

**BXG STAINLESS STEEL COMPANY
LIMITED**

Feasibility Report

For

**Set Up of Manufacturing Unit of
Stainless Steel**

By;

BXG STAINLESS STEEL COMPANY LIMITED

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Dar es Salaam

Executive Summary

1 Introduction

This study is done with an objective of preparing a Feasibility Report for M/s BXG STAINLESS STEEL COMPANY LIMITED, of Dar es Salaam for a project of setting up of Manufacturing Unit of Stainless Steel Bars, Rollers and others stainless steels related products in Dar es Salaam Region, Tanzania.

The scope of services for the proposal feasibility report for development of manufacturing unit for the production of Stainless Steel Bars, Rollers and others stainless steels related products in Dar es Salaam, include: Market assessment, Development program, land and civil works, project implementation schedule, project cost, financial projections, and conclusion & recommendations.

The overall approach comprised a combination of secondary and primary research. A multi-disciplinary team of appropriate personnel with experience in techno economic studies and market research were deployed for undertaking this assignment.

The assignment commenced with a planning for the primary and secondary research. Initially, our team interacted with BXG STAINLESS STEEL COMPANY LIMITED officials to understand the requirements of the study.

Later, the team continuously interacted with BXG STAINLESS STEEL COMPANY LIMITED for their inputs on the plan of the unit, machinery, the constructing cost, project cost, financing etc.

The data obtained from the secondary and primary research has been analyzed and incorporated in the report. A worksheet model has been prepared for feasibility calculations.

The report is prepared on the basis of best of the information provided by the various stakeholders and associations/agencies. The information in the report should not be claimed and be used as evidence for any purpose.

2 Demographic Indicators & Development – Tanzania

Tanzania has been showing an appreciate growth in the past few years. The development taking place in the country has been in pace with the other

developing nations. The GDP in real terms grew by 7.1 % in 2017, compared to 6.7 % in 2016. Over the years the construction has shown a decent increase.

Since the country started to implement economic and institutional reforms, there has been a steady increase of Foreign Direct Investment (FDI) inflows in the economy. Tanzania is among top three recipients of foreign direct investments (FDI) in non-oil producing African countries after South Africa and Ethiopia. Inflows of FDI have risen from US \$ 463.40 million in 2010 to US \$ 12.50 million in 2015.

3 Genesis & Details of the Project

The project involves set up of manufacturing unit of Stainless Steel Bars, Rollers and others stainless steels related products at Dar es Salaam region.

M/s. BXG STAINLESS STEEL COMPANY LIMITED of Dar es Salaam, was incorporated on the 26th May 2023 as private limited liability company under the Companies Ordinance (Cap 212 of the Laws of Tanzania).

The day to day activities would be managed by an individual appointed for the said purpose. It is expected that a significant number of people will be employed, during the construction of the commercial complex and about 60 local citizens would be employed permanently, excluding the security guards, once it becomes operational.

5 Project Cost and Means of Finance

The development cost of the entire project has been estimated to be around US \$ 1.77 million. The major factors contributing towards the cost of the project is the cost of machinery and building construction.

Considering the size of this project, and also keeping in mind the 3 months of implementation period, the contingencies and pre-operational expenses have been estimated at US\$ 150,000/-

The finance for the project is already arranged for by the promoters. The table below indicated in details the manner in which the investment is going to be arranged:

COST OF THE PROJECT AND MEANS OF FINANCE		
USD		
NO.	PARTICULARS	TOTAL
1	Building and Civil Work	130,000
2	Plant and Machinery	1,400,000
4	Motor Vehicles	30,000
5	Furniture & Fixture	10,000
6	Pre-operative Expenses	50,000
7	Others	100,000
8	Working Capital	50,000
	TOTAL	1,770,000

7 Financial Projections

Details of financial projections are attached as appendices to this report. However, in brief the annexed project financials show that the project will be one with a full proof financing scheme.

For the purpose of calculations and projections the following assumptions were made:

1. Long term loan is availed @ 8% per annum

The detailed calculations of the projected financial are given in the annexure. The Net Present Value for the project comes out to be US\$ 1,109,296/= and the

IRR is reasonably good at 19%. Pay Back for the project is estimated to be around 4.59 years.

The next annexure indicates the calculation for the Break Even Analysis and the Margin of Safety. It must be noticed that the average Return on Investment for the five years is more than 22%, which is a very good sign for the investors.

As far as DSCR is concerned we can see that for the coming years it is expected to be more than 1 which means that the company can repay the loan from its current profits only and not require to repay from its accumulated resources.

8 Development Value

The Project's development value to the country is as under:-

The project will generate employment to several people both during the development and after completion. It has been estimated that directly or indirectly this project will provide employment to nearly 60 individuals excluding the security guards.

Government will also earn revenue in terms of various levies on the Company associated with the operation of the complex. Further as indicated in the financial projections the total contribution for five years by way of income-tax itself will be to the tune of about US\$ 778,910. Last but not the least, the manufacturing units are always considered to be a national property and will therefore add to the national wealth.

It may be mentioned here that total investment of US\$ 1.77 million will play a good part in boosting the local economy. Considering all relevant factors it is being recommended that the grant of 0% import duty and VAT deferment on capital goods and deemed capital goods is granted to this project not only to make the project viable but also to catalyse other development benefits that may accrue to the country on acceptance of this project.

1.1 Approach and methodology

Approach

The overall approach comprised a combination of secondary and primary research. A multi-disciplinary team of appropriate personnel with experience in techno economic studies and market research were deployed for undertaking this assignment.

Methodology.

The assignment commenced with a detailed planning for the primary and secondary research. Initially, our team interacted with BXG STAINLESS STEEL COMPANY LIMITED officials to understand the requirements of the study. Later, the team continuously interacted with BXG STAINLESS STEEL COMPANY LIMITED for their inputs on the plan of the commercial complex, the material that would be used, the construction cost, project cost, financing etc.

➤ Secondary Research

A detailed desk research was undertaken to gain a fair understanding of the construction industry, its trends, market size, best practices etc. The sources from which the secondary data was collected included in-house database, internet, and various periodicals. The secondary research was used for planning the primary research for the study and identifying the data to be collected by way of primary research. A detailed desk research was undertaken to gain a fair understanding of the construction industry, its trends, market size, best practice etc. The sources from which the secondary data was collected included in-house database, internet, and various periodicals. The secondary research was used for planning the primary research for the study and identifying the data to be collected by way of Primary research.

➤ Primary Research

Interview guidelines were developed for the compilation of the necessary information by way of interview.

1.2 Data Analysis and Report Preparation

The data obtained from the secondary and primary research has been analyzed and incorporated in the report. A worksheet model has been prepared for feasibility calculations.

Report Format

The report is presented in 07 chapters.

Chapter 1 Introduction

This chapter outlines the objectives, scope, approach & methodology for the study.

Chapter 2 Demographic Indicators & Development – Tanzania

This chapter discusses about the demography of Tanzania and the macro-economic developments that are taking place in the Country.

Chapter 3 Genesis & Details of the Project

The chapter discusses the initiation of the project, the stakeholders, location, construction details, components of the projects, employment details and other relevant details.

Chapter 4 Project Cost and Means of Finance

The chapter presents the elements of the project cost and discusses the means of financing for the project.

Chapter 5 Financial Projections

Financial statements including projected income statement, projected cash flow statement and projected balance sheet for the first 05 years of operation and financial indicators such as IRR and payback period are given in this chapter.

The Return on Investment on annual basis for the project has also been calculated.

Chapter 6 Developmental Value

This chapter mentions about the benefits incurring to the nation and the citizens as a result of this implementation of the project in consideration.

Chapter 7 Conclusions and Recommendations

The chapter discusses the conclusions derived from the study and recommendations how to go ahead.

Annexure

1.3 Limitations

The report is prepared on the basis of best of the information provided by the various stakeholders and association/agencies. The information in the report shall not be claimed and be used as evidence for any purpose.

2. Demographic Indicators and Development – Tanzania.

2.1 Tanzania – The Developing Economy

In the African continent Tanzania is among the fastest developing economies. Tanzania has clinched the top slot in the improvement index as published by the Centre for International Development at Harvard University.

The report titled “The Africa Competitiveness Report 2010/2011” ranks Tanzania as first on improvement index. Investors in Tanzania are highly optimistic of the future of the economy.

Low inflation, a reasonable stable currency, friendly government and peaceful country are what most of the international company chiefs quoted as being economic driving force.

Tanzania has been showing an appreciable growth in the past few years. The development taking place in the country has been in pace with the other developing nations.

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3. Genesis & Details of the Project

3.1 Introduction

The project involves setting up of Manufacturing Plant for Stainless Steel Bars, Rollers and others related products at Dar es Salaam.

Tanzania is growing commercially and is being viewed positively by outside world. The tourists are becoming more and more interested in viewing the national parks and hidden beauties. Tanzania depends largely on the performance of its agricultural sector for its social and economic development. Like many developing countries it is the agricultural sector that constitutes the major source of national food reserves and, at the same time is an engine for generating foreign exchange and raw materials for basic industries.

However, present economic reforms taking place in the country have started to show that other sectors of the economy like – general engineering and fabrication, tourism, general trade and commerce in non-tradition products, are becoming increasingly important sectors of the economy, especially considering their potential for generating foreign exchange earnings.

As a consequence it is imperative that the need for more and more manufacturing units will be felt and the fact is that there is shortage of such manufacturing units in Dar es Salaam which is the financial capital of the Country.

It is therefore inferred that such project should be undertaken. It is confirm that BXG STAINLESS STEEL COMPANY LIMITED has the required expertise for the Project.

With ready market, availability of proven management expertise and availability of funding to the extent needed, the success of the project is guaranteed.

3.3 Ownership:

Wang Hengping, Zhu Li and Yuang Ming are the promoters and first directors of the BXG STAINLESS STEEL COMPANY LIMITED. Its head office is in Dar es Salaam.

3.4 Location

The site is to be developed at Dar es Salaam region. This place is well served with the necessary utility facilities, including the central sewerage system for all liquid waste. Communication links are also available.

3.5 Day to day management.

The management of the company has the required expertise in-house. The day to day activities would be managed by an individual appointed for the said purpose.

3.6 Employment

It is expected that a significant number of people will be employed, during the construction of the commercial complex and about 60 local citizens would be employed permanently, excluding the security guards, once it becomes operational. Security personnel will be contracted from an outside security firm.

3.7 Strategies

In order to achieve the objectives, it is planned to implement the following strategies;

- Establish an effective preventive maintenance program me of the equipment, which will ensure sustainable equipment availability for operation.
- Establish a quality assurance and control system that will ensure provision of quality products and services.
- Conduct regular evaluations of production and servicing processes to ensure optimum costs of products and services.
- Device and implement productivity improvement measures

- Develop and implement an effective marketing policy
- Develop and implement an advertising and promotion programme
- Establish effective financial and resources management.

3.8 Market

Recent reforms taking place in the economy indicate that there is an increase in demand for Stainless Steel Bars, Rollers and other related products. The following are some of the factors that have contributed to such an increase in demand for these products in the country:-

- Increased level of rehabilitation and expansion of roads by the Government and international assistance agencies – which has subsequently resulted in increased kilometers of passable roads by small and heavy duty vehicles.
- Rise in people's standard of living and a change in people's consumption patterns;
- General improvement in the national economy, especially the balance of payments which has made it possible for the Government to achieve greater capability to import critical products into the country;
- Increased general level of investments in industrial activities which are the major users of industrial inputs;
- Increase in transit trade between Tanzania and its neighbours especially – Uganda, Rwanda, Burundi, Malawi, Zambia and the Democratic Republic of Congo.

These factors have led to increased demand for general engineering activities for products in the country. Furthermore, these factors have created the impetus for increased inflow of investment capital by foreign and local private investors who now have decided to venture in the importation and industrial raw materials.

The reforms which are now being introduced in this sector aim at influencing the inflow of and increased supply of both capital goods and other industrial productions and their distribution in the country and beyond national borders.

4.0 Stainless Steel Production and Processing

The stainless steel production process

Stainless steel production is a multi-step process: steel scrap is melted, cast in a solid shape, heat treated, cleaned, and polished.

- Melting and casting
- Forming
- Heat treatment
- Descaling
- Work hardening
- Cutting or machining
- Finishing
-

Melting and casting

Steel and alloying metals are loaded into an electric arc furnace. Once in the furnace, the metal is heated to a specific temperature above its melting point, usually in excess of 2800°F. Due to the extreme temperatures, precision, and large volumes required, the melting stage generally requires 8–12 hours. Throughout this stage, steel technicians regularly check the bath temperature and chemical composition.

After the steel alloy is completely melted, the mixture is refined. Argon gas and oxygen are pumped into the furnace, where they convert impurities to gas and cause others to form slag for easy removal. For most applications, the refined steel is cast into forms including blooms, billet, slabs, rods, and tube rounds. These will be used as the raw materials for wrought products. Foundries can cast stainless steel into its final intended shape by creating a mold to that design. This shape may undergo some machining as a finishing step rather than a manufacturing step.

Forming

Most cast steel is formed by hot rolling—the slab, bloom, or billet is heated and passed through large rollers, stretching out the steel into a longer, thinner form. Hot rolling occurs above the recrystallization temperature of the steel. Each slab is formed into a sheet, plate, or strip, while blooms and billets are formed into wires and bars.

5. Project Cost and Means of Finance

5.1 Cost of Project

The development cost of the entire project has been estimated to be around US\$ 1.77 million. The major factors contributing towards the cost of the project is the cost of machinery and cost of equipments.

6.1 Financial Projections

Details of financial projections are attached as appendices to this report. However, in brief the annexed project financials show that the project will be one with a full proof financing scheme.

The financing is so prudently designed that the smooth cash flow position is guaranteed throughout the gestation period.

6.2 Financial Indicators

Considering the usage and demand of Stainless Steel products, it can be safely presumed that the premises will safely enjoy 65% occupancy from 2020 and then 5% increase every year. On the basis as mentioned above, the profitability for the company in 2020 has been worked out as following:

Table i: Annual Profitability of the Company

Particulars	2020
Capacity Utilisation	65%
Sales Turnover	2,535,000
Less Cost of Production	1,394,250
Gross Profit	1,140,750
Less	
Administration Expenses	202,800
Marketing Expenses	25,350
Financial Expenses on Long Term Loan	231,667
Depreciation	481,432
Total Indirect Cost	941,249
Operating Profit Before Tax	199,501
Taxation @ 30%	59,850

Operating Profits After Tax	139,651
Proposed Dividends	-
Cumulative Net Cash Profits CF to Balance Sheet	139,651
Net Cash Profit from Operations	621,083

The detailed calculations of the projected financial are given in the annexure. The Net Present Value for the project comes out to be US\$ 1,109,296/- and the IRR is reasonably good at 19%. Pay Back Period for the project is estimated to be around 4.59 years.

The next annexure indicates the calculations for the Break Even Analysis and the Margin of Safety. It must be noticed that the average Return on Investment for the five years is more than 22%, which is a very good sign for the investors.

The chart below indicated the summary of the projected profits of the company from the first five years of the operations.

Over a period of five years operations the total amount of Reserves generated shall be to the tune of US\$ 1,817,456. It shows a comfortable position for the company.

7. Developmental Values

The project's development value to the country is as under:-

1. The project will generate employment to several people both during the construction and after completion. It has been estimated that directly or indirectly this project will provide employment to nearly 20 individuals excluding the security guards.
2. Government will also earn revenue in terms of various levies on the Company associated with the operation of the complex. Further as indicated in the financial projections the total contribution for five years by way of income-tax and withholding tax will be to the tune of about US\$ 778,910.
3. The project will also contribute directly and indirectly in the generation of foreign exchange.

4. Last but not least, the manufacturing units are always considered to be a national property and will therefore add to the national wealth.

7. Conclusions & Recommendations

The economic impact from implementing and operating it is also positive.

Since the project is technically feasible, financially and economically viable, socially and from nation's point of view desirable a fast implementation thereof is recommended. It is important that there are no cost overruns so as to enable the realization of the benefits as outlined above.

It may be mentioned here that total investment of US\$ 1.77 million will play a good part in boosting the local economy.

Considering all relevant factors it is being recommended that the grant of 0% import duty & VAT deferments on capital goods and deemed capital goods is granted to this project not only to make the project viable but also to catalyze other development benefits that may accrue to the country on acceptance of this project.

FINANCIAL STATEMENTS

Investment Breakdown

PARTICULAR			AMOUNTS USD
Land and Buildings			130,000
Plant & Machines			1,400,000
Motor Vehicles			30,000
Furniture & Fixtures			10,000
Pre Expenses			50,000
Working Capital			150,000
TOTAL			1,770,000

OTHER OPERATING COST						
Other Operations Cost		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Motor Vehicle running expens		13,000	13,400	13,800	14,200	14,600
Salaries and Wages		35,000	38,500	42,350	46,585	51,244
Administrative Overhead Costs		20,000	22,000	24,200	26,620	29,282
Utility Costs		36,000	39,600	43,560	47,916	52,708
Interest on Loan		37,000	33,300	29,970	26,973	24,276
Communication Exepnses		9,000	9,900	10,890	11,979	13,177
Total Costs		150,000	156,700	164,770	174,273	185,286

PROJECTED BALANCE SHEET						
		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Fixed Assets		1,570,000	1,274,250	1,014,000	717,500	421,000
Long term Assets						
Depreciation		295,750	292,750	292,750	292,750	292,750
Total long term assets		1,274,250	981,500	721,250	424,750	128,250
Current Assets						
Cash		406,100	684,700	979,050	1,292,735	1,625,723
Account Receivable		105,000	110,250	216,535	421,763	527,628
Inventory		214,710	376,383	438,469	402,292	467,493
Total Current Assets		200,000	200,000	200,000	200,000	200,000
Total Assets		1,474,250	1,181,500	921,250	624,750	328,250
Current Liabilities						
Accounts Payable		84,000	88,200	92,610	97,241	102,103
Other Current Liablit		70,000	73,500	77,175	81,034	85,085
Subtotal Current Liabi		154,000	1,616,700	169,785	178,274	187,188
Long term Liabilities						
Long term Liabilitie		1,820,000	1,820,000	1,820,000	1,820,000	1,820.00
Total Liabiities		1,274,250	981,500	721,250	424,750	128,250
Net Assets		820,810	877,633	951,268	1,044,516	1,157,656
Captil and Reserves						
Owners Contribution		780,000	780,000	780,000	780,000	780,000
Retained Earning		40,810	97,633	171,268	264,516	377,656
Total Capital		1,474,250	1,181,500	921,250	624,750	328,250

PROJECTED INCOME STATEMENT						
		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEARS 5
Sales Revenue		2,566,500	3,079,800	3,695,760	4,434,912	5,321,894
Cost of Sales		513,300	513,300	513,300	513,300	513,300
Gross Profit		2,053,200	2,566,500	3,182,460	3,921,612	4,808,594
Operating Expenses						
Administrative Overhead						
Costs		20,000	20,200	20,402	20,606	20,812
Motor Vehicle running		13,000	13,130	13,261	13,394	13,528
Salaries and Wages		35,000	35,350	35,704	36,061	36,421
Depreciation		295,750	298,708	301,695	304,712	307,759
Utility Costs		36,000	36,360	36,724	37,091	37,462
Insurance		44,250	44,693	45,139	45,591	46,047
Interest on Loan		37,000	37,370	37,744	38,121	38,502
Total Expenses		448,000	452,480	457,005	461,575	466,191
Profit before Tax		1,605,200	2,114,020	2,725,455	3,460,037	4,342,404
Tax (30%)		481,560	1,479,814	1,907,819	2,422,026	3,039,683
Profit After Tax		1,123,640	634,206	817,637	1,038,011	1,302,721

FIXED ASSETS SCHEDULE						
NAME OF ASSETS		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Land and Buildings		130,000	123,500	117,000	110,500	104,000
Plant & Machines		1,400,000	1,120,000	840,000	560,000	280,000
Motor Vehicle		30,000	22,000	17,000	12,000	7,000
Furniture & Fixtures		10,000	8,750	40,000	35,000	30,000
Total		1,570,000	1,274,250	1,014,000	717,500	421,000
Depreciation		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Land and Buildings		6,500	6,500	6,500	6,500	6,500
Plant & Machines		280,000	280,000	280,000	280,000	280,000
Motor Vehicles		8,000	5,000	5,000	5,000	5,000
Furniture & Fixtures		1,250	1,250	1,250	1,250	1,250
ANNUAL DEPRECIATION		295,750	292,750	292,750	292,750	292,750
CLOSING FIXED ASSETS		1,274,250	981,500	721,250	424,750	128,250