

APAK STEEL INDUSTRIES LIMITED



BUSINESS PROPOSAL TO THE TANZANIA INVESTMENT CENTRE

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EXECUTIVE SUMMARY

This project document gives details on an investment proposal by Apak Steel Industries Limited for the production of steel products in Tanzania such as square pipes, square bars, channel steel, mild steel plates, corrugated iron sheets and similar structural steel products at a 43,000 square meters piece of land at Misugusugu, Kibaha District in Pwani Region, Tanzania where the factory will be located. Apak Steel Industries Limited is in the process of acquiring the 43,000 square metres piece of land at Misugusugu Kibaha District in Pwani Region, importation of machinery and equipment and construction materials for the factory all worth USD 5,395,000 inclusive of start capital for the operations of the factory following its completion and commissioning.

Apak Steel Industries Limited is therefore applying for a Certificate of Incentives from the Tanzania Investment Centre (TIC) under Section 17 of the Tanzania Investment Act and Part IV of the Investment Regulations 2002 to fulfil its goals.

Apak Steel Industries Limited is particularly applying for a certificate of incentive which is to be used to finance the purchase of the land and the following machinery and equipment from outside the country:

Capital Investment

Land & Buildings (Factory)	1,500,000
Tube Mill No 1	400,000
Tube Mill No 2	600,000
Slitting Line	400,000
Cut to length line 1	400,000
Cut to length line 2	400,000
Corrugated iron sheets machine	320,000

Trapezoidal Machine	320,000
Cranes and forklifts	250,000
Transformers, cables, distribution panel	300,000
Installation and commissioning, consumables spares	300,000
Motor Vehicles	100,000
Furniture and fittings	55,000
Operational Capital/start up	50,000
Total Project Cost	5,395,000

The above is to be financed through a foreign term loan facility of USD 5,395,000 over a projected horizon of 3 years at Misugusugu village in Kibaha district in Pwani region in the country. It is proposed that the term loan will attract an interest rate not exceeding 7% in USD terms per annum

1. COMPANY BACKGROUND

Apak Steel Industries Limited is a privately owned limited liability company lawfully registered in Tanzania. The company's principal place of business will be at Misugusugu Kibaha District in Pwani Region, Tanzania. Its physical address is P.O. Box 80870 Dar es Salaam Tanzania. The principal activity of the company is manufacturing of steel materials and its related products.

1.1.The Applicant

1.1.1. Name & Nationality: **APAK STEEL INDUSTRIES LIMITED**,
Turkish, Ethiopian

1.1.2. Address: P.O. Box 80870 Dar es Salaam Tanzania.

1.1.3. The Promoter: **APAK STEEL INDUSTRIES LIMITED**- New in
Tanzania

1.1.4. Contact Person: Mr. Ozcan Kilic, and Mr. Abdulalim Mussa Abreha
–who are the Directors

:Mr: Shishay Brhanemeskel Abrha – Company
Representative – Telephone # +255 756 737 624

1.1.5. Type of Project: Steel Products Manufacturing Project

1.1.6. Legal Form of Business: Private Limited Company

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2nd March, 2022

1.1.11. Tax Identification Number: 155326891

1.1.12. License Number & Date: under preparation

The authorized share capital of Apak Steel Industries Limited is USD 3,000,000 or TZS 6,900,000,000 divided into 690,000 ordinary shares of USD 4.4 or TZS 10,000 each. The current directors and shareholders of the company and their respective number of shares are as follows:

Shareholders:

Name	Citizenship	Share	Percentage
Mr. Ozcan Kilic	Turkish	345,000	50%
Mr. Abdulalim Mussa Abreha	Ethiopian	345,000	50%

Director and representative to the company: Mr. Shishay Brhanemeskel Abrha

1.1.Keys to Success

- Precisely engineered products.
- Follow through on all commitments, both to vendors and customers.
- Strict financial controls.

1.2. Mission

With a well-trained international and local team, to manufacture and sell better quality steel products at competitive prices through continual innovation and best practice of safety & ethics so as to satisfy customers and other stakeholders while maintaining a sustainable environment that supports the needs of current and future generations.

1.3. Company Vision:

To become the leading and most reliable manufacturer and supplier of steel products in Tanzania, the East African region and beyond

1.4. Core Values:

The values that guide the Company's management and staff while understanding activities that enable the Company to achieve its objectives are: Quality, Safety, Ethics, Teamwork, Respect, Performance and Professionalism

Nature of business

It will involve steel products production using Cold Rolled Steel, Hot Rolled Steel, Galvanized Rolled Steel and Pre-Painted Rolled Steel as raw materials and subsequent manufacturing of various steel products. The company shall purchase raw materials from renowned local and international suppliers mainly from outside the country and then process them into different steel products as mentioned above according to the customers demand. At early stage of the business the focus will be on the production of steel welded tube and profile, sheet metal, strip metal, corrugated metal and trapezoidal metal; and with the passage of time the company will expand its product lines.

Table 1: Key Requirements

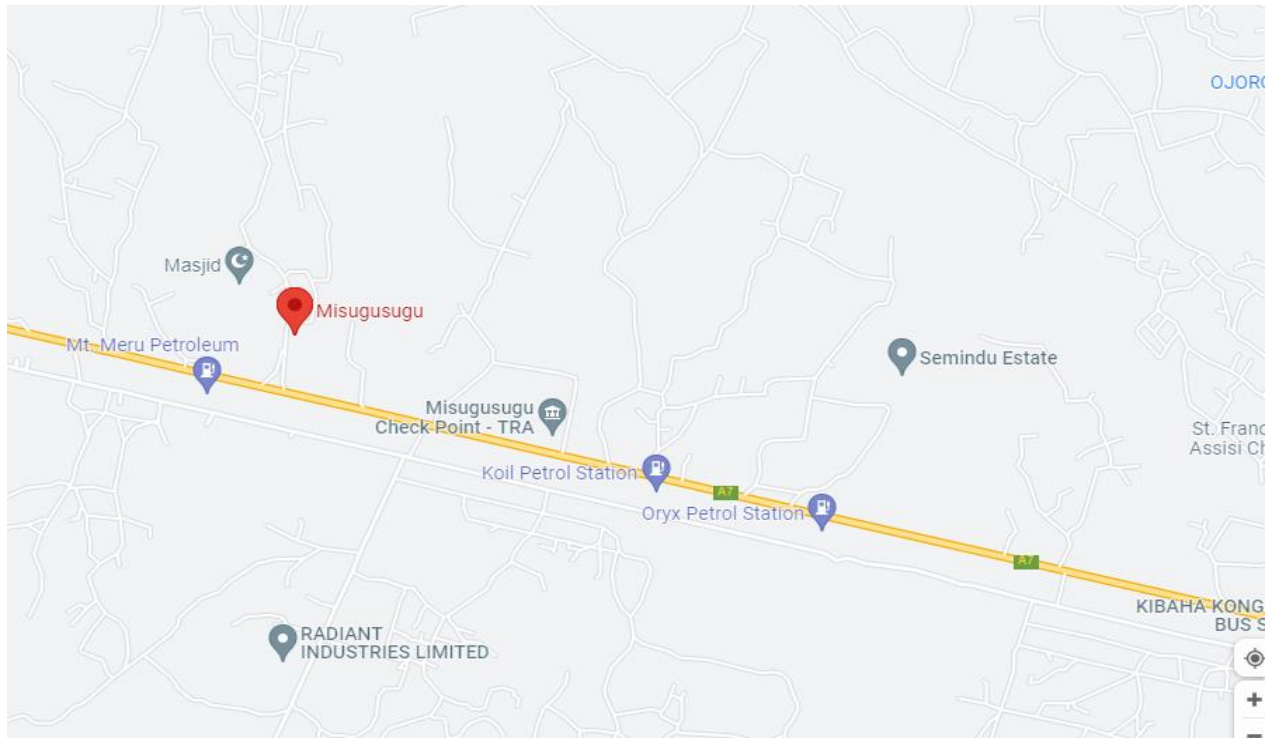
Key requirements		Units
Annual consumption of Raw Materials	50,000	Tons
Annual Production of steel products)	48,000	Tons
Annual Machine Production Capacity	200,000	Tons
Capital Structure		
Foreign Equity	5,395,000	\$

2. Past Experience

The company has plausible expatriates staff from outside the country mainly Turkey and Ethiopia who are well grounded in the manufacturing of steel and its products evidenced by their past knowledge and experience in their own industries. Bothe the directors have each over 25 years of experience in the steel production industry.

3. Project location

Misigusugu area in Pwani region is close to Metropolitan city of Dar es Salaam, a hub for commerce, transport, import, export and economic development in the Coast Zone and country as a whole. The area is situated along the road from Dar es Salaam, Tanga and Morogoro to the rest of upcountry regions, the area is along the



trade roads from Dar es Salaam, and neighbouring regions of Morogoro, Iringa, and Dodoma along the central corridor; neighbouring regions of Tanga, Kilimanjaro and Arusha on the northern circuit.

In a nutshell, Misigusugu area and settlement has every reason to be prosperous commercially due to rapid growth in the economy especially in industrial development and its location from Dar es Salaam.

2.0 Source of finance

It is proposed to finance the project costs through foreign direct investment

Table 2: Source of funds

Particulars	Apak Steel Industries Limited	Foreign Banks	Total
Capital Cost	1,618,500	3,776,500	5,395,000
Start-up Capital	-	50,000	50,000
Total Investment	1,618,500	3,826,500	5,445,000
Percentage	29%	71%	100%

The long term loan will have a grace period of twelve months to allow for prototypes & trials, product, software and manufacturing process development and eventual process improvements including six months of production. The working capital and Foreign Investment are proposed to be repaid at an assumed interest rate not exceeding 7% p.a.

3.0 Investment

A summary of project costs whose total amounts to USD 5,395,000 as is shown below broken down as follows:

Table 3: Project Capital Investment Costs

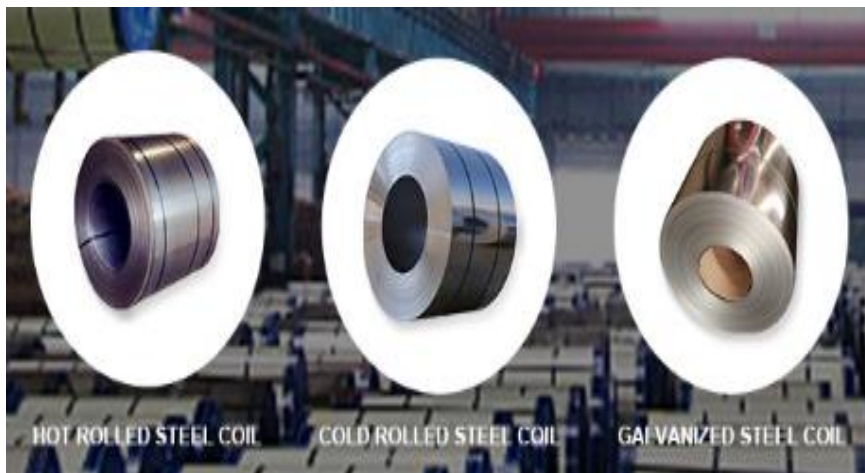
ITEM	Quantity	Unit price	USD
Investment			
Existing Assets and equity contribution			
Land & Buildings (Factory)	43,000 sq m		1,500,000
Tube Mill No 1	1	400,000	400,000
Tube Mill No 2	1	600,000	600,000

Slitting Line	1	400,000	400,000
Cut to length line 1	1	400,000	400,000
Cut to length line 2	1	400,000	400,000
Corrugated iron sheets machine	2	160,000	320,000
Trapezoidal Machine	2	160,000	320,000
Cranes and forklifts	1	250,000	250,000
Transformers, cables, distribution panel	1	300,000	300,000
Installation and commissioning, consumables spares		lump sum	300,000
Motor Vehicles			100,000
Furniture and fittings			55,000
Start –up/operational capital			50,000
Total Project Cost			5,395,000

4.0 Raw Materials for steel products:

4.1 Cold Rolled Steel, Hot Rolled Steel, Galvanized Rolled Steel and Pre-painted Rolled steel:

The raw materials to be used at the factory will include Cold Rolled Steel, often



abbreviated as CR or CRS, which is known for being extremely ductile. Additionally, it is formable for moderate draw applications, as well as being non-shrinking

and non-creeping at ambient temperatures. Cold Rolled Steel (CRS) is known for its ability to hold tight tolerances and retain few surface imperfections.

Hot Rolled Steel (HRS) will be used in applications that do not require precise shapes and tolerances (like I-beams and railroad tracks), Galvanized Rolled Steel

(GRS) and pre-painted rolled steel (PPRS) due to their high strength, good toughness, are easy to process and have good weld-ability and other excellent properties, and therefore are widely used in bridges, buildings, machinery and other manufacturing industries.

The estimated CRS, HRC and GRC and PPRS materials that will be imported per annum will be enough to produce between 3,000 to 4,000 tonnes of steel products per month to start with. There will be two (2) shifts per day of eight (8) hours each. Production will be done for 24 days in a month for eleven months to allow for a one month of stock taking, repair and maintenance.

4.2 Quality Control

A variety of measures will be taken to ensure that the finished steel products meet specifications. For example, micrometres are used to regulate the thickness of the steel. Products will also be inspected for defects at the end of the process by using special quality control equipment such as:

Meter

Calliper

Micrometre

Refractometer

Weigh bridge.

Height control by automatic

Straightener control by automatic

Diagonal control by automatic

Any defective products will be returned for scrap.

5.0 PROJECT ENGINEERING

5.1 Location

The project will be carried at Misigusugu on Plot No 1 & 2 Block X, Kibaha district in Pwani Region. The promoters have made plans to procure the 43,000 square meters piece of land at Misigusugu, the construction of the new factory, residential houses and office blocks will commence as soon the approval of the factory establishment from all the relevant authorities in the country is complete.

5.2 Production Process

5.2.1 Product description and application

Structural steel in general is one of the basic materials commonly used in structures, such as industrial and commercial buildings, bridges, piers and the like. It is produced in a wide range of shapes, grades and sizes, which permits great flexibility in its usage. It is relatively inexpensive to manufacture and is the strongest and most versatile material available to the construction industry.

Structural steel constitutes a wide range of profiles such as Iron bars and coils, angle irons, I beams, U Channels, Steel Hollow Sections including Pipes (galvanized and black), RHS, SHS, L-T-Z profiles, etc. Structural steel must preferably exhibit properties such as:

- The ability to be deformed without fracture (ductility)
- High yield point to reduce the weight of structural members. Usually, the ratio of yield strength to rupture strength is in the tune of 0.5. For high strength structural steel, R_s / R is between 0.7-0.75 (These are high yield stress steels having weld ability that is approximately similar to normal structural steels. The yield point is raised to make the weight of the structure lighter. These type of steels are

usually preferred in body construction of vehicles, cranes and machines used in heavy construction work)

- Good welding property to avoid the formation of hard structure in the heat affected zone
- Good flame cutting properties to withstand the flame heating process without any appreciable deterioration in mechanical properties
- Good resistant to corrosion, which is usually attained by way of, surface treatment in conditions where the operating environment is aggressive.

In general the application of such profiles is extensive of which the most dominant one is the construction sector. Other areas of application relate to the industrial sector, power and telecom sectors, the agricultural sector as related to flower farms and the transport sector.

With regard to civil engineering applications, Steel Hollow Section is used in the construction, columns, lattice structures, space frames, etc. Flat bars, angles and other sections are used in the building of steel fabricated warehouses, factories and bridges for the construction of structural members.

Steel Hollow Sections: Welded steel hollow sections are longitudinally welded hollow structures with circular, rectangular or square cross sections. The preferred designations of hollow sections are:

- Circular hollow sections (CHS)
- Rectangular hollow sections (RHS)
- Square hollow sections (SHS)

The applications of hollow sections nearly cover all fields. Hollow sections may be used because of the beauty of their shape or to express lightness, while in other cases their geometrical properties determine their application. Steel hollow sections are essential items in building construction and manufacturing industries for the transport of water and steams as well as for making furniture and similar light structures elements. The galvanized versions could be used for water pipes. However, since this project does not include galvanizing plant it doesn't produce galvanized pipes. Nevertheless, if need be, it could supply the welded tubes to a separate galvanizing factory to produce galvanized pipes.

In circumstances where hollow steel sections are to be used as structural elements, minimum wall thickness of even the smallest sized hollow section is expected to be 1.5 mm. ISO standards, ISO 10799-1:2011 "Technical Delivery Requirement for Cold Formed, Welded Structural Hollow Sections" should be referred and adhered to in such cases.

Quite a wide range of sizes of pipes are covered by this standard under both groups, ranging from as small as 10 mm to 2500mm outside diameter, with wall thicknesses as low as 0.5 mm.

5.2.2 Production Programme

The ultimate production of the steel is estimated to be 50,000 tons per annum of products of steel to begin with but with passage of time other production lines will be added since the installed capacity of the factory is 200,000 tons per year.

The products that will be produced at the factory will include:

- (i) Steel welded tube and profile
- (ii) Sheet metal

- (iii) Strip metal
- (iv) Corrugated metal
- (v) Trapezoidal metal

6.0 The steel industry in Tanzania

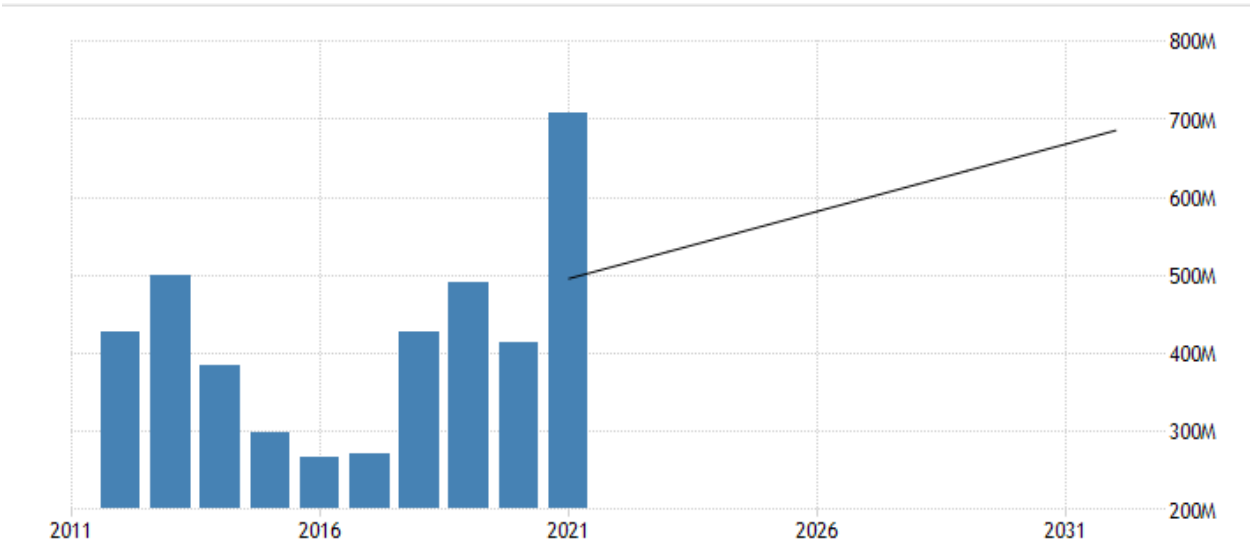
As one of the least industrialised countries in the world, it is no surprise that Tanzania has a small steel sector and very low levels of per capita steel consumption. Nevertheless, Tanzania's steel sector has gone through a period of significant growth over the past 20 years, with expansion at all stages of the value chain – from scrap collection to fabrication, distribution and wholesale of local and imported steel products. The trajectory of Tanzania's steel sector has mirrored the wider experiences of industrialisation and de-industrialisation. The political economy of the steel sector in Tanzania: power relations and patterns of decline and growth over time in the country over time: expansion has been driven by structural changes as well as rapid growth of the construction sector and building projects related to increased investment in mining, urban housing, and large and small infrastructure projects.

While the Government of Tanzania has held long-term ambitions to mine iron ore deposits in the Southern Highlands, there is no primary steel production in the country. Instead, the steel value chain starts with either imported steel billets or scrap steel that is converted into ingots, which are then melted down and transformed into a range of long and flat steel products. Reinforced steel bars and rods and steel roofing sheets are the most important product categories. However, domestic production has not kept up with demand and imports have increased sharply since the mid-2000s.

Today, Tanzania’s steel sector consists of a few large industrialists involved in steel roofing and reinforced bars, and many smaller producers that make a range of steel inputs for the construction sector. Traders and wholesalers also play a key role in the value chain along with construction companies who depend on steel. Despite the increase in the number of steel firms, and a significant increase in domestic capacity, the sector remains remarkably concentrated with a few firms that dominate both long and flat steel products. The largest firms in Tanzania include domestic and foreign firms that are involved in trade and manufacturing activities across the region.

6.1 Iron and Steel Imports

Tanzania Imports of Iron and steel was US \$706.88 Million during 2021, according to the United Nations COMTRADE database on international trade. Tanzania Imports of Iron and steel - data, historical chart and statistics - was last updated on March of 2022.



6.2 Manufacturing

The manufacturing sector in Tanzania is still relatively small but has a significant contribution to the country's overall GDP. Over the past decade the sector has averaged 8% of GDP and 4% annual growth rate. Most of the manufacturing activities is centered on simple consumer products such as foods, beverages, tobacco, textiles, chemicals, plastic, wood and steel allied products.

The recent development agenda in the country has brought industrial development back as one of the country's policy priorities. Policy makers have made it a point to lead the process of transforming the country's economy from low productivity and low growth to high productivity and dynamic economy, associated with structural change and sustained income growth.

Currently the domestic value addition is limited by the dependence of imported intermediate goods, signifying limited inter-industry linkages that are important for promoting domestic manufacturing base and employment. Various technological, financial, policy, and administrative constraints remain unresolved and therefore, limiting faster industrial growth and transformation. This could also serve as an opportunity for outside companies to supply services and technologies to fill this gap.

6.2.1 Utilities Requirements

In order to achieve the above production levels respective utilities requirements will be needed some of these are explained below.

6.2.1.1 Power

The site is well supplied by the high-tension lines from TANESCO and efforts to apply for the factory connection to the national grid are underway. However it is

the plan of the company to include a standby generator for the site in case of power failure or low shed.

6.2.1.2 Water

The premise is within an area where already other neighbouring plants are provided with adequate water, water is needed mainly to be used for cooling purposes. Around 50,000 liters are required per day but are circulated hence, only a small additional amount is required in a day. An overhead reservoir of 100,000 liters capacity is also considered for erection. The existing water supply at the area will be adequate for sanitation and domestic uses as well.

6.2.1.3 Compressed Air

A number of machines will be pneumatically operated. There will therefore be a need to have a central compressor station that will generate the compressed air requirements. Compressor capacity will be approximately 37/45 KVA and pressure between 5-6 bars

6.2.1.4 Material Handling Equipment

The plant will require the service of an overhead crane which will be employed for lifting the heavy objects for feeding the plant as well as move the finished goods. A forklift is also desirable for the scrap yard.

6.2.1.5 Weighing Scales

A road vehicle bridge and a portable dial platform scale will be installed at the plant site for weighing incoming trucks with scrap and weighing the production inputs during production.

6.2.1.6 Oxygen and Acetylene Gas Cutting and Welding Equipment

Several gases cutting equipment of the type mentioned above and their corresponding cutting torches will also be required for the steel mill.

6.2.1.7 Workshop Facility

In order to enable the company to handle small repairs to its assets the company will acquire a minimum number of metal working machines such as:

- (i) Lathe machine,
- (ii) Central machine,
- (iii) Drilling Machine
- (iv) Grinding Machine
- (v) Press (10 tons)
- (vi) All size machine tools
- (vii) All size handling tools
- (viii) Cutting , grinding machine and tools

7.0 Market Potential and Competition

7.1 General Review

Steel enables a sustainable society, through a circular economy accounting for the full life cycle of steel products. Fundamental advantage of steel is that it is reusable and 100% recyclable. At the end of its useful life, products containing steel can be converted back into ‘new’ steel ready for other applications. Recent developments in steel making technology have enabled the steel industry to improve their products through better corrosion resistance, reduced weight and improved energy performance. This improvement is seen through a wide range of products including passenger cars, packaging and construction materials.

The steel industry is the second biggest industry in the world after oil and gas with an estimated global turnover of 900 billion USD (World Steel Association, 2015). Steel is used in every important industry: energy, construction, automotive and transportation, infrastructure, packaging and machinery.

Steel enjoys a broad range of applications in almost all-important sectors of the industry, such as machinery manufacture, bridge building, housing construction, steel-framed building construction, power, telecommunication, transportation, and the packaging industry, to name just a few.

Steel consumption increases when economies are growing, as governments invest in infrastructure and transport, build new factories and houses. Economic growth in the developing world tends to be more steel intensive than growth in developed nations which indicates the fact that steel plays a vital role in these new economies. The global steel industry is highly cyclical, very competitive and still fragmented in terms of market share.

Globally, the steel industry became a billion-ton industry in 2004 & the total output from the industry exceeded 1.6 billion tons in 2014, most of it augmented by the increase in output from China. Although there is a slight decline in growth in the past couple of years, the trend is expected to be maintained further, making steel output from China among the largest in the world. How much more it will grow will depend primarily on how much more steel is consumed in the developing countries.

It is only since 2005 that China became a net exporter of steel, with production figures representing 30% of the world output, nine years later; it has more than doubled its production of steel (at 10% average annual growth rate) taking 49.4 % of the total global production (World Steel Association, 2015). Amongst the other developing countries, India is showing a steady growth reaching 86.5 tons in 2014, South Korea stabilizing at around 70 million tonnes, and Brazil at around 34 million tonnes.

The steel industry directly employs more than two million people worldwide, plus two million contractors and four million people in supporting industries. Including industries such as construction, transport and energy, the steel industry is a source of employment for more than 50 million people.

7.2 Global Over view

Over the last decade, there has been a clear shift of production capacities towards emerging/developing countries, led by a stupendous growth in China. The global steel production has grown by an average of 3.05% in the last five years (2010-2015). Steel consumption has grown at a similar annual growth rate of 3.27% over the years 2010 - 2014. Owing to a slower demand for steel due to consumption decline in China, which has led to a drastic slump in price of steel, the World Steel Association projects world steel consumption to grow by 1.6% in 2016 to 1.768

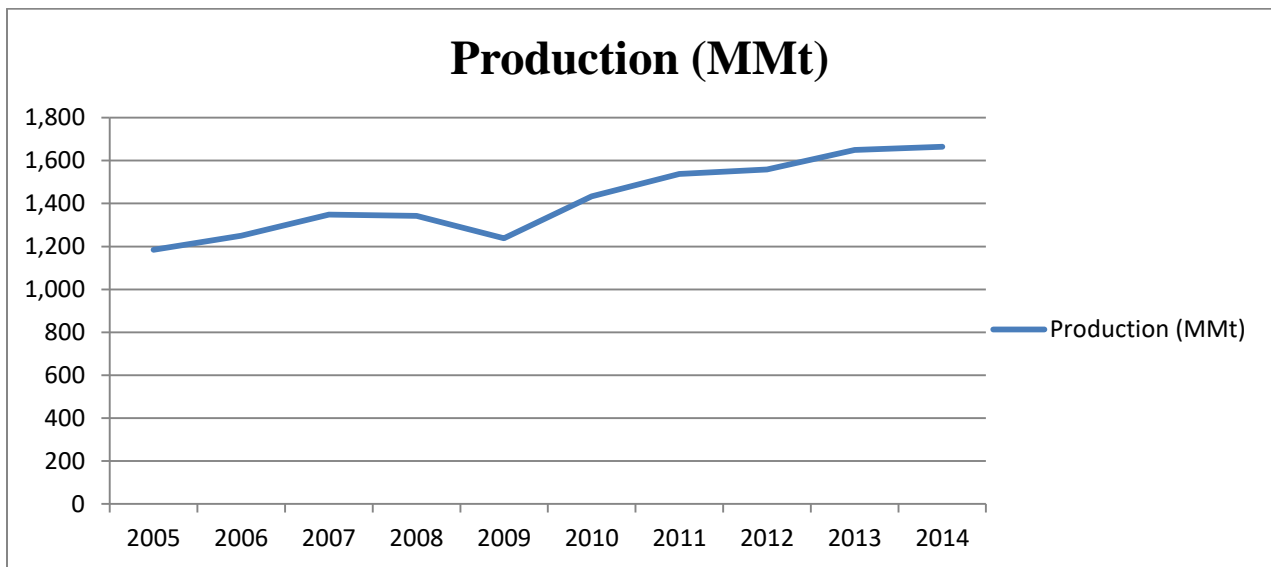
billion Mt. Global steel production for the period 2010 - 2014 is given in Table 3.1 & figure 3.1

Table 4: World Crude Steel Production, 2010 - 2014

Year	2010	2011	2012	2013	2014
Production, '000 ton	1433	1537	1559	1649	1665
Growth Rate (%)		7.26	1.43	5.77	0.97

Source: World Steel Association, 2015

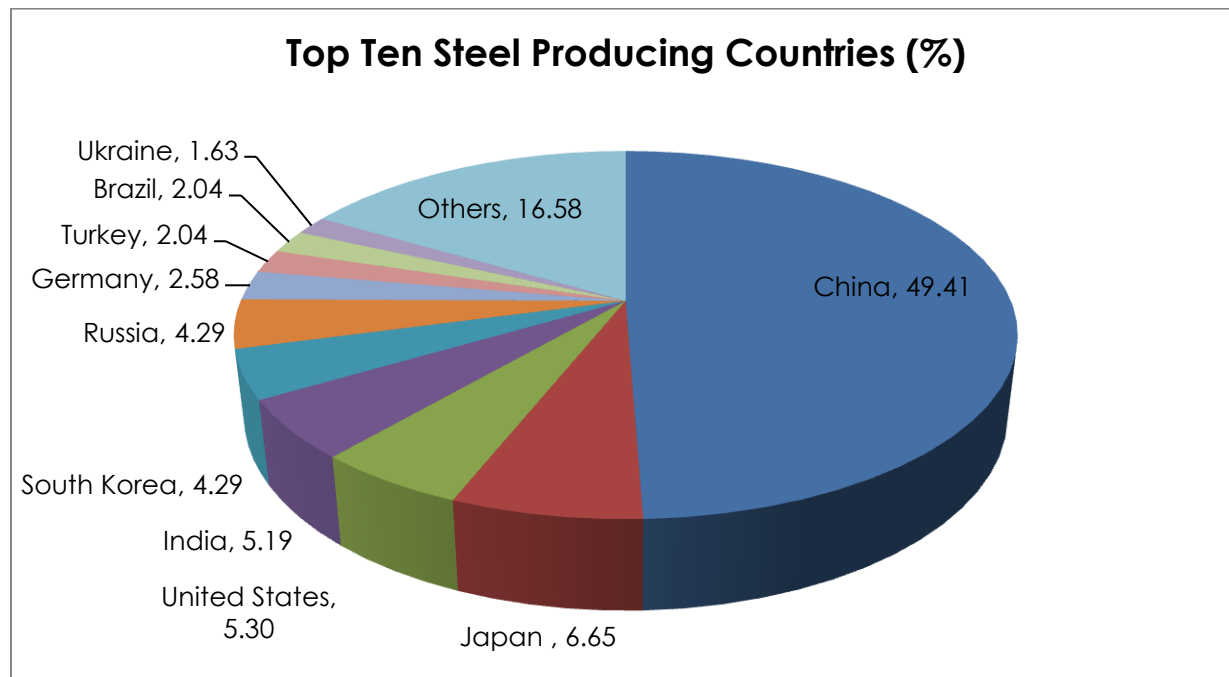
Figure 1: World Crude Steel Production, 2005 - 2014



Source: International Iron and Steel Institute: World Steel in Figures 2005

The top three steel producing countries in 2014 were China (822.7 MMt), Japan (110.7 MMt) and the United States (88.2 MMt). Regionally, Asia is the largest producing area at 1,135 MMt followed by Europe (207.4 MMt) and North America (120 MMt). Similarly, the top three steel consumers were China at 711 MMt, European Union (146.6MMt) and the NAFTA at 144.6 MMt.

Figure 2: Top Ten Steel Producing Countries (2014)



In the developed countries, the trend is on consolidation of industry. Cross-border mergers have been taking place for several years. One of the major consolidation moves of July 2006, led to the merger of the world's number one and two producers Arcelor- Mittal with the combined giants now producing about 6 percent of the world output, close to 100 million tons of steel. Figure 3.3 gives an insight to the nature of this trend.

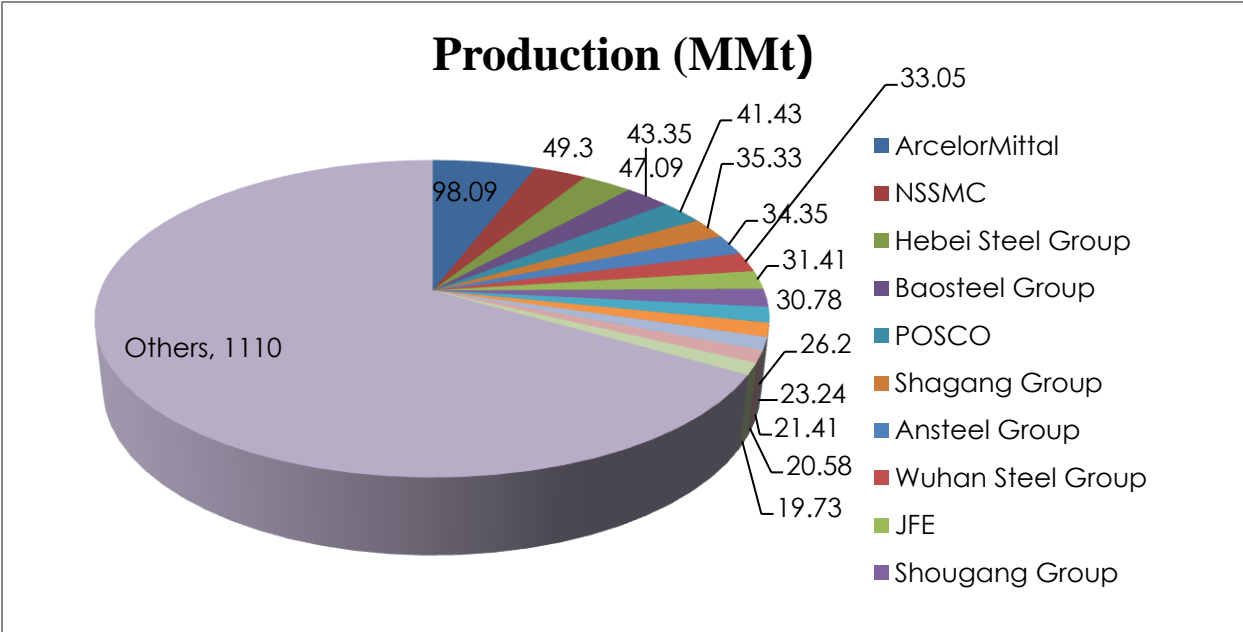
Table 5: Table 3.2: Top Fifteen Steel Producing Companies (2014)

	Production (MMt)
ArcelorMittal	98.09
NSSMC	49.3
Hebei Steel Group	47.09
Baosteel Group	43.35
POSCO	41.43
Shangang Group	35.33
Ansteel Group	34.35

Wuhan Steel Group	33.05
JFE	31.41
Shougang Group	30.78
Tata Steel Group	26.2
Shandong Steel Group	23.24
Nucor Corporation	21.41
Hyundai Steel Company	20.58
U. S. Steel Corporation	19.73
Others	1110

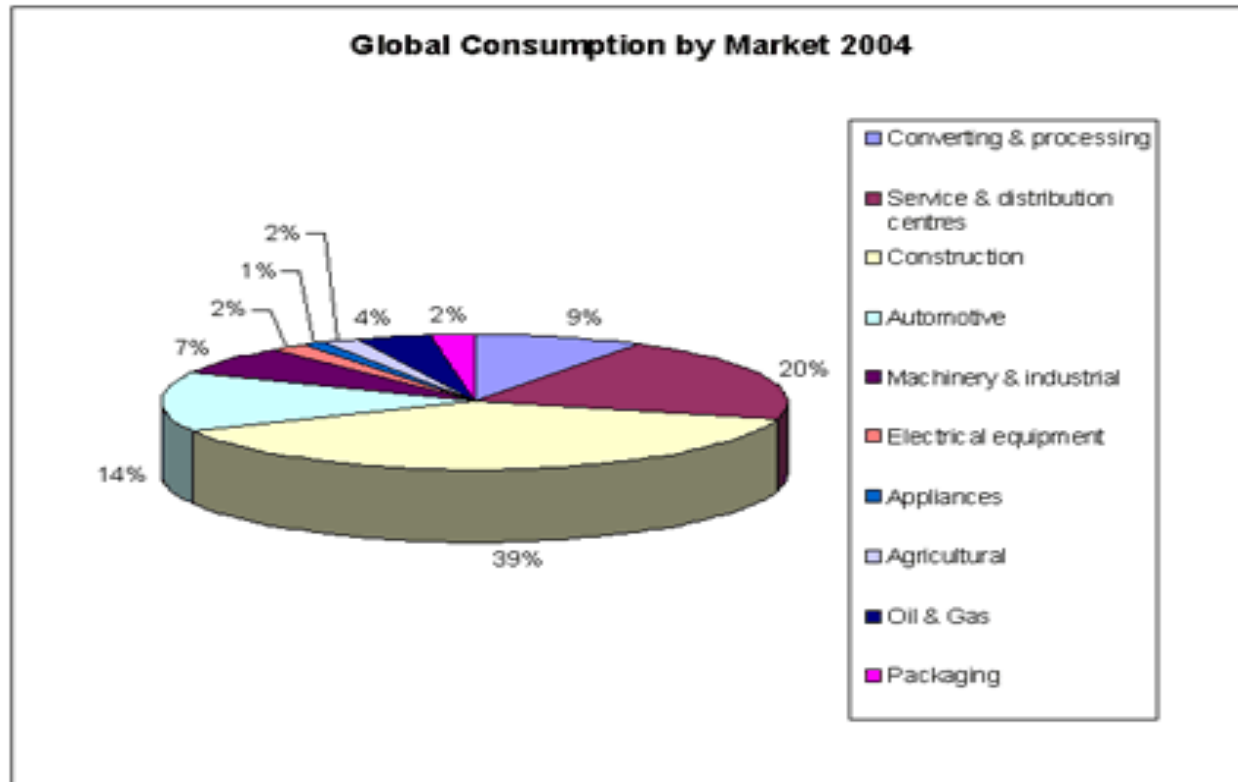
Source:

Figure 3: Market Share of the Steel Giants in the Global Steel Industry



In terms of consumption, the housing and construction sector is the largest consumer of steel today, using around 50% of steel produced) with service centres (20%) and the automotive industry (14%) the second and third largest sectors. The detail is given in figure 3.4

Figure 4: Global Consumption by Market



Source: International Iron and Steel Institute: World Steel in Figures 2005

Table 6: Apparent Steel consumption in million tons (2010 -14)

	2010	2011	2012	2013	2014
European Union	145.3	155.5	139.2	140.4	146.6
Other Europe	28.8	32.7	34.1	36.9	37
Russia, Ukraine & other CIS	49.5	55.4	58	59.5	56.5
Canada, Mexico & USA (NAFTA)	111.7	123.2	132.7	129.9	144.6
Central & South America	44.7	46	47	50.1	48.1
Africa	28.4	28.6	31.9	35.4	36.3
Middle East	48.5	51.3	50.7	50	51.3
China	587.6	641.2	660.1	735.1	710.8
India	64.9	69.8	72.4	73.7	75.3
Japan	63.6	64.1	63.9	65.2	67.5
South Korea	52.4	56.4	54.1	51.8	55.4
Taiwan	17.6	18.1	17.8	18.5	19.6

Other Asia	57.1	62.7	70.3	75.3	79.6
Australia & New Zealand	7.8	6.9	7.3	6.7	7.4
World Total	1307.9	1411.9	1439.5	1528.5	1536

Source: World Steel Association, 2015

The commodity nature of steel, the producers and consumers limited control on price, and the demand and supply disparity have made steel prices volatile. Significant reduction in prices for metals and energy over the past two years has also contributed to increased variability in the industry.

In terms of per capita consumption of steel around the globe in the last five years, Table 3.4 lists for some of the selected countries/continents.

Table 7: Apparent Steel Use Per Capita (Kg)

		2010	2011	2012	2013	2014
1	European Union	287.4	306.9	273.9	275.8	287.7
2	Other, Europe	275.9	310.2	319.7	342.8	340.3
3	CIS (Russia &....)	190.3	212.9	222.9	228.7	217.5
4	NAFTA	240.7	262.8	280.4	272.1	300.1
5	Central & South America	97.7	99.4	100.5	105.9	100.6
6	Africa	27.6	27.1	29.4	31.9	32.4
7	Middle East	228.4	236.1	228.7	221.4	225.3
8	Asia	226.8	242.9	247.5	266.4	261
9	Australia & New Zealand	287.7	247.6	261.5	234.3	258.7
	World	193	205.8	207.4	217.8	216.6

Source: World Steel Association, 2015

In summary, despite continued turbulence around the world in recent years, 2014 has been another record year for the steel industry. Crude steel production totalled 1,665 million Metric tons (MMt), an increase of 1% compared to 2013. The latest years also saw the emergence of a new phase in steel markets. For the past decade, the steel industry was dominated by events in China. The evidence is that the steel industry is now entering a period of pause before undoubtedly picking up again

when markets other than China drive new demand. Nobody can predict exactly when or where. Today, China represents around 48% of the global market for steel. This will decline in years to come.

The impact of urbanization will have a key role to play in the future. It is estimated that a little more than 1 billion people will move to towns and cities between now and 2030. This major flow will create substantial new demand for steel to be used in infrastructure developments such as water, energy and mass transit systems as well as major construction and housing programs

The demand and supply factors that are important in the marketing of steel products are as follow:

7.3 Demand Factors in Tanzania

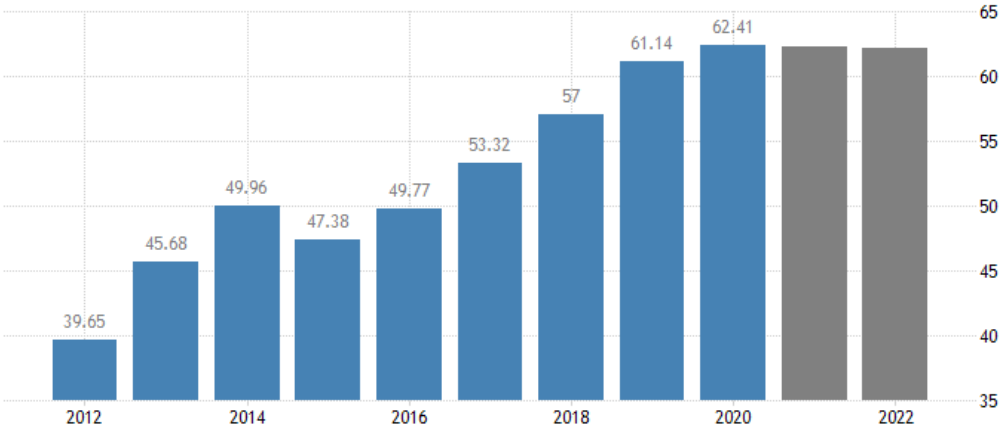
The factors, which influence demand and which have made promoters to embark the execution of the project include:

(i) Population size

The Tanzania population now is estimated at about 63,298,550 and a compound growth rate of 2.93% per cent per annum provide a strong market base for local industry.

(ii) Income Level

GDP in Tanzania is expected to reach 55.00 USD Billion by the end of 2021, according to Trading Economics global macro models and



analysts expectations. In the long-term, the Tanzania GDP is projected to trend around 62.00 USD Billion in 2022, according to our econometric models.

(iii) Industrialization Initiatives

The call by the Fifth Government and now the Sixth Government in power to industrialize the country that lead to bringing the country to the level of a middle economy is encouraging too.

7.4 SUPPLY FACTORS

The factors, which influence supply, include:

(i) Domestic Production Capacity:

The Tanzania’s iron industry is still in its infancy. The country has several steel rolling mills albeit of small capacities. These are as shown below:

Name	Products	Location
Kamal Steel Ltd	Manufacture of basic iron and steel	Temeke, Dar es Salaam
Quam Steel Mills Ltd	Manufacture of basic iron and steel	Temeke, Dar es Salaam
Kilimanjaro Metal Shapers Ltd	Manufacture of basic iron and steel	Arusha
Press Forge & Metal Works 2000	iron and steel	Moshi
Morogoro Wire Rolling	iron and steel	Morogoro
Tanzania Steel Pipes Ltd	iron and steel	Ubungo

Steel Master Ltd	iron and steel	Chang'mbe
M.M. Integrated Steel Mills Ltd	iron and steel	Mikocheni
Jafra Investment and Supplies Company Limited	Steel Pipes	Madafu, Kibaha

These and other similar plants to be built in future will be the main competitors of Apak Steel Industries Limited.

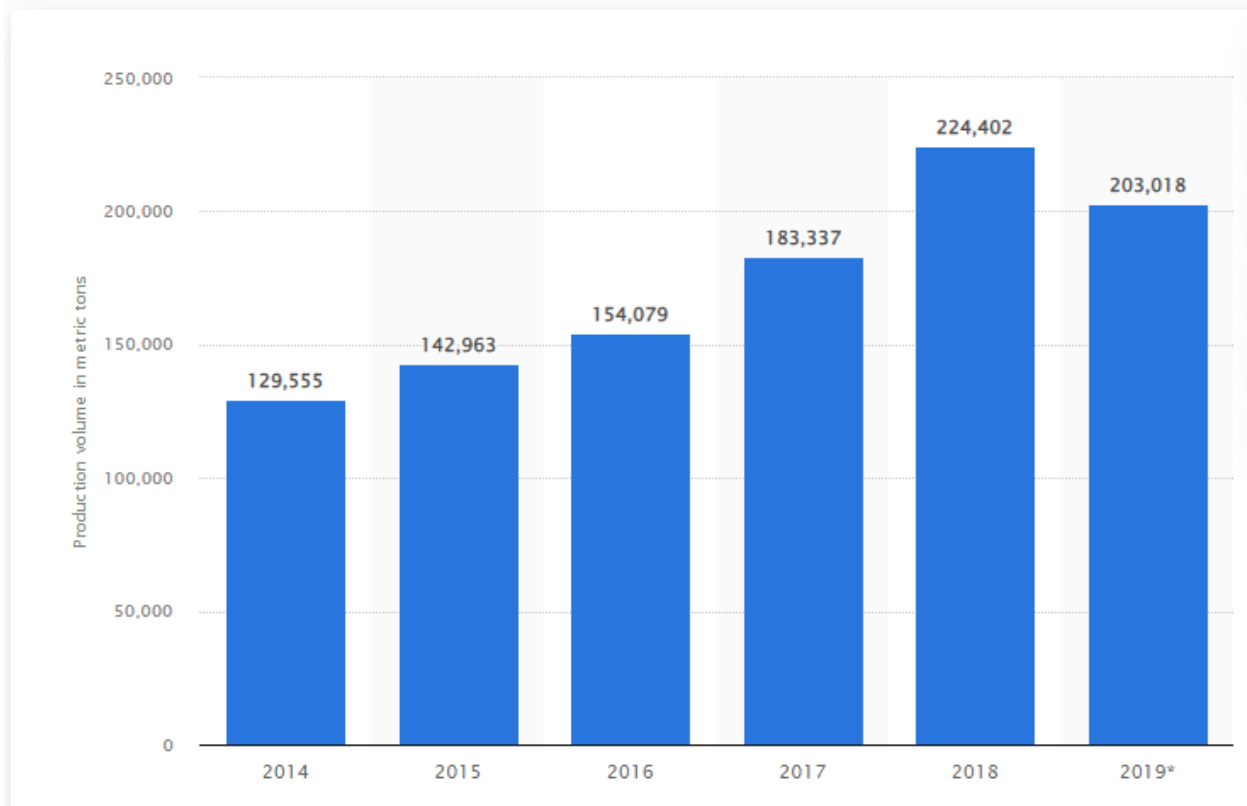
(ii) Capacity to Import

The importation of iron and steel allied products depends on the availability of foreign currency from local and/or external sources (donor aid, credit finance, working capitals and Equity funds).

7.5 SUPPLY ESTIMATES

The bulk supply of raw materials will come from imports whose main supply will originate from outside the country. Nonetheless, the imports could fluctuate overtime. Sometimes the level of stocks from the preceding year might influence the level of imports in the year.

Figure 5: Production volume of rolled steel in Tanzania from 2014 to 2019(in metric tons)



Source: Statista

7.5.1 Demand Estimates

The average supply for the period estimated at 800,000 tons. This figure however, represents a constrained demand since most of the sectors have been working at below 50% of their capacities. The actual demand therefore is double that figure say 1,600,000 ton.

For the purposes of this study we adopt the average consumption of 800,000 tons as a proxy to effective domestic demand for steel products in Tanzania

7.5.2 Demand

The growth in demand is expected to come mainly from increased capacity utilization in the existing establishments. So it is safe to assume that demand will grow at the same rate of the GDP i.e. 5.8 per cent, taking into account the average yearly consumption estimate of 800,000 tons. The economic outlook is positive, with real GDP projected to grow 5.8% in 2022, due to improved performance of the tourism sector and the reopening of trade corridors.

7.5.3 Demand/Supply Gap

It should be noted that a substantial amount of steel shall continue to be imported from outside the country due to lack of adequate domestic capacity to meet local demand. It is therefore very encouraging when investors decide to increase the production capacity of these products.

7.5.4 Market Competition

Competition in the marketing of iron and steel products is influenced by location and price of the products.

Many consumers prefer buying from neighbourhood's to avoid transport costs due to the bulky nature of the products. However, in case of faraway purchases including freight charges are still cheaper than neighbourhood sources, especially true for large consignment, then neighbourhood purchase become irrelevant or unattractive.

7.5.5 Marketing Channels

The most economical way of disposing of steel products by a manufacturing plant is through marketing agent and building contractors. The company will use

existing marketing agents in place and also identify as many locations as possible. It will also carry out advertising to attract orders from big civil and mechanical contractors in and outside the country.

8.0 MANAGEMENT AND ADMINISTRATION PLAN

In view of the envisaged mechanization of the steel products in scope at the factory, labor requirements will be of two types of labour categories namely skilled and semi-skilled or unskilled. Skilled labour will include, amongst others, engineers, technicians of various skills and a factory manager. Apak Steel Industries Limited will have staff of profound experiences in their areas of expertise, mostly expatriates from Turkey and others countries. They will currently be around 6 in number supported by other local personnel; some of the expatriates' staff names are:

Mr Ozcan Kilic – Director/Chairman,

Mr. Abdulalim Mussa Abreha- Ethiopian

The two are both graduates from outside the country Universities with more than 25 years long experience in Steel Production and own steel factories in Turkey and Ethiopia. The CVs of other expatriates staff and passports are available while working permits are under preparation along with this application.

Below are the job descriptions and responsibilities of the two Directors:

Director/Chairman Job Description-

Summary

Responsible for managing the factory of Apak Steel Industries Limited. Hires and trains employees, prepares reports, and sets budgets.

- 1) Set tools and objectives for company.
- 2) Develop budgets and ensure department adheres to it.
- 3) Participate in developing policies and procedures.
- 4) Manage staff.
- 5) Hire, train, and terminate workers as needed.
- 6) Determine salary brackets.
- 7) Handle employee relations.
- 8) Attend and preside over meetings.
- 9) Maintain employee records.
- 10) Manage and direct overall operations.
- 11) Set goals for each department.
- 12) Clearly communicate goals to department heads.
- 13) Measure the success of each department.
- 14) Manage support staff.
- 15) Delegate responsibility.
- 16) Generate and present reports on departmental goals.
- 17) Participate in seminars and conferences.
- 18) Motivate and encourage employees.
- 19) Participate in lead generation and business development.
- 20) Ensure high customer and client satisfaction.
- 21) Solicit customer feedback.

- 22) Ensure inventory is stocked and consistently replenished.
- 23) Promote company's mission and values.

**Company Representative/Factory Manager
Mr. Shishay Brhanemeskel Abrha - Ethiopian**

Job Description

Plant Manager familiar with steel fabrication & sheet metal products

Job Purpose:

Responsible for overall operation of the factory.

Major Responsibilities:

- 1) Supervises the operation, maintenance, and supply chain of the whole factory and takes on the responsibility of the productivity, of the compliance to the sales plan as well as of the implementation of the development plans.
- 2) In cooperation with the Sales Manager, he is in charge to prepare and submit the annual production plan.
- 3) Direct and coordinate plant operations within company policies and procedures.
- 4) Establish and direct plant policies and procedures.
- 5) Responsible for plant production goals.
- 6) Foster a well-trained and motivated staff.
- 7) Confer with department heads to ensure coordination of purchasing, production, and shipping.
- 8) Responsible for establishing all shift production schedules.
- 9) Select and train plant supervisory and administrative staff.
- 10) Conduct employee performance reviews.
- 11) Schedule and conduct plant meetings.

- 12) Responsible for the product quality control for the plant.
- 13) Other duties as assigned.

Director of Engineering department:

1. Responsible for the steel products in scope manufacturing activities in the factory.
2. Provide technical expertise on the steel products in scope production channels to ensure that targets are met.
3. Produce a seasonal forecast plan for each steel product which is in scope right from raw material reception, storage, processing, rolling to, eventually finished product stage and packaging.
4. Report to the General Manager any issues related to the steel products in scope production and which need attention of the leadership.
5. From time to time create a relationship with other steel production experts in the country and outside the country as part of experience sharing.
6. Advise to the leadership any new the steel products in scope production technology whose application could bring some positive effects in the whole production process.
7. Ensure that the steel products manufacturing operations are carried in line with International safety and environmental standards (ISO) specs where possible.
8. Ensure that any inputs (HRS, CRS, GRS and PPRS which is put in use has no harm to the environment and that its use will not bring negative impact to the end users/consumers.
9. Responsible for the steel products in scope that are generated from the factory.

10. Custodian of all the direct steel products production related equipment/facilities and tools.
11. Prepare a status report and submit the same to the Factory Manager on monthly basis. Based on the level and sensitivity of the matter, reporting might be reduced to weekly and sometime daily.
12. Prepare an annual budget for the steel products production and submit the same to the General Manager who will then submit the same to the Leadership for approval. This report will include irrigation system as well.
13. Ensure that expenses do not exceed the budget and that any expenditure must be requested through the accounts channels with the necessary approvals given.
14. Account for any cash advance requested with the necessary supporting documents i.e. receipts, petty cash vouchers etc.
15. Participate in any other duty assigned by the General Manager as it deem necessary.

Financial Controller: to be recruited

Responsibilities

1. Responsible for all accounts issues related to Apak Steel Industries Limited.
2. Apply the purchase and general store keeping structure and if not in existence, propose the structure, get it approved and put into practice.
3. Prepare the income and expenditure report and submit the same to the General Manager on weekly basis.

4. Obtain a written authority from the General Manager before committing into any expenditure.
5. Custodian of all the stocks including spares, equipment inventory, factory implements, etc and also controls all the movements of these stocks at any particular time.
6. Update the equipment inventory as and when changes have happened.
7. Issue the materials from the store by gate passes which will normally be approved by the General Manager.
8. Prepare a write-off report/certificate for any equipment/part which becomes obsolete and are supposed to be written-off.
9. Responsible for preparing the General financial report on monthly basis. This to include any income, any expenditures, cash in the bank, stocks etc.
10. Prepare an annual budget for the account/store section and submit the same to the General Manager who will then submit the same to the Leadership for approval.
11. Ensure that expenses do not exceed the budget and that any expenditure must be requested through the accounts channels with the necessary approvals given.
12. Account for any cash advance requested with the necessary supporting documents i.e. receipts, petty cash vouchers etc.
13. Participate into any other duties that might be assigned by the General Manager.

Administrative Manager – to be recruited

Responsibilities

Maintenance Supervisor:

1. Responsible for the maintenance and repair of all the equipment in the factory.
2. Responsible for preparing the routine maintenance schedule for each equipment and manage its implementation.
3. Prepare a list of parts needed for emergency cases and routine maintenance.
4. Custodian of all workshop working tools/equipment eg spanners, grease guns, oil cans, welding machines etc
5. Prepare the workshop working tools inventory and submit the same to the Accountant who will update the master inventory document.
6. Prepare a weekly report on equipment status and submit the same to the Factory Manager.
7. Fully responsible for the house keeping of the workshop.
8. Fully responsible for the workshop store/office.
9. Ensure the proper functioning of all equipment in the factory and at any particular time may wish to withdraw equipment from work if he thinks that it is necessary to do so, on technical bases. The same will be reported to the Directors on the same day.
10. Advise on the proper functioning of the equipment/machinery and recommend the way forward on any improper usage of the same.
11. Responsible for safe keeping of the spares which have been issued from store and maintain the record.

12. Prepare an annual budget for the Workshop and maintenance section and submit the same to the Factory Manager who will then submit the same to the Leadership for approval.
13. Ensure that expenses do not exceed the budget and that any expenditure must be requested through the accounts channels with the necessary approvals given.
14. Account for any cash advance requested with the necessary supporting documents i.e. receipts, petty cash vouchers etc.
15. Participate into any other duty as and when assigned by the factory Manager as and when the need arises.

Head of Security- to be recruited

1. Responsible for the Security of the properties ie Factory, equipment, infrastructure and anything else which will have been handled over and which is documented.
2. Ensure proper allocation of guards in all locations requiring attention.
3. Prepare the weekly security status report and have it submitted to the Factory Manager in time.
4. Report all security incidences immediately to the Factory Manager followed by a written report within a period of 24 hours
5. Maintain all the security related records. This includes but not limited to Occurrence book (OB), security incidence records, etc.
6. Responsible for controlling the fuel at the Apak Steel Industries Limited. This includes maintaining of the register of all issues and receipts and requisition forms.

7. From time to time conduct surprise checks in different locations to ascertain the performance of the guards.
8. Accountable for the safe keeping of all the weapons and tools used by guards in the process of carrying out their duties.
9. Prepare an annual budget for the security section and submit the same to the Factory Manager who will then submit the same to the Leadership for approval.
10. Ensure that expenses do not exceed the budget and that any expenditure must be requested through the accounts channels with the necessary approvals given.
11. Deal with all issues related to wild fires with potential affecting the factory products and the project as a whole.
12. Participate into any other duty as and when assigned by the Factory Manager.

The Apak Steel Industries Limited will devise an attractive remuneration scheme and create conducive working environment so as to not only attract adequate labour for its needs but also retain its labour force. To this end, the company will provide satisfactory welfare facilities and services.

9.0 FINANCIAL ANALYSIS OF THE PROJECT

9.1 Basic Assumptions

9.1.1 Revenue Projections:

Revenue projections are based on the following assumptions:

- The plant has a production capacity of 50,000 metric tonnes per year.
- The production plant will operate on a two shifts of 8 hours a day for 24 days and 11 months in a year
- The steel products plant will operate on a capacity utilization of 80% during the first year of its operation, increasing to 90% during the second year and 95% from the third year onwards at 5% annual increment.
- The quantities of steel products to be sold each year are projected to increase from 80% of the total quantities produced during the first year of operations to 90% during the second year and 95% from the third year onwards.
- The products selling prices are projected at not less than USD 2,000. Prices are assumed to increase at a 5% increment over the projected horizon of five (5) years.

9.1.2 Operating Expenses

The main operating expenses include procurement of raw materials, freight charges, Insurance, import duty, clearing and forwarding charges, port charges, and utility all estimated 85% of turnover as indicated in *Appendix 4B*;

Administrative costs for the project insurance costs projected at 1% of total turnover, products distribution expenses projected at 1% of total turnover, local government levies projected at 0.1% of total turnover, general office expenses projected at USD 4,300 per month, security expenses projected at 0.05% of total turnover, travelling expenses projected at 0.15% of total turnover, meal allowances projected at 0.25% of total turnover, medical expenses projected at 0.15% of total turnover, and marketing expenses projected at 0.5% of total turnover as indicated in *Appendix 7*.

9.1.3 Salaries and Wages

Salaries, wages and 30% social security benefits for 60 workers are also indicated in *Appendix 7*.

9.1.4 Taxation

Corporate income tax rate of 30% is assumed to remain unchanged over the projected period of five (5) years.

9.1.5 Financial Highlights

Financial forecasts over a five-year period for the project have been worked out. Investment Costs are presented in *Appendix 1*, whereas the assets depreciation schedule is presented in *Appendix 2*. Working capital repayment schedule is presented in *Appendix 3A*. *Appendix 3B* shows the guarantee facility repayment plan, *Appendix 4 A* shows income statement for square bars and square pipes and channel steel. *Appendix 6* presents production costs for the three products. Administrative costs including manpower requirements are presented in *Appendix 7*. The projected income statement for the whole project is then presented in *Appendix 8*. Cashflow projections are presented in *Appendix 9* and the payback period is presented in *Appendix 10*. Break-even analysis is presented in *Appendix 11* and discounted cashflow projections in *Appendix 12*.

9.2 Turnover and profit

Revenue from *steel products sales* is projected to increase from USD 62,400,000 in the first year, to USD 72,660,000 in the second year and USD 80,592,750 from the third year onwards as indicated in *Appendix 5*.

Gross operating income is projected to increase from USD 23,088,000 29,064,000 in the first year, to USD 32,237,100 in the second year and USD 34,080,480 from the third year onwards.

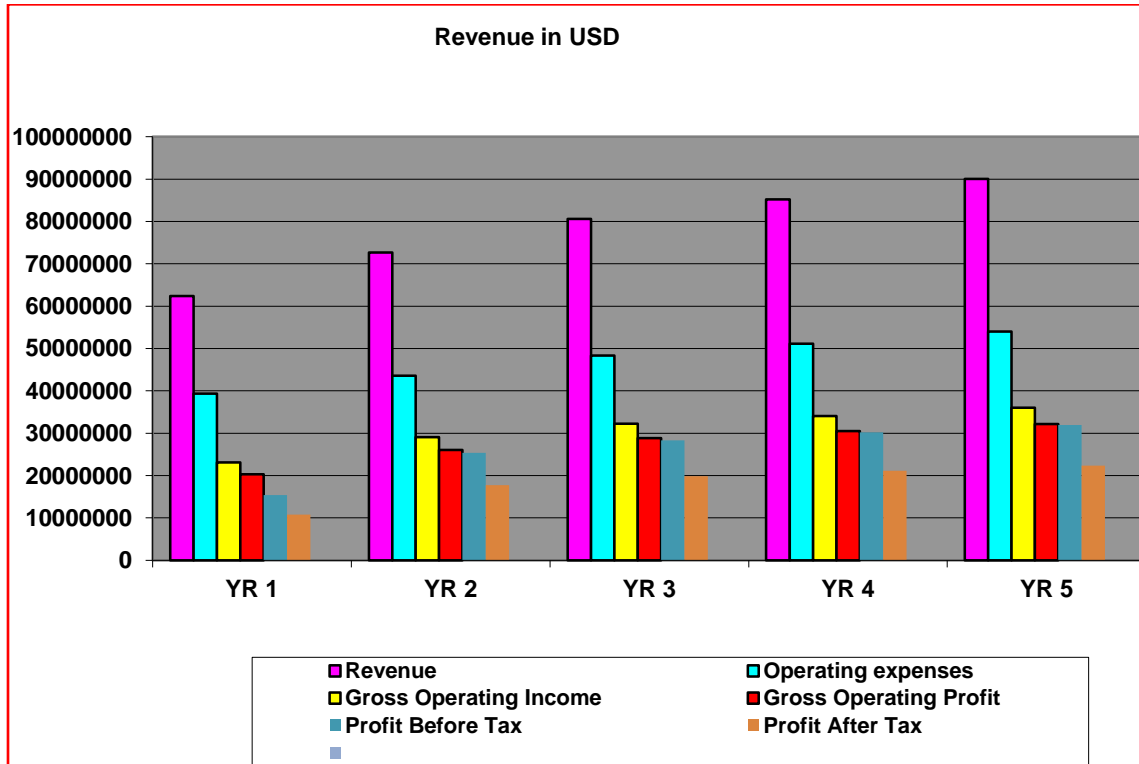
Gross operating profit is projected to increase from USD 20,313,240 in the first year, to USD 26,036,700 in the second year and USD 28,827,945 from the third year onwards.

Profits after capital and financial charges (depreciation and working capital interest expenses) are projected to start at USD 15,401,215 in the first year, increasing to USD 25,364,947 in the second year, USD 28,316,625 in the third year, onwards.

Profits after taxation are projected to start at USD 10,780,851 in the first year, increasing to USD 17,755,463 in the second year, USD 19,821,637 in the third year onwards.

Accumulated retained earnings are projected to increase from USD 10,780,851 in the first year to USD 91,833,575 in the fifth year as shown in ***Appendix 8***.

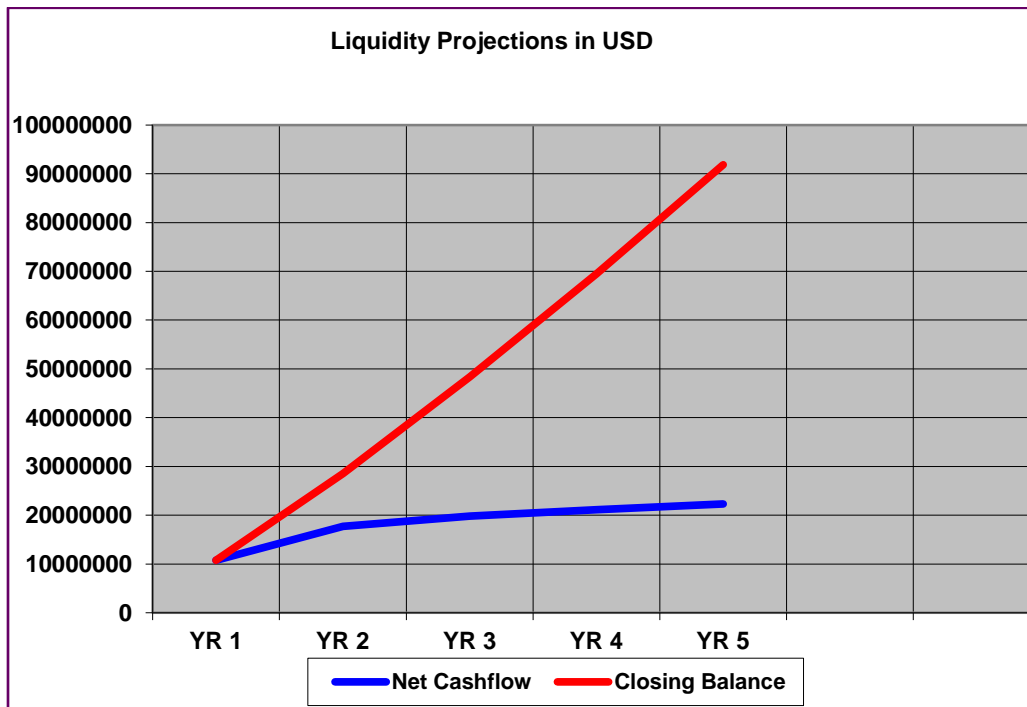
Figure 4: Projected financial performance in USD



9.3 Project Liquidity

The proposed project is very profitable. It generates positive net cashflows from the first year of operations with net cashflow of USD 10,780,851. Positive net cashflows are recorded in each subsequent year. Cashflow projections are presented in *Appendix 9*.

Figure 5: Liquidity projections in USD



The project is able to achieve an attractive payback period of 3 year and 9 months as indicated in *Appendix 10*. That is to say the whole investment (new and existing assets) cost of USD 5,395,000 will fully be recouped in that period.

Break-even revenue is projected at USD 42,984,253 with a break-even production capacity utilization of 68.89% as shown in *Appendix 11*.

9.4 Internal Rate of Return

Through the Discounted Cash Flow (DCF) method (*Appendix 12*) the project realizes an attractive Internal Rate of Return (*IRR*) of more than **11.74%** which is very much above the cost of capital in the economy. This indicates that the project is very financially viable.

Since financial projections are only as good as the assumptions on which they are built, an analysis of the impact of changes in some of the major parameters can be carried out.

10.0 Implementation Plan

No	Activity	Time	Status
1	Business Plan Preparation and Land Procurement	March 2022	Completed
2	Civil Works	April 2022	Not yet
3	Steel Structure shipment	July 2022	Not yet
4	Crane and axially equipment shipment	August 2022	Not yet
5	Electricity connection and start up	September 2022	Not yet
6	Ordering of Raw Materials	September 2022	Not yet
7	Machines shipment 1	October 2022	Not yet
8	Machines shipment 2	November 2022	Not yet
9	Machines shipment 3	December 2022	Not yet
10	Installation of Machines shipment 1	December 2022	Not yet
11	Arrival of Raw Materials	December 2022	Not yet

12	Installation of Machines shipment 2	January 2023	Not yet
13	Installation of Machines shipment 3	February 2023	Not yet

11.0 ECONOMIC AND SOCIAL BENEFITS

The successful operation of production of steel square pipes, square bars and channel project to be operated by *Apak Steel Industries Limited* will have significant economic and social benefits to the country as a whole. In summary, some of the benefits which will be realized include:

- (i) Creation of permanent employment opportunities for over 79 employees out of which 9 will be foreigners and the rest Tanzanians.
- (ii) The project will be an import substitution venture in the sense that less channel steel products will be imported from outside the country to support huge construction projects in the country.
- (iii) The neighbourhood of the project will benefit domestic lighting from the electrification of the factory.
- (iv) Provision of income to employees and other service providers (individual entrepreneurs) thus contributing to Government efforts in improving citizens' living standards.
- (v) Provision of a new market for food products and other goods required at the steel products production site, thus generating an economic multiplier effect to the project area and surrounding areas.
- (vi) Provision of revenue to the Government through corporate tax. It is projected that the project will contribute a total of USD 39,357,246

to the Treasury in the form of corporate tax over a period of five years, which implies an annual average of USD 7,871,449

12.0 CONCLUSION AND RECOMMENDATIONS

- 12.1 This project document has provided descriptions of a detailed investment proposal by *Apak Steel Industries Limited* for establishment and operation of a steel factory at Misugusugu area on plot number 1 &2 Block X in Kibaha district, Pwani region in Tanzania.
- 12.2 The company is now applying for a Certificate of Incentives from the Tanzania Investment Centre (TIC) under Section 17 of the Tanzania Investment Act and Part IV of the Investment Regulations 2002 to fulfill its goals. Apak Steel Industries Limited is particularly applying for a certificate of incentive which is to be used to finance the purchase of the land and the machinery and equipment, motor vehicles and furniture from outside the country.
- 12.3 Through the various parameters, which have been considered, it has been established that the proposed project is technically feasible, financially viable, and economically and socially beneficial.
- 12.4 In view of the above, it is hereby recommended that the project as conceived by Apak Steel Industries Limited be supported by the Tanzania Investment Centre by providing the requested Certificate of Incentives.