1 Site and Location

Plant shall be located on plot number P21573, ilala district, kiwalani within the vicinity of Dar es Salaam.

5.2.2 Production Building Required

The built-up area required for production is about 3,383.00 Sq. Mt. Warehouse is ideal for storage of finished goods and other product for onward delivery to the customers.

5.2.3 Office Building

An office Partition block to accommodate the clerical staff will also be required.

6 RAW MATERIALS AND OTHER PRODUCTION INPUTS: REQUIREMENTS AND AVAILABILITY

6.1 HDPE GRANULES

HDPE Granules are available from many worldwide sources. The major competitive source nowadays is from Korea, India and Middle East. Another important source is South Africa of which it has one recently established distribution company in Dar es Salaam known as AFPOL (E. AFRICA).

6.2 CHEMICALS & OTHER MATERIALS

Other major raw materials required are:

PVC stabilizers
Colours and master batch Packaging
materials

These are cheap from India.

6.3 UTILITIES

6.3.1 Water

In extrusion process water is required for cooling. For this reason, water is normally recycled by pumping from a water pool to production machinery and draining it back to the pool.

6.3.2 Power

As said earlier in this report, the source of energy for the proposed project will be electric power. Power is consumed in quite large quantities and is among the higher cost elements after the HDPE Granules. The demand for this plant is estimated at around 100 KVA or More

A standby power generator has also been budgeted for to avoid inconveniences caused by frequent power cuts by TANESCO.

7. MANPOWER AND ORGANISATION.

The proposed project will have three independent departments, namely:

- Production and technical services
- Sales and marketing
- Administration and finance

7.1 ORGANISATION

The Board of Directors shall manage the project at policy level. The top most people in the day to day running of the company will be the Managing Director under the Managing Director's office will be the three departments mentioned above. Each department will be under the manager and will comprise a number of sections each headed each headed by a section head as follows.

PRODUCTION AND TECHNICAL SERVICES DEPARTMENT

- Extrusion line
- Granular section
- Mixer section
- * Weaving/Wrapping Machine Section
- Raw materials stores
- Quality control
- Research and New Development
- Repair / Maintenance
- Packaging

TECHINACL & MACHINE OPERATORS

- 3 Machine operators [2 day sift & 1 Night Shift]

SALES AND MARKETING

- Marketing section
- Sales and Distribution section
- finished goods stores
- Procurement and Logistics section

ADMINISTRATION AND FINANCE DEPARTMENT

- Procurement
- Accounts
- Personnel and Administration
- Security

Each section will be manned by a number of personnel with varying education levels work experiences.

7.2.3 Sales and Marketing Department

This department will be headed by the sales and marketing manager who will be responsible for the development of a sustainable sales and distribution network throughout the country. This will involve developing and maintain a fleet of distribution vehicles and recruitment and training of qualified and well-motivated marketing and sales personnel.

7.3 MANPOWER REQUIREMENT

The manpower requirement for running the proposed plant is 25, with the breakdown mentioned in the attached schedule 5.

7.4 SOURCE OF MANPOWER AND WAGE BILL.

Manpower of proposed project will be employed from local sources, except for a few expatriates who would basically be engaged in the training of local staff. The workers will be given on-the -job to familiarize them with the proposed machinery and equipment.

After the initial 2 years, depending on the results of training, local counter parts will replace the expatriates.

The total wage bill will be US\$ 60,280, with as shown in attached schedule 5.

8. INVESTMENT AND FINANCING.

8.1 ASSUMPTIONS

The financial projects to determine the viability of the projects are based on the following key assumptions:

- Construction of factory to start immediately. It is expected production will start from jan '2025.
- The plant will operate on 1-2 shifts per day for 300 days per year.
- Most of project output will be sold locally and a small portion to be exported to neighboring countries.
- Financial calculations are based on current market prices and costs are assumed constant throughout the operating period under review on the assumption that if

10 FINANCIAL ANALYSIS

10.1 INCOME AND EXPENDITURE

10.1.1 INCOME

The proposed project expects to earn its income from Sales of HDPE WOVEN WINDOW NET Income is projected to increase from US\$ 239,000 in the first-year operation to US\$ 316,563 or More in the fifth year of operation

10.1.2 EXPENDITURE.

All projects' costs have been discussed in chapter 9 above and are summarized in attached schedule

10.2 NET INCOME STATEMENT

The project generates profit from the first year of operation and can easily meet both its long term and short-term obligations in less than five years.

10.3 CASH FLOW

The project's cash flow is impressive as the need for external arises only slightly in the initial stages of the project investment. Cash flow at end of each year is positive

10.4 ECONOMIC BENEFITS OF THE PROJECT

- The successful operation of the project will contribute significant economic benefits to people living in Dar es Salaam and Tanzania as whole. In summary the benefits which will be realized are as follows:
- Employment opportunities for 25 permanent staff at full commercial operation.
- Provision of income to other services providers, thus contributing to the reduction of poverty. The income to be earned will help in improving standard of living of the workers and other people residing in the region.
- The direct income for the workers, combined with other social benefits that the management of M/S DOLPHIN FILAMENTS (TZ) LTD. will provide, will help in overall efforts of alleviation of poverty in the region.
- Provision of a market of goods and services demanded by expanded tax base to the Treasury of local government authorities and generation of substantial income to the government. The government earns considerable revenue from the manufacturing sector in terms of tax collections.
- This project will facilitate the increase of foreign exchange earnings through some exports to neighboring countries at a later stage.

11.0 CONCLUSION AND RECOMMENDATIONS

11.1 CONCLUSION

The project as analyzed in this report is both economically and technically viable. The project has come at the right time to provide the much-needed product for people in Dar es Salaam and Tanzania as a whole.

11.2 RECOMMENDATIONS.

A fast implementation of this venture is therefore highly recommended as it is technically feasible and economically viable.

SALARIES & WAGES

NO.	EMPLOYEE DESIGNATION	NO.	SALARY PER MONTH	SUBTOTAL MONTHLY SALARY	ANNUAL GROSS SALARY
1.	Managing Director	1	1200	1200	14,400
2.	Production & Plant Manager	1	700	700	8,400
3. 4.	Marketing Manager	1	550	550	6,600
5.	Machine Operators	4	400	1600	6,400
	Supervisor & Drivers	2	120	240	2,880
6.	Office Seceratory / Computer	2	250	500	6,000
7.	Operator	2	150	300	3,600
8.	Security Guards	2	100	1000	12,000
	Labourers & Helpers	10	100	1000	12,000
	TOTAL USD\$		3,470	6,090	60,280

PROJECTED PROFIT AND LOSS STATEMENT

USD.00

	1	2	3	4	5
PROJECTED REVENUES	\$ 1785	\$ 2232	\$ 2678	\$ 3125	\$ 3570
ESTIMATED OPERATING EXPENSES	\$ 203	\$ 203	\$ 320	\$ 320	\$ 320
ESTIMATED OPERATING PROFIT	\$ 1582	\$ 2029	\$ 2358	\$ 2805	\$ 3250
ESTIMATED LESS: DEPRECIATION	\$ 217	\$ 174	\$ 140	\$ 115	\$ 93
PROFIT/LOSS BEFORE TAX	\$ 1365	\$ 1855	\$ 2218	\$ 2690	\$ 3157
TAXATION 30%	\$ 536	\$ 670	\$ 803	\$ 938	\$ 1071
PROFIT/LOSS AFTER TAX	\$ 829	\$ 1185	\$ 1415	\$ 1752	\$ 2086
PROFIT/LOSS BROUGHT FORWARD		\$ 829	\$ 2247	\$ 4000	\$ 6088
NET PROFIT/LOSS	\$ 829	\$ 2014	\$ 3662	\$ 5752	\$ 8174

PROJECTED CASH FLOW STATEMENT

	1	2	3	4	5
CASH INFLOW					
CASH FROM OPERATIONS					
PROFIT BEFORE TAX	\$ 1582	\$ 2029	\$ 2358	\$ 2805	\$ 3250
ADD: DEPRECIATION	\$ 217	\$ 174	\$ 140	\$ 115	\$ 93
TOTAL CASH INFLOW	\$ 1365	\$ 1855	\$ 2218	\$ 2690	\$ 3157
CASH OUTFLOW					
TAXATION	\$ 536	\$ 670	\$ 803	\$ 938	\$ 1071
NET CASH OUTFLOW	\$ 829	\$ 1185	\$ 1415	\$ 1752	\$ 2086
OPENING BALANCE		\$ 829	\$ 2014	\$ 3429	\$ 5181
CLOSING BALANCE	\$ 829	\$ 2014	\$ 3429	\$ 5181	\$ 7267