

# **STEEL MASTERS LIMITED**

## **FEASIBILITY STUDY**

### **FOR THE ESTABLISHMENT**

### **OF MANUFACTURING FACILITIES**

### **FOR**

### **STEEL GALVANIZED WIRE AND VARIOUS STEEL PRODUCTS**

**Prepared by  
STEEL MASTERS LIMITED  
P.O.BOX 1364  
2022  
Dar-ES-salaam**

**February 3, 2022**

## **1.0. Executive Summary**

### **1.1 Introduction**

Steel galvanised wire products such as Steel wire, Metal BRC Mash, Fencing and Welding & Wire Nails products are used by various sectors, especially in the construction and have very high demand. These products provide board-based support to the development of an economy especially in all important parts of the economy especially construction sector.

### **1.2 The Company**

Steel Masters Limited is a private limited liability company registered on 11<sup>th</sup> December 1996 in Dar es Salaam. Steel Masters Limited intends to be one of the leading manufacturers of Steel galvanised wire products in Tanzania, Central, South and East Africa.

### **1.3 The Project**

The high demand of the Steel Galvanised Wire Products in the Tanzania and East African market has made the company to decide to start the manufacturing of these products in order to fulfil their medium and long-term objective of manufacturing the products.

### **1.4 Value of the Investment**

The value of the current investment is estimated as follows: -

<b>ITEM</b>	<b>Amount</b>
Land & Buildings	2,500,000
Plant, Machinery & Equipment	3,500,000
Vehicles	250,000
Furniture & Fittings	20,000
Others	430,000
Pre operational Expenses	20,000
Initial Working Capital	2,500,000
<b>Grand Total</b>	<b>9,220,000</b>

## 1.4 Proposed Sources of Finance

Funds for the execution of the programme will be from own source i.e. injection of funds from the sponsors and the term loan which will be sourced from various local banks.

## 1.6 The Market

The market demand for Steel galvanised wire products which mostly include Metal BRC Mash, chain links, Fencing and Welding & Wire Nails is high and increasing. Most of the products produced are expected to be sold in Tanzania, Uganda, Kenya, Ethiopia, Burundi, Rwanda and Central Africa, which include Zambia and Malawi. These Products form a substantially more stable and serve basic building materials in the construction sector and in the economy as a whole. In this regard, several discernible future trends will enhance the prospects for increasing demand in Steel galvanised wire products

## 1.7 Sponsors and Management

The project is being sponsored by Messrs. Steel Masters Limited whose directors and share holdings are as follows: -

<b>Name of Share Holder</b>	<b>Nationality</b>	<b>% Holding</b>
Ranjanbala Hitendra Kumar Patel	Tanzanian	58.11
Shanil Hitendra Kumar Patel	British	2.09
Ketan Mahendra Patel	British	2.09
Hitendrakumar Manibhai Patel	British	6.28
Dolmite Trading Limited		31.43
<b>Total</b>		<b>100</b>

## **1.8 Developmental Linkages:**

- ◆ Upon completion of the Implementation programme of the Steel galvanised wire products plant, the project will be capable of creating the following:
- ◆ The project would aim at improving the livelihood of the communities of kibaha by Creating employment for the local indigenous people;
- ◆ Generating foreign exchange through exports
- ◆ Promote inter-regional trade through exports to neighboring Democratic Republic of Congo; Uganda and Burundi just to mention a few.
- ◆ Enable the creation of forward linkages between manufacturing and distribution sector.
- ◆ Building of genuine and efficient import substitution industries so as to reduce the import bill,
- ◆ Create self – sufficiency in manufacturing of steel products sector.
- ◆ Lay the foundation for the development of other industries.

## **2.0 THE PROJECT**

### **2.1 THE PRODUCTS**

The main objective of the company is to establish a manufacturing facility for the processing of Steel galvanised wire products to include BRC mash, galvanised chain link, barbed wire, meld mesh and welding & wire nails of various sizes. Steel wire will be processed by the process known as annealing which is a heat treatment that alters the physical and sometimes chemical properties of a material to increase its ductility and reduce its hardness, making it more workable. It involves heating a material above its recrystallization temperature, maintaining a suitable temperature for an appropriate amount of time and then cooling. Steel Wire is commonly formed by drawing the metal through a hole in a die or draw plate. Wire gauges come in various standard sizes, as expressed in terms of a gauge number.

**2.1.2 Galvanised steel wire** is then later processed to produce various products. Galvanized steel wire is a versatile wire that has undergone the chemical process of galvanization. Galvanization involves coating stainless steel wire with a protective, rust-preventive metal, such as zinc. Galvanized wire is strong, rust-resistant and multi-purposeful. The project intends to import machineries to be able to manufactures galvanised steel wire, Plus, other machineries to produce BRC Wire Mesh.

**2.1.3 BRC Wire Mesh** is a steel reinforcement material in concrete and is used for replacing the traditional “cut & bend” and placing of steel thermo-mechanical treated bars. Machines are used to produce the mesh with precise dimensional control.

---

BRC mesh is the initials of the name of a company called British Reinforcement Company Ltd to first manufacture a wire mesh fabric to be used in the construction industry. It is similar to that of a steel mesh used in flooring construction but on a smaller scale and is used in surface reinforcement such as ground slabs, walkways, driveways, pavements and possibly in some cases roadways. BRC wire mesh comes with diameter of wire ranging from A6, A7, A8, A9 and A10. BRC wire mesh is also known as welded steel wire mesh or reinforcement wire mesh. The welded mesh is made up of low carbon steel wire or stainless-steel wire. It is available in various sizes and shapes.

For certain applications, BRC wire mesh is much faster to fix steel mesh than rebar (reinforcing bar) and the labour costs are cheaper.

As you can fix mesh faster, you can place the concrete into the formwork earlier. Thus, it will shorten the amount of time that the construction project will take. Another advantage of using BRC wire mesh rather than rebar is that there is less bending and sorting of the bars. This means less workers needed and save space for storing and working the steel.

**2.1.4 Galvanising chain links** is a serial assembly of connected pieces, called links, typically made of metal, with an overall character similar to that of a rope in that it is flexible and curved in compression but linear, rigid, and load-bearing in tension. A chain may consist of two or more links and at later stage it can form fencing. Fencing is a heavy-gauge galvanized wire used for fencing properties and is widely used for several industrial applications. Fence, also referred to as fencing, is a structure used to enclose an outdoor space and furthermore all around the world rely on temporary metal fencing for a variety of purposes, from crowd control and traffic direction to theft prevention and security. Metal fences are strong, durable, secure and relatively maintenance free.

The process of manufacturing metal fencing starts with a large spool of galvanized steel. The metal passes through a series of machines where it is cut and welded together to form the fencing panels. While temporary and chain link fences are ideal for commercial properties and industrial applications, metal fencing is also great for residential properties as garden fencing, dog fending, and even property fencing.

#### **2.1.5 Welding &Wire Nails;**

Wire and welding nails are mostly used for very rough and heavy-duty woodwork. Manufacture of these nails starts with a coil of wire which is fed into a machine that cuts it into predetermined lengths. Once the wire is cut, the machine creates the nail's head and point.

## **2.2 Production Facilities**

Various facilities are required in order to establish such a processing plant. This will include main building with floor-to-roof clearance of above 4 meters for equipment installation, warehousing for raw materials and yard for finished goods storage, electrical power supply (3 phases), water supply, compressed air supply. Other facilities include a generator, 300 to 600 KVA will also be included including the following fleet of cars; delivery and distribution trucks, and pick-ups.

## **2.3 Quality Control**

A variety of measures are taken to ensure that the finished products meet specifications. For example, x-ray gauges are used to regulate the thickness of the products. The gauges will work by utilizing two x rays. One ray is directed at a product of known thickness. The other is directed at the passing steel on the production line. If there is any variance between the two rays, the gauge will automatically trigger a resizing of the rollers to compensate. Products will also be inspected for defects at the end of the process.

## **3.0 Site location and ownership**

The site of the operations is located on industrial plot No.25, Industrial Area at Mkuza Kibaha township, coast region

The current site is accessible by a good tarmac road. A 3-phase power supply from TANESCO and water supply from a main pipe also services it. The site has stand-by facilities for water and diesel fuel storage.

#### **4.0 Manpower**

The total manpower for the project is expected to initially be 110 people; Out of these the company is expected to employ 10 expatriates.

#### **5.0 Development and implementation programme**

The implementation schedule shows that the development of the project will take about 36 months. The full commissioning of the plant will be in the year 2025

#### **6.0 Production forecast**

At its peak the plant will be able to produce about 2500 metric tons per month.

#### **7.0 Markets**

The Products to be produced will remain to be a seller's market. The country's effective capacity to produce such products continues to be far below the demand. Under their circumstances customer demand will influence production options of manufacture.

#### **8.0 Development and Social Impact**

The project has several impacts both in social economic and environmental terms. The project will

- create employment for about **100** Tanzanians, supply its intended products to various sectors of economies.
- The project will contribute to government revenue through various taxes that will be paid.

## **9.0 FINANCIAL ANALYSIS**

The financial analysis of Steel masters Limited shows that the operations can run profitably and that there will be sufficient cash to meet both short and long-term obligations.

### **9.1 Fundamental Assumptions**

The preparations of the financial projections took into account the following main assumptions;

- i) The operating period under which the project will be reviewed is 10 years
- ii) The Capital Cost Summary of the establishment is reproduced below for ease of reference.

**US \$**

<b>ITEM</b>	<b>Amount</b>
Land & Buildings	<b>2,500,000</b>
Plant, Machinery & Equipment	<b>3,500,000</b>
Vehicles	<b>250,000</b>
Furniture & Fittings	<b>20,000</b>
Others	<b>430,000</b>
Pre operational Expenses	<b>20,000</b>
Initial Working Capital	<b>2,500,000</b>
Grand Total	<b>9,220,000</b>

The above cost estimates consider the cost of installing new machinery and equipment in the new building on site.

## **9.2 Contingencies and Working Capital Assumptions**

Out of the total initial investment capital Investment Cost of **US \$ 9.22 M**, contingency allowance of **US0.02mil** has been provided in the blanket figure of “pre-Operational Expenses”.

### **9.3 Working Capital Assumptions**

Working capital requirements have been determined keeping in tune with the turnover of the businesses. In this respect the following parameters were adopted.

<b>Current Assets</b>	<b>Period</b>
Debtors	1month
Stocks	2months
Cash	1Month

#### **Current Liabilities**

Sundry Creditors	3 months
------------------	----------

### **9.4 Proposed Sources of Finance**

The sponsors of the company will finance the whole enterprise of Steel masters Limited operations and the proposed processing programmes. The sponsors will also look for the term loan from various banks both internal and abroad

## **10.0 Financial Analysis**

### **10.1 Operating Costs**

The operating costs have been estimated to be **80%** of the total revenue. Costs include salaries and wages and administrative overheads.

### **10.2 Projected Profitability**

On the basis of the assumptions the operations of the project are profitable throughout the projected period of 10 years. Net profit rises from US\$4.44m in the first year and rises to US \$ 15.59 ml in the tenth year. .

### **10.3 Liquidity Projections**

The projections take into account the assumed sources and applications for funds over the planned period and show the ability of the project to meet capital expenditure. Net cash generation is a modest of US\$5,089.ml in the first year of operation

### **10.4 Financial Review**

- The Financial review of the project demonstrates that: -
- The project is profitable
- The liquidity position of the project is sound and that is should be able to meet its loan commitment easily;
- The operations are financially and technically viable.

### **11.0 Developmental Linkages:**

Upon completion of the Implementation programme of the Steel Galvanised Wire Products plant, the project will be capable of creating the following:

- ◆ The project would aim at improving the livelihood of the communities of kibaha by Creating employment for the local indigenous people;
- ◆ Generating foreign exchange through exports
- ◆ Promote inter-regional trade through exports to neighboring Democratic Republic of Congo; Uganda and Burundi just to mention a few.
  - Enable the creation of forward linkages between manufacturing and distribution sector.
  - Building of genuine and efficient import substitution industries so as to reduce the import bill,
  - Create self – sufficiency in manufacturing of steel products sector.
  - Lay the foundation for the development of other industries.

### **12 .0 Conclusion and Recommendation**

The above study of the project reveals that the project is technically, commercially and economically viable and is desirable for country's economy. Since the promoters are confident of arranging the required funds and of establishing the project within the committed time frame it is therefore recommended that to all concerned authorities to support to this project so as it will enable the country to realize the benefits as perceived in this report.

**STEEL MASTERS LIMITED**  
**Investment Cost**

**US \$**

<b>ITEM</b>	<b>Amount</b>
Land & Buildings	2,500,000
Plant, Machinery & Equipment	3,500,000
Vehicles	250,000
Furniture & Fittings	20,000
Others	430,000
Pre operational Expenses	20,000
Initial Working Capital	2,500,000
<b>Grand Total</b>	<b>9,220,000</b>

**STEEL MASTERS LIMITED**  
**Financing Pattern**

**US \$**

<b>Equity</b>	<b>Local</b>	<b>Foreign</b>	<b>Total</b>
Equity	4,600,000		4,600,000
Loan	4,600,000		4,600,000
Total equity	9,200,000		9,200,000

## STEEL MASTERS LIMITED

### DEPRECIATION SCHEDULE

YEAR	Value	Rate %	1	2	3	4	5	6	7	8	9	10
Land & Buildings -	2,500,000	5%	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000
Machinery and equipment	3,500,000	<b>12.5%</b>	437,000	437,000	437,000	437,000	437,000	437,000	437,000	437,000	-	-
Motor Vehicles	250,000	<b>25%</b>	62,500	62,500	62,500	62,500	-	-	-	-	-	-
Furniture & Fixtures	20,000	<b>12.5%</b>	2500	2500	2500	2500	2500	2500	2500	2500		
Operational Expenses	20,000	<b>20%</b>	4000	4000	4000	4000	4000	-	-	-	-	-
<b>TOTAL</b>			<b>631,000</b>	<b>631,000</b>	<b>631,000</b>	<b>631,000</b>	<b>568,500</b>	<b>566,000</b>	<b>566,000</b>	<b>566,000</b>	<b>125,000</b>	<b>125,000</b>



# STEEL MASTERS LIMITED

## Profit & Loss Profit

US \$000

	1	2	3	4	5	6	7	8	9-10
<b>Revenue</b>	35,000	52,500	77,000	112,000	112,000	112,000	112,000	112,000	112,000
Total revenue	<b>35,000</b>	<b>52,500</b>	<b>77,000</b>	<b>112,000</b>	<b>112,000</b>	<b>112,000</b>	<b>112,000</b>	<b>112,000</b>	<b>112,000</b>
Cost of sales	28,000	42,000	61600	89,600	89,600	89,600	89,600	89,600	89,600
<b>Gross Profit</b>	<b>7000</b>	<b>10,500</b>	<b>15,400</b>	<b>22,400</b>	<b>22,400</b>	<b>22,400</b>	<b>22,400</b>	<b>22,400</b>	<b>22,400</b>
<i>Other costs</i> Depreciation	631	631	631	631	568	566	566	566	125
<b>Profit Before Tax</b>	<b>6369</b>	<b>9,869</b>	<b>14,769</b>	<b>21,769</b>	<b>21,832</b>	<b>21,834</b>	<b>21,834</b>	<b>21,834</b>	<b>22,275</b>
Taxation 30%	1,911	2961	4431	6531	6550	6550	6550	6550	6683
<b>Net Profit</b>	<b>4,458</b>	<b>6,908</b>	<b>10,338</b>	<b>15,238</b>	<b>15282</b>	<b>15282</b>	<b>15282</b>	<b>15282</b>	<b>15,592</b>
<b>Cumulative Profit</b>	<b>4,458</b>	<b>11,366</b>	<b>21704</b>	<b>36.942</b>	<b>52,224</b>	<b>67,506</b>	<b>82,788</b>	<b>98,070</b>	<b>113,662</b>



