

# **KIBOKO WIRE PRODUCTS LIMITED**

## **FEASIBILITY STUDY**

### **FOR THE ESTABLISHMENT**

### **OF MANUFACTURING FACILITIES**

### **FOR**

### **WIRE STRAIGHTEN, METAL BRC MASH, FENCING AND WELDING & WIRE NAILS**

**Prepared by  
KIBOKO WIRE PRODUCTS LIMITED  
P.O.BOX 3030  
Dar-ES-salaam**

**MAY 2020**

## **1.0. Executive Summary**

### **1.1. Introduction**

The overall industrial performance of various steel products such as Wire Straighten, Metal BRC Mash, Fencing and Welding & Wire Nails over the last decade has not been very satisfactory. The main impediments for rapid development of such products is lack of financing as it requires huge investments and also advanced technology. However, the supplying capacity of variety of such products are not the same as the demand side. Wire Straighten, Metal BRC Mash, Fencing and Welding & Wire Nails products are used by various sectors, especially in the construction and have very high demand. The Wire Straighten, Metal BRC Mash, Fencing and Welding & Wire Nails products has acquired the status of a Basic items. 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**

KIBOKO WIRE PRODUCTS LIMITED is a private limited liability company registered on 15<sup>th</sup> February 2020 in Dar es Salaam. KIBOKO WIRE PRODUCTS LIMITED intends to be one of the leading manufacturers of Wire Straighten, Metal BRC Mash, Fencing and Welding & Wire Nails in Tanzania, Central, South and East Africa.

### 1.3 Value of the Investment

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

<b>ITEM</b>	<b>Amount</b>
Land & Buildings	100,000
Plant, Machinery & Equipment	500,000
Vehicles	200,000
Furniture & Fittings	50,000
Others	350,000
Pre operational Expenses	50,000
Initial Working Capital	200,000
<b>Grand Total</b>	<b>1,450,000</b>

### 1.4 Proposed Sources of Finance

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

### 1.5 The Project

After the company has been able to establish that there is unsatisfied market of the Wire Straighten, Metal BRC Mash, Fencing and Welding & Wire Nails products, the company has decided to fulfil their medium and long-term objective of manufacturing the products here in Tanzania locally for local distribution and excess to sold outside the country.

### 1.6 Markets

The market demand for Wire Straighten, Metal BRC Mash, 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.

Products from the intended manufacturing facility are 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 investment today in Wire Straighten, Metal BRC Mash, Fencing and Welding &Wire Nails.:

### **1.7 Sponsors and Management**

The project is being sponsored by Messrs. KIBOKO WIRE PRODUCTS LIMITED. whose directors and share holdings are as follows: -

<b>Name of Share Holder</b>	<b>Nationality</b>	<b>% Holding</b>
M/S M.M Integrated steel mills Limited	Tanzanian	98%
Pawan Subhash Patel	Tanzanian	1%
Veer Ramaala Patel	Tanzanian	1%
Total		100

### **1.7 Projections**

#### **Projected Profit and Loss**

On the basis of the operating assumptions and costs, the project will be profitable throughout the projected review period of 10 years.

#### **Liquidity Projections**

These projections show the ability of the company to meet financial commitments and capital expenditure requirements.

## **2.0 THE PROJECT**

### **2.1 PRODUCTS AND ITS MANUFACTURING PROCESS**

The main objective of the company is to establish a manufacturing facility of wire straighten, metal BRC mash, fencing and welding & wire nails of various sizes.

**Wire Straighteners;** The project will import Wire straighteners to be able to Straighten wires. Wire straighteners are designed to remove any bends, irregularities, and cast memory left from the coil in the material that is being processed. This straightening process ensures that the final product will be consistent and free from defects. Wire straighteners are made in a variety of versions, in order to accommodate different requirements that may need to be filled. Typically, wire is straightened by manipulation. The two widely used methods are the "roll" style straightener and the "rotary" style. The rotary method is by far the best way to straighten wire but is very expensive to implement, is slow, and can leave marks on the wire called "barber poling" which appear spiral in nature if not set up correctly.

In the case of the roll straightener the wire is maneuverer or forced to traverse a course around roll bearings like a skier running a slalom course. The wire is bent past its elastic point and then redirected to a straightened state. In the case of the rotary style the straightening rolls are rotated around the wire as it is pulled through the device. The rotational speed and direction of the rolls as well as the feed speed and tension value applied to the wire must all be carefully controlled in order to obtain good results. Roll straighteners on the

other hand, can be configured with multiple planes that can produce the same results of a rotary straightener but are less expensive, easy to set up and, depending on bearing selection, can be operated at speeds into the thousands of feet per minute. The project will have to consider the most economical way to be used in the production process .

---

**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.

. B.R.C. 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

## **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 commonly used types of metal for fencing are aluminium and wrought iron .

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.

## **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-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 meets 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.35, Mikocheni Industrial Area, Kinondoni, Dar-es salaam

The current site is accessible by a good tarmac road. A 3-phase power supply form TANESCO and water supply form 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 50 people; Out of these the company is expected to employ 5 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 2023

### **6.0 Production forecast**

At its peak the plant will be able to produce about 800 metric tons of various products per month.

### **7.0 Development and Social Impact**

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

- create employment for about 50 Tanzanians, supply its intended products to various sector of economies.
- The project will contribute to government revenue through various taxes that will be paid.

## **8.0 Markets –**

The Products to be produced will remain by and large, 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 does not influence production options of manufacture. Customers simply take what is offered for sale.

### **8.1 Market Environment**

Given trade liberalisation, deconfinement and prices decontrol, the national market environment is generally expected to be competitive. Market survey indicates that there is assured market as most of these products are imported and the continued shortage of these products limits competition in the industry. The market is not competitive on the basis of price. Competition is limited of that ability of an individual producer to make particular products available on the market. The ability depends on possession of such products, functioning equipment and labour.

## 9.0 FINANCIAL ANALYSIS

The financial analysis of KIBOKO WIRE PRODUCTS 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 as given in Appendix 1 and is reproduced below for ease of reference.

#### VALUE IS US \$

ITEM	Amount
Land & Buildings	100,000
Plant, Machinery & Equipment	500,000
Vehicles	200,000
Furniture & Fittings	50,000
Others	350,000
Pre operational Expenses	50,000
Initial Working Capital	200,000
<b>Grand Total</b>	<b>1,450,000</b>

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

## **9.1 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.

Current Assets	Period
Debtors	1month
Stocks	2months
Cash	1Month
Current Liabilities	
Sundry Creditors	3 months

## **9.2 Proposed Sources of Finance**

The sponsors of the company will finance the whole enterprise of KIBOKO WIRE PRODUCTS LIMITED operations and the proposed processing programmes. The sponsors will also look for the term loan from various banks both internal and abroad if the need arises.

## **10.0 Financial Analysis**

### **10.1 Operating Costs**

The operating costs have been estimated to be 75% 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\$.0.247ml. in the first year and rises to US \$ 0.394ml in the tenth year. Over the same period the revenue reserves build up to US 2.325 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\$0.348 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 it should be able to meet its loan commitment easily;
- The operations are financially and technically viable.

## **11.0 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. In light of anticipated financial, social and development benefits the project qualifies for positive recommendation for immediate implementation. Since the promoters are confident of arranging the required funds and of establishing the project within the committed time frame the conclusion is to recommend to all concerned authorities to accord utmost support to this project so as to enable the country to realize the benefits as perceived in this report.

**KIBOKO WIRE PRODUCTS LIMITED**  
**Investment Cost**

**US \$**

<b>ITEM</b>	<b>Amount</b>
Land & Buildings	100,000
Plant, Machinery & Equipment	500,000
Vehicles	200,000
Furniture & Fittings	50,000
Others	350,000
Pre operational Expenses	50,000
Initial Working Capital	200,000
<b>Grand Total</b>	<b>1,450,000</b>

**KIBOKO WIRE PRODUCTS LIMITED**  
**Financing Pattern**

**US \$**

<b>Equity</b>	<b>Local</b>	<b>Foreign</b>	<b>Total</b>
Equity	1,450,000		1,450,000
Total equity	1,450,000		1,450,000

# KIBOKO WIRE PRODUCTS LIMITED

## Depreciation Schedule

US \$

<b>Investment</b>	<b>Total Costs</b>	<b>Rate</b>	<b>Expense</b>
Land Buildings	100,000	4.0%	4,000
Plant & Machinery & Equipment	500,000	12.5%	62,500
Motor Vehicles	200,000	25.0%	50,000
Furniture & Fixtures	50,000	12.5%	6,250
Pre-operational Expenses	50,000	20.0%	10,000
<b>Total Costs</b>	<b>900,000</b>		<b>132,750</b>

# KIBOKO WIRE PRODUCTS LIMITED

## PROJECTED SALES REVENUE US\$ 000

YEAR	1	2	3	4	5	6	7
percentage	70%	80%	90%	100%			
Sales in us\$	1,400	1,600	1,800	2,000	2,000	2,000	2,000
<b>Total Sales</b>	1,400	1,600	1,800	2,000	2,000	2,000	2,000

# KIBOKO WIRE PRODUCTS LIMITED

## Profit & Loss Profit

US \$000

	1	2	3	4	5	6	7	8	9-10
<b>Revenue</b>	1,400	1,600	1,800	2,000	2,000	2,000	2,000	2,000	2,000
Total revenue	1,400	1,600	1,800	2,000	2,000	2,000	2,000	2,000	2,000
Cost of sales	910	1040	1170	1300	1300	1300	1300	1300	1300
<b>Gross Profit</b>	490	560	630	700	700	700	700	700	700
<i>Other costs</i> Depreciation	137	137	137	137	137	137	137	137	137
<b>Profit Before Tax</b>	353	423	493	563	563	563	563	563	563
Taxation 30%	106	127	148	169	169	169	169	169	169
<b>Net Profit</b>	<b>247</b>	<b>296</b>	<b>345</b>	<b>394</b>	<b>394</b>	<b>394</b>	<b>394</b>	<b>394</b>	<b>394</b>
<b>Cumulative Profit</b>	<b>247</b>	<b>543</b>	<b>888</b>	<b>1282</b>	<b>1676</b>	<b>2070</b>	<b>2464</b>	<b>2858</b>	<b>3252</b>

