

BRANDS FISHERIES & FARMERS TRADE CENTRE TANZANIA LIMITED

**P. O. BOX 1131,
KIGOMA - TANZANIA**

PROJECT FEASIBILITY STUDY

FOR

**NEW INVESTMENT OF 35 M³ BLAST FURNACE INDUSTRY
FOR SMELTING IRON ORE TO BE IRON / STEEL
IN**

MATENDO VILLAGE - KIGOMA DC



PREPARED BY:
BFFTC (T) LTD
P. O. BOX 1131
KIGOMA

FEBRUARY, 2022

COMPANY PROFILE.

Name of the Company : BRANDS FISHERIES & FARMERS TRADE CENTRE TANZANIA LIMITED (**BFFTC (T) LTD**)

Postal address : P. O. BOX 1131, KIGOMA – TANZANIA

Project Title : REQUIRE OF FACILITATION FOR INVESTING THE NEW PROJECT OF 35m³ BLAST FURNACE PLANT FOR PROCESSING THE IRON ORE, SMELTING AND PRODUCING THE PIG IRON.

Sector : MINING & PETROLEUM

Sub Sector : MINERALS EXPLORATION

Number of employees : **380 WORKERS**

Business Activity : SELL THE PIG IRON

Line of Business : IN SIDE OF TANZANIA AND OUT SIDE OF TANZANIA

Project duration : TWENTY FIVE (**25**) YEARS

Project activities and operations : IRON ORE MINING DIGGING, PROCESSING, SMELTING AND PRODUCING OF PIG IRON.

Capacity of Production : **40,000** TONS OF PIG IRON PER YEAR

Annual turn over : **Tsh 25,974,000,000**

Project physical Address : KIKOMBE MINING AREA IN MATENDO VILLAGE

PRIMARY MINING LICENCE : No. **PML 00281KGM AND PML 00282KGM**

Plant and office physical Address : KASONGE INDUSTRIAL AREA ON PLOT NO.....BLOCK..... IN MATENDO VILLAGE

Village : MATENDO

Ward : MATENDO

District : KIGOMA

Region : KIGOMA

Country : TANZANIA

Zone : EAST AFRICA

Company Establishment date : 31st day of August **2009**

COMPANY REGISTRATION : No. **72575** (BRELA)

TIN REGISTRATION : No. **108-800-011** (TRA)

Certificate of incentives : REG No..... (TIC)

Bank use and Account No : CRDB BANK PLC (KIGOMA BRANCH) **TSHS** ACCOUNT **0150617745100 bank swift code corutztz**

Language : ENGLISH, SWAHILI AND FRENCH.

Contact person(s) Name:MR. ATHUMANI KHAMISI ATHUMANI
Position: EXECUTIVE CHAIRMAN
Fax/Tel: +255 282 803 267 /+255 282 804 703
Mobile: +255 754 348 543 /+255 738 145 807
Whatsapp +255673734000
E-mail add: bfftczt@gmail.com

Name: MR. HAMISI HILALI MAHUBA
Position: MANAGING DIRECTOR
Mobile: +255 673 013 164/+255 767 071 326
Email add: hfftczt@gmail.com



TABLE OF CONTENTS

S/N	ITEM	PAGE
1.	INTRODUCTION	1/1- 1/2 up 1/3
2.	BACKGROUND INFORMATION	2
3.	OBJECTIVES	3
4.	COMPANY OWNERSHIPS	4/1 up 4/6
5.	PROJECT OPERATIONS AND PRODUCTION CONCEPT	5
6.	PROPOSAL/RECOMMANDATION	5
7.	MARKET - MARKETING AND PROJECT CAPACITY	6
(a)	LOCAL MARKET	6
(b)	EXPORT MARKET	7
8.	COMPETITIVE INVIRONMENT	7
9.	PROJECT TECHNICAL REQUIREMENT.	7 up 8
10.	RAW MATERIALS AND SOURCING	8
11.	PROJECT COST/ INVESTMENT STRUCTURE	8
12.	FINANCING PATTERN BREAKDOWN	8
13.	PROJECT IMPLEMENTATION	8
14.	PERSONNEL REQUIREMENTS/ORGANIZATION SET UP	9
15.	ESTIMATED SALARY FOR EMPLOYEE'S	10
16.	ANNUAL PROPOSED PROJECT DIRECT EXPENDITURES	11
17.	INTERNAL RATE OF RETURN AFTER TAX	12
18.	ECONOMIC ADVANTAGES	12
19.	ENVIRONMENTAL EFFECT	12
20.	BLAST FURNACE RUNNING COSTS	12
21.	PRODUCTIONS ASPECT	13
22.	ESTIMATED INCOME (RECEIPT) FROM PROJECT PRODUCTION.....	14
23.	ESTIMATED PROJECT EXPENSES FOR THE OPERATION.....	15
24.	CASH FLOW STATEMENT FOR 1 ST YEAR.	16
25.	CASH FLOW STATEMENT FOR 2 ND YEAR	17
26.	SENSITIVITY ANALYSIS: INCOME AND EXPENDITURE, DEPRECIATION SCHEDULE, PROFIT & LOSS, PROJECTED CASH FLOW, PROJECT BALANCE SHEET AND FINANCIAL RATE OF RETURN(FDR)	18
27.	KNOWLEDGE PROJECT FEASIBILITY STUDY OF NEW 35M ³ BLAST FURNACE INDUSTRY FOR SMELTING IRON ORE TO BE PIG IRON	19

1: INTRODUCTION:

MATENDO MINING SITE FOR HEMATITE IRON ORE (Fe_2O_3) of Kigoma District in the United Republic of Tanzania (mainland) has rich resources of iron ore deposits of good quality. The Matendo mine is a large proposed iron mine located in western Tanzania at Kigoma District of Kigoma region. It holds the iron ore resources in Tanzania with an estimated of big quantities (proven) for about several million tons as reviewed from the survey report by project Promoters /Company ownership and confirmed by mineral analytical report from geological survey of Tanzania (GST) between the years 2002 to 2022. There are same indications for presence of iron minerals at Matendo Village in Kigoma DC. Iron ore deposits comprises of the largest quantity not only in Liganga at Ludewa DC in Njombe Region, but also in Kigoma Region hold the iron ore.

Kigoma DC hold rich deposits of iron ore in Matendo Village at Matendo ward nearest Kalela Village of Kasulu DC. Also Kigoma DC hold the iron ore at Shuza- Mkigo Village in Kalinzi Ward neighbor of BUHIGWE DC.

The specific areas which are well known are:- Matendo village hold iron ore, which are located in Kigoma District.

Buhigwe DC hold rich deposits of iron ore at Shuza- Mnanila Village.

Kasulu DC hold deposits of iron ore in Kalela Village and Herujuu Village .

UVINZA DC hold rich of iron ore at Basanza Village neighbor of the Kasulu DC, also Katumbi Village in Buhingu Ward neighbor of Mpanda District at Katavi Region hold deposits of the iron ore, this is village are located in Western Tanzania to southern of Uvinza District in Kigoma Region. The area is the rift – valley between 6's latitude - South and between 30' 45' 0" longitude – East .The populations of this villages is mostly indigenous popular dwellings closer to the flora and fauna bordering Lake Tanganyika.

Kigoma Region is blessed with several kinds of mineral resources.

Despite these presence of larges deposits of iron ore and limestone in Kigoma Region, there is no single industry in Tanzania for mining and sub squinting treatment of iron ore (Fe_2O_3) through smelting for the producing pig iron (**Fe**).

SIMBO MINING SITE FOR LIMESTONE (CaCo₃) AND MWAMILA MINING SITE FOR LIMESTONE (CaCo₃)

Simbo limestone mining Site of Simbo ward in Kigoma DC and Mwamila limestone mining Site of Kazuramimba ward in Uvinza DC, the mine sites are rich for large quantities of limestone deposits. The two (2) Villages of mining sites are situated in Kigoma Region at north western of Tanzania .

The Project Promoters survey report from the years 2002 / 2022 reported that Kigoma DC and Uvinza DC holds Several million tons of limestone.

- Iron ore, limestone and coke or coal or natural gas is the main /principle combination raw materials use in the smelter blast furnace for the processing in producing the pig iron (**Fe**).
- iron ore (**fe₂o₃**) is the main raw material for producing the pig iron (**Fe**).
- Limestone (**CaCo**) is the helping raw material (chemical) use in the blast furnace for remove high oxide carbon based in iron ore (**fe₂o₃**).
- Coke or coal or natural gas is the fuel of rotary kiln use to raise the temperature in blast furnace for producing the pig iron .
- For producing the pig iron (**Fe**) in the smelter blast furnace which required the selection of iron ore (**fe₂o₃**), limestone (**CaCo**) and fuel for the rotary kiln e.g metallurgical coke of fixed carbon of (**82~85%**) or coal or natural gas.

Brands Fisheries & Farmers Trade Centre Tanzania limited (company abbreviated as BFFTC. T. LTD] seeks support to enable us install a 35m³ Blast Furnace of Capable for producing **40,000** tons of pig iron per year.

All the raw materials required for the production of iron (**Fe**) are found in the above listed sites of Kigoma District and Uvinza District in Kigoma Region. We anticipate to procure metallurgical coke from South Africa (correctly, coke is not produced in Tanzania). Concerning the fuel of the rotary kiln e.g coal and natural gas is the domestic products has produced here in Tanzania.



The iron ore mining digging operations will at Kikombe area of Matendo ward and slag recycling plant (iron ore processing plant) including Blast Furnace Plant (iron ore smelting plant) is set to be at Kasonge area of **Matendo (Mayange) Village** of **Matendo Ward** in **Kigoma District council**.

The distance from **Kikombe mining Area** to **Kasonge industrial Area** is **4.70 Kilometers** in **Matendo Ward**.

The distance from Kigoma Region Commissioner Office (RC-KIGOMA) include Kigoma Region Administrative secretary Office (RAS-KIGOMA) and Kigoma District Commissioner office (DC-KIGOMA) include Kigoma District Administrative secretary office (DAS-KIGOMA) to Matendo Village is **42 Kilometers**.

The distance from KIGOMA TOWN TO KIDAHWE ROUNDABOUT IS **28.15 KILOMETERS**.

The distance from KIDAHWE ROUNDABOUT TO MATENDO (MAYANGE) VILLAGE IS **9.15 KILOMETERS**

The distance from Simbo Village for raw materials of Limestone minerals in Kigoma DC to Matendo Village in Kigoma DC for raw materials of iron ore minerals is **19 Kilometers**.

The distance from Matendo Village of Kigoma DC for raw materials of iron ore minerals to Mwamila Village of Uvinza DC for raw materials of Limestone minerals is **69 Kilometers**.

The infrastructure for all road network concerning this is project is very good.

The area is blessed for establishment of good infrastructure road network, electric power initiatives, water resources and abundant resourceful labour power.



2: BACKGROUND INFORMATION:

Kigoma District is a Rural District with all Rural sets in a third World Nation. There is absence of major indicators & development.

Therefore, this project is set to be a dawning ambling of a new Tanzania in an industrial set up. It is primarily hoped to benefit the Kigoma DC and Uvinza DC population also Tanzania as a whole. **Matendo VILLAGE** for iron ore mine and **Mwamila Village** in Kazuramimba ward include Magengere area in Simbo ward for limestone mines, the Blast Furnace Industry (plant) with all its needed machines and equipments require hard capital investment tuned at **US\$ 2,988,719** equivalent to **Tshs. 6,948,771,675** as per year 2021 budget proposal for the project. For depth explanation make on page 8.

NB: This is exchange Rate has been calculated from the year 2022 to = 1 Us\$ Equivalent to TSHS. 2,325



3: OBJECTIVES:

Matendo (Mayange) Village of Kigoma District Council in Kigoma Region as pictured in the background is anciently rural in reality.

The main objective of the project is to inspire positive changes among the Kigoma DC persons and her neighbouring Districts. The successful implementation of the project will change the economic, social and cultural styles of the entire Kigoma Region and the Country at large by providing employment, new technology, tourism and expansion of business and trade.

Over **380** persons direct employment in the initial start up are expected provided and many more will realize their income through indirect placements. From these life expectancy will improve poverty levels will decline and given Kigoma borders other Tanzania neighbouring like DRC Congo, Burundi and Rwanda the entire East Africa community are set it benefit.

The government is directly going to benefit from local contents, direct tax value, value added tax, statutory collections and subsequent investment in a number of social, cultural, economic, political entities and added the value chain of the minerals in Tanzania.

The project has immense potential towards the earning of the badly needed forex earnings. The project will expand the income to the partners of this Company for financial development and expand the income to Kigoma District Council for the payment of SDL and CSR especially to the people of Matendo (MAYANGE) VILLAGE, it will also expand the income to all neighbouring Districts in Kigoma Region respectively as their source of income from the collections of revenue and **TRA** will be paid various tax to enable the government maintain its budget.



4:0 CAMPANY'S OWNERSHIP

4:01 INTRODUCTION

The Company is composed of family Members who are the major shareholder, Undertaking such business of fishing, farming and industry business enterprises. In the year 2009, we planned to expand our business network and finally we registered Company namely Brands fisheries & farmers Trade centre Tanzania Limited (BFFTC(T) LTD).

4:02 VISION STATEMENT:

To be efficient in poverty Alleviation by empowering community through economic means to achieve self reliance, commercially, customer focused utility supporting the sustainable development of Tanzania and to be famous Company, also to be the big producer of pig iron in East Africa for use by blast furnace industries.

4:03 PROJECT CORE VALUES:

As the acronym stands for:-

First – the Company is committed to the following values:-

- (a) Fairness
- (b) Integrity
- (c) Responsibility
- (d) Sustainability
- (e) Transparency

4:04 STATUS OF THE COMPANY:

Brands Fisheries & Farmers Trade centre Tanzania Limited (BFFTC(T) LTD) is a Company Limited by shares as per articles of Company's association.

4:05 STATUTORY STATUS:

The Company is registered under the Companies Act 2002, within the statutory regulation of Tanzania.

4:06 YEAR OF REGISTRATION:

In the year **2009**, the **Company** was registered and being given certificate of incorporation **No. 72575**.

4:07 OVERAL OBJECTIVE:

- (a) Marginalized people improve their economic security through sustainable live hood.
- (b) Change from an old method of processing to the new technology of mineral smelting of iron ore in industrial blast furnace.
- (c) Generate and provide direct employment to community in general.
- (d) Contribute to income through paying various levies and taxes.

4:08 COMPANY'S PRINCIPAL ACTIVITIES:

The principal activities of the Company are:-

- (a) Fishing.
- (b) Farming
- (c) Industrialization
- (d) Trade
- (e) Minerals and Mining

4:09 OWNER OF THE COMPANY:

The Company is a family owner enterprises with limited shares, all shareholder are Tanzanian native Citizens and residents of Kigoma Region; its shares subscriber are **Athumani Khamisi Athumani, Hamis Hilali Mahuba and Hafsa Kassimu Mangapi** respectively.

4:10 BRIEF PROFILE OF THE COMPANY'S EXECUTIVE DIRECTORS: FIRST DIRECTOR: CURRICULUM VITAE (CV)

01. PERSONAL PARTICULARS

Name	:	Athumani Khamisi Athumani
Date of Birth	:	28/02/1956
Sex	:	Male
Religion	:	Islam
Home District	:	Kigoma District
Nationality	:	Tanzanian
Marital Status	:	Married
Number of Children	:	15

02. KEY QUALIFICATIONS:

I am a holder of Diploma in Commerce and Economy from Institut MALA of KASONGO MANIEMA - DRC ex ZAIRE

03. EDUCATION QUALIFICATIONS:

- (a) Academic : Standard twelve (XII) in Francophone Syllabus
(b) Professional : Economist
(c) Special training on business management / administration seminar and workshop by TCCIA, USAID, BDG, SIDO, NMB, CRDB.

NAME OF SCHOOL	FROM	TO	PLACE
ECOLE PRIMAIRE OFFICIEL	1963	1969	KASONGO - DRC
COLLEGE SAINT HENRY	1969	1975	KASONGO - DRC
INSTITUT MALA	1975	1978	KASONGO - DRC

04. BUSIESS ACTIVITY / VENTURE:

FROM	TO	BUSINESS UNDERTAKEN	EMPLOYMENT POSITION
1979	1982	I started in business of buying and selling second hand clothes with small capital.	SELF EMPLOYED AS PRIVATE ENTERPRENEUR
1983	1984	I having capital growth and engage in the transportation business for carrying the passengers & cargo to coastline of Lake Tanganyika	SELF EMPLOYED AS PRIVATE ENTERPRENEUR
1985	Up to date	I operate in small fishery operations using of wooden canoe "catamaran type" (KIPE)	SELF EMPLOYED AS PRIVATE ENTERPRENEUR
1986	2004	I joined partnership with my uncle, we acquired export license for exporting the fish products especially clupeids / sardines (Dagaa) to neighboring Countries.	PROJECT COORDINATOR
2005	2008	I joined with MAMAN WUNDJA LTD for construction of shipping vessel was completed in August 2008	PROJECTED MANAGER OF MAMAN WUNDJA LTD
2009	Up to date	Founder and principal ideological of Brands fisheries & farmers Trade centre Tanzania Limited (BFFTC.T.LTD)	SELF EMPLOYED AS EXCUTIVE CHAIR MAN OF BFFTC (T) LTD

SECOND DIRECTOR CURRICULUM VITAE (CV)

I. PERSONAL PARTICULARS:

Name : Hamisi Hilali Mahuba
Date of Birth : 1966
Sex : Male
Religion : Islam
Home District : Kigoma District
Nationality : Tanzanian
Marital Status : Married
Number of Children : -

II. KEY QUALIFICATIONS:

- I am a holder of Certificate in Book-keeping & Accountancy (NABOCE) obtained at Dar es Salaam School of Accountancy (DSA), recently is known as Tanzania Institute of Accountancy (TIA).
- At present, I am a businessman and the Managing Director of BFFTC (T) LTD.

III. EDUCATION QUALIFICATION:

- (a) Academic : Standard XII
- (b) Professional : Assistant Account
- (i) Certificate in Book keeping and Accountant (NABOCE)
 - (ii) Special training on Business Management / Administration Seminar and workshop by TCCIA, USAID, SIDO and BDG.

IV. TRAINING / COURSES AT - TENDER OF TAKEN

NAME TRAINING / COURSE	FROM	TO	PLACE
ORDINARY LEVEL SEC EDUCATION	1982	1985	UJIJI - SEC
NATIONAL BOOK-KEEPING CERTIFICATE (NABOCE)	1986	1987	DSA SINGIDA WING

V. APPOINTMENTS / PROMOTIONS IN THE CIVIL SERVICE:

FROM	TO	POST HELD	EMPLOYER
1988	1990	ACCOUNT ASSISTANT	COMMISSIONER FOR INCOME TAX

VI. BUSINESS VENTURE:

FROM	TO	BUSINESS UNDER TAKEN	POSITION
1991	2005	I joined and employed by family partnering business enterprises on enhancing Employability by creating job opportunities in our family	ACCOUNT ASSISTANT
2006	TO DATE 2014	Appointed by Muslim Council of Tanzania as Mosque Secretary	MOSQUE EXECUTIVE SECRETARY
2009	TO DATE 2014	Founder of ideologist of Brands fisheries and farmers Trade Centre Tanzania Limited (BFFTC (T) LTD)	MANAGING DIRECTOR

THIRD DIRECTOR: CURRICULUM VITAE (CV)

01. PERSONAL PARTICULAR

Name : Hafsa Kassimu Mangapi
Date of Birth : 1974
Sex : Female
Religion : Islam
Home District : Kigoma District
Nationality : Tanzanian
Marital Status : Married
Number of Children : 4

02. KEY QUALIFICATION

- I am standard seven completed my Primary School at Karuta Primary Ujiji / Kigoma.
- At present, I am married woman possessing small business and the shareholder and Director of BFFTC(T) LTD.

03. EDUCATION:

1981 - 1988 : Primary School Education = Karuta Primary School

04. BUSINESS VENTURE:

FROM	TO	BUSINESS UNDERTAKEN	POSITION
1989	2008	Started business enterprises as small entrepreneur	SOLE TRADER / PROPRIETOR
2009	2014	Founder and shareholder and Director BFFTC (T) LTD	DIRECTOR

5: PROJECT OPERATION AND PRODUCTION.

5.1 Operational and production dynamics. The mining operation for obtaining the raw materials (iron ore and limestone) for producing of pig iron will be in two (2) period per annum. The first (**1st**) will be in the period of high season and second (**2nd**) will be in the period of low season.

5.1.1 The period of high season is the time of **low production** caused by **rain**, the operations will be for 27 days in the month covers in the **winter climate** (rain season) starting from September to April .

5.1.2 The period of low season is the times of **good production**, the operations which will be for 27days or 28 days in the month covers in the **summer climate** starting from May to August.

5.2 The total days of the operations for the production will be between **326** days up **336** days in the year.

6: PROPOSAL / RECOMANDATION.

The blast furnace plant is good to given proper priority for the following points;

6.1 The steel material is very important, necessary and marketable, also take a long period without damages.

6.1.1. For the construction of buildings and bridges for road need from **20%** up **40%** of the steel products, also for fabricating and manufacturing the vessels, motor vehicles and motorcycles, etc. need **99%** of steel materials.

6.2 The iron/steel products is profitable.

EXAMPLES.

6.2.1 For sell to local market in **CIF** the all pig iron will be produced per year has estimated to **39,960 TONNES** of iron materials which will be bring **Tsh 25,974,000,000** before tax. This is price as to **Tsh 650,000** per metric ton (see in page 14).

6.2.2 For sell to export markets in **FOB** at least **30%** of all pig iron will be produced per year has estimated to **11,988 TONNES** of iron materials which will be bring **USD 2,397,600** before tax. This is price as to **USD 200**per metric ton by whole sale (see in page 7).



(b) **Export market.**

(ba) The demand on export markets is about **50%** of all products will have be produced.

(bb) **TARGET ON EXPORT:** Will have reach at **30%** of all products will be produced. For expand the market from Tanzania to Worldwide Countries the government of Tanzania has appreciated to appointing Kigoma be Special Economic Zone (**KISEZ**) and Export Processing Zone (**EPZ**).

(bc) **THE CUSTOMERS AND THEIR COUNTRIES:** The buyers from neighboring countries like Rwanda want to buy the pig iron in **FOB** at rate of **3%**, Burundi **3%**, Uganda **2%** and Kenya **2%**. We markets and sales is to whole customers from the worldwide has interested to buy we pig iron products. Although here in the **EAST AFRICA** Countries there no any industry which produce **pig iron** (iron / steel materials).

(bd) **PACKING:** For carrying these pig iron to market will be pack and load in containers.

(be) **DISTRIBUTION CHANEL:** Will have be by vessels/boats, trucks and Railway.

(bf) **SECURITY TO MARKETS:** Is good and peace.

(bg) **Marketing:** will have be publishing our products through media, etc

(bh) This expected growth rate of markets we have been obtained from market survey.

8: **COMPETITIVE ENVIRONMENT:** Its Positive. Are the competitors from foreign companies like Russia, India, South Africa, Brazil, Australia and China use for producing and selling the pig iron to the international markets . Their productivity is marketable to world market, especially at America and Europe, but the demand is still high, who productivity thus does not satisfy to whole markets even at a quarter. When arises, we shall try to our level best to complete this trend to customers. Also their price is high. We price will be low ,between **USD 200 up USD 300 per metric ton in FOB**, because we expenses for the operations, production and labour charges will be cheap. But, we **pig iron** product we shall to be good quality for meet international standard.

8.1. We strategy to this is project has to be increase commitment, creativeness, Monitoring, good governance and motivation.

9: **PROJECT TECHNICAL REQUIREMENT:** The proposal equipments needed to this project they are below;

- 9.1. New 35m³ blast furnace industry complete set.
- 9.2. Crawler excavator of loading capacity 5tons.
- 9.3. Wheel loader of loading capacity 5tons.
- 9.4. Dumpers trucks of loading capacity 15 tons each.

- 9.5. Forklift of loading capacity 3tons.
- 9.6. Crawler Bulldozer of **600HP** to powered of **154,700 pounds**.
- 9.7. Ancillaries Vehicles including Toyota Land cruisers, Toyota Hilux's and others.
- 9.8. Building office e.g refractory building, Office equipments.
- 9.9. Concentrator, mineral jaw crusher, cone crusher, magnetic separation equipment, spiral classifier and hydro cyclone, screening equipment and ball mill (BAR MILL).

10: RAW MATERIALS AND SOURCING: This project in production is duties will need big quantities of raw materials ones such as **iron ore, limestone and coke of fixed carbon of (82~85)% or coal or natural gas**. Concerning iron ore and limestone including **coal or natural gas** is an ordinary domestic products, all of these we have obtained here in Tanzania, except coke is made in South Africa. For ordering the **coke** which received in **3 weeks** only.

11: ESTIMATED PROJECT COSTS / INVESTMENT STRUCTURE: The total initial investment fixed assets and working capital is estimated **USD 2,988,719**

11.1 The proposed project costs as follows:

Estimate Project Costs (TZS or USD or EUR)						
Item*	Existing		Proposed / Additional		Total	
	Equity	Loan	Equity	Loan	Equity	Loan
	TZS	USD	TZS	USD	TZS	USD
Land and Mine land	104,000,000	-	50,271,186	451,810	154,271,186	451,810
Plant and Equipments		-	-	1,233,904	-	1,233,904
Ancillaries Vehicles	-	-	-	146,780	-	146,780
Crawler Bulldozer	-	-	-	107,574	-	107,574
Commercial Vehicles	-	-	-	77,813	-	77,813
Office equipments	2,000,000	-			2,000,000	
Pre-expenses	50,000,000				50,000,000	
Total Fixed Assets	156,000,000	-	50,271,186	2,017,881	206,271,186	2,017,881
Working Capital	-	-	-	882,119	-	882,119
Total Project Cost	156,000,000	-	50,271,186	2,900,000	206,271,186	2,900,000

12: THE PROPOSED FINANCIAL:

Financial Plan (TZS or USD or EUR)						
Source	Existing	New Funding		Total	Sharing	
		Local	foreign			
	TZS	TZS	USD			
Promoter's Equity	106,000,000	-	-	TZS 106,000,000	1.53%	
Other Bank loans*	-	-	-	-	%	
Other Bank O/D*	-	-	-	-	%	
Bank Loan (needed)	-	-	2,900,000	USD 2,900,000	97.03%	
Cash (equity)	50,000,000	50,271,186	-	TZS 100,271,186	1.44%	
Total Financial	156,000,000	50,271,186	2,900,000	TZS 206,271,186	100%	

NB: This is exchange Rate has been calculated from the year 2022 to = 1 Us\$ Equivalent to TSHS. 2,325

13: PROJECT IMPLEMENTATION TIME: The envisaged for total gracing period as 12 months to take off. The detailed schedule see in SN 27 acknowledge of project feasibility study in page 12 to SN 7. implementation schedule from 7.1 up 7.3.6

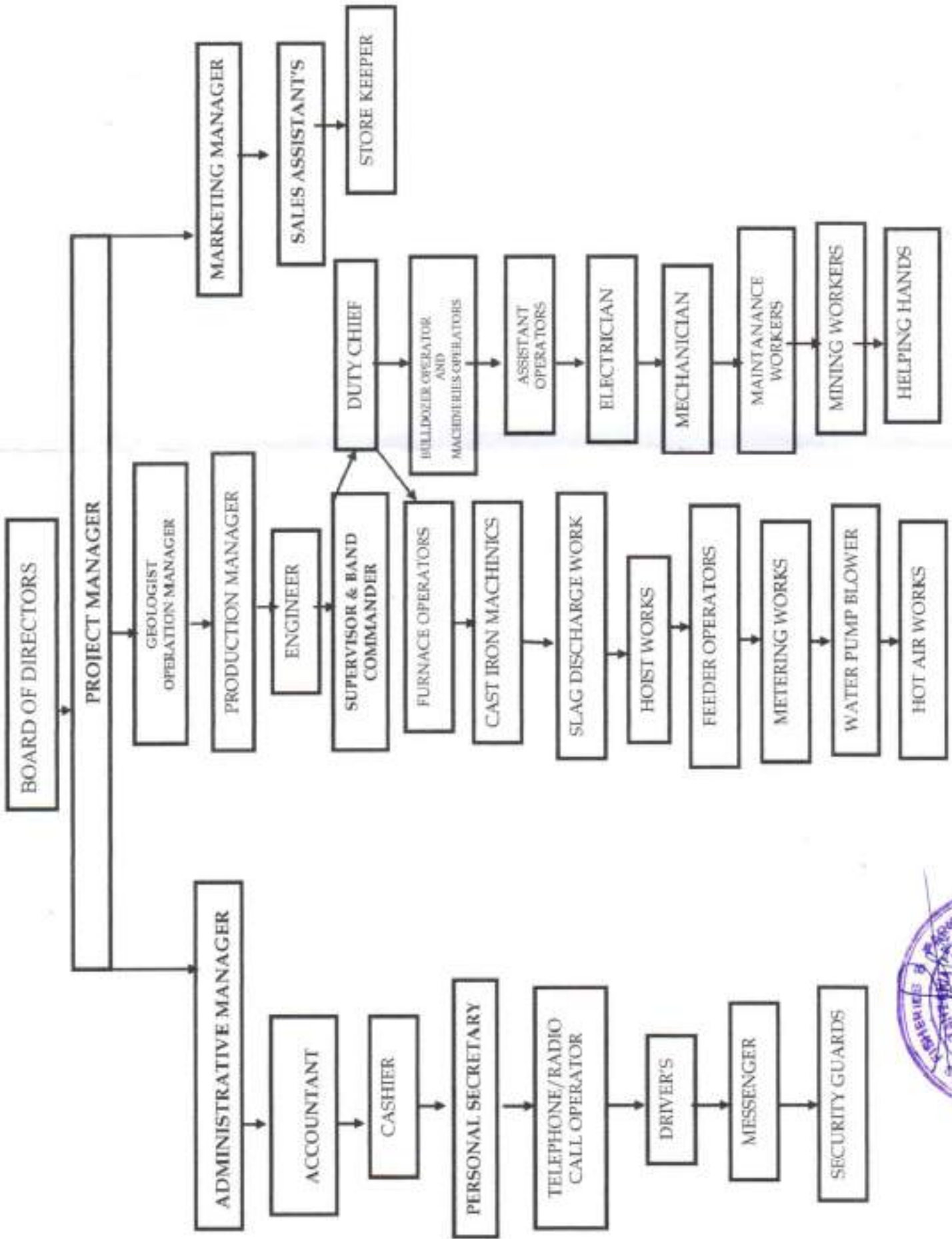
14. PERSONNEL REQUIREMENTS / ORGANIZATION SET UP

	CATEGORY	STRENGTH
1.	FINANCE / ADMINISTRATION DEPARTMENT	
1.1	Project Manager	1
1.2	Administrative Manager	1
1.3	Accountant	1
1.4	Cashier	1
1.5	Personal Secretary	1
1.6	VHS Radio operator	1
1.7	Messenger	1
1.8	Security Guards	8
	Sub Total (1)	15
2.	ENGINEERING / TECHNICAL DEPARTMENT	
2.1	Geologist and Operations	1
2.2	Production Manager	1
2.3	ENGINEER	1
2.4	Supervisor \BAND Commander	1
2.5	Duty Chiefs	3
2.6	Crawler Bulldozer Operator	1
2.7	Machineries operators	6
2.8	Electricians	3
2.9	Mechanicians	3
2.10	Assistant machineries Operators	2
2.11	Drivers	4
2.12	Metering workers	3
2.13	Furnace Operators	45
2.14	Cast Iron Mechanics	12
2.15	Slag discharge workers	12
2.16	HOIST workers	12
2.17	Feeder workers	27
2.18	Hot air workers	12
2.19	Water pump blower	12
2.20	Maintenance workers	12
2.21	Mining workers	168
2.22	help hands (day workers) or in Swahili (VIBARUA)	20
	Sub Total (2)	361
3.	MARKETING AND SALES DEPARTMENT	
3.1	Marketing Manager	1
3.2	Sales officers	2
3.3	Store keeper	1
	Sub Total (3)	4
	GRAND TOTAL	380

NB: All head of department is competent and active in steel production sector.
A total number of employees will be **380** people at this project and their Responsibilities.



THE STRUCTURE OF THE COMPANY



15: PROPOSED PROJECT MONTHLY SALARIES FOR EMPLOYEES (PAYMENTS)**(a) Cost of personnel**

No.	POSITION / GRADE	WORKER'S No.	SALARIES	TOTAL
1	Project Manager	1	3,750,000	3,750,000
2	Administrative Manager	1	3,300,000	3,300,000
3	Operation Manager & Geologist	1	3,000,000	3,000,000
4	Production Manager	1	2,800,000	2,800,000
5	Marketing Manager	1	2,650,000	2,650,000
6	Engineer	1	2,600,000	2,600,000
7	Account	1	2,300,000	2,300,000
8	Supervisor / band commander	1	2,300,000	2,300,000
9	Duty Chiefs	3	2,200,000	6,600,000
10	Bulldozer Operator	1	2,000,000	2,000,000
11	Machineries Operators	6	1,500,000	9,000,000
12	Sales officers	2	1,000,000	2,000,000
13	Cashier	1	1,000,000	1,000,000
14	Assistant Machineries operators	2	900,000	1,800,000
15	Store keeper	1	850,000	850,000
16	Driver's	4	800,000	3,200,000
17	Mechanic	3	700,000	2,100,000
18	Electrical	3	700,000	2,100,000
19	Metering workers	3	700,000	2,100,000
20	Furnace Operators	45	650,000	29,250,000
21	Hoist workers	12	600,000	7,200,000
22	Cast iron Mechanics	12	600,000	7,200,000
23	Slag discharge workers	12	600,000	7,200,000
24	Feeder Workers	27	600,000	16,200,000
25	Hot air workers (operation)	12	527,500	6,330,000
26	Maintenance Worker's	12	527,500	6,330,000
27	Ps (Personal secretary)	1	650,000	650,000
28	VHF Radio operator	1	650,000	650,000
29	Massager	1	600,000	600,000
30	Water pump blower operators	12	500,000	6,000,000
31	Mining workers	168	500,000	75,600,000
32	help hands	20	450,000	9,000,000
33	Security guards	8	450,000	3,600,000
	TOTAL	380		231,550,000

a) About the incentives will be provided when production increases. This increasing will be divided into two parts; one will remain to the Company rest half will be divided to all workers equally.

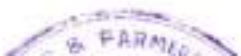
(b) Total estimated proposed project payment of salaries for **380 workers** is there are **Tshs. 231,550,000x 12 months = Tshs. 2,778,600,000/=**. This is salaries will be use only in three (3) years for the first project implementation, after three (3) years the salaries will be increasing up **50%**.

(c) Shall provide contributions to workers of health schemes, and others provident funds like NSSF and etc.

(d) Shall honor and up human conventions.

**16: ANNUAL PROPOSED PAYMENTS FOR PROJECT DIRECT EXPENDITURE
THEY ARE:-**

Government taxes, license's and others	Tshs	40,040,000
Traveling		15,000,000
Telephone		4,220,000
Bank charges and commission		3,600,000
Donation		5,000,000
Audit fees		4,200,000
Land rents		3,200,000
Industrial license		5,000,000
Stationary		3,500,000
Legal fees		5,200,000
Postage		3,000,000
TOTAL	TSHS.	90,960,000



17: INTERNAL RATE OF RETURN (IRR) AFTER TAX

Project internal rate of return after tax is between 16% to 18%. Well above lending rate of 8% used for the study.

18: ECONOMIC ADVANTAGES

On the basis of the above account the analysis has over whelming proved that the projects is financial sound and techno-economically viable. Furthermore the project immense potential towards the earning of the badly needed foreign earnings and substantial potential for job creation for 380person directly (permanent) and 5000 indirect entrepreneurs.

19: ENVIROMENT EFFECT:

The effects for this project on the community is environment friendly engagement. The project will not destroy the environment set up. Great care is to be put in place to safe guard environmental issues that are at present and those that might arise.

20: BLAST FURNACE RUNNING COSTS**20.1: RUNNING COST FOR ELECTRICITY AND WATER CONSUMPTION**

PRODUCTS / SERVICE	ELECTRICITY UNIT KWH PER DAY	WATER M ³ PER DAY	PRICE UNIT OR M ³	TOTAL TSHS
ELECTRICITY	3,120 KWH	-	262/=	817,440
WATER	-	30m ³	1,500/=	45,000
TOTAL				862,440

Furnace electricity and water consumption per day are as shown below.

- Furnace electricity consumption per day is 3,120 kwh @Tshs. 262 which is equivalent to Tshs. 817,440/= where the consumption rate per month (30 days) will be 93,600 kwh which amounts to **Tshs. 24,523,200** as rounded of to **Tshs.26,000,000** in estimating.
- Furnace water consumption per day is 30m³ @ Tshs. 1,500/= which is equivalent to Tshs. 45,000/= where the consumption rate per month will be 900m³ which amounts to **Tshs. 1,350,000/=**.
- Furnace electricity and water consumption per year is estimated to a tune of **Tshs. 328,200,000/=**.

21: PRODUCTION ASPECTS

The expected from the production of raw material eg, iron ore, limestone and metallurgical coke for process in smelt to obtain the pig iron/steel per year is divided into two (2) parts; the first (1st) part comprises of months which have poor service in production are to (8) eight months starting from October to May in climate of rain (high season) and the second (2nd) part comprises of months which have good service in production they are (4) four months starting from June to September in climate of summer (low season).

21.1: PRODUCTS WHICH WILL BE PRODUCED: IN (RAIN / WINTER) HIGH SEASON

Low production:

PRODUCT	PRODUCTION PER DAY/ TONS	PRODUCTION PER MONTH TONNES	PRODUCTION PER 8 MONTHS TONNES
Pig iron/Steel	120	3,240	25,920
TOTAL	120	3,240	25,920

So far in all the (8) eight months, the company intends to operate for twenty seven(27) days per month whose estimated production is 8"27".

[120tons of pig iron/steel x 27 days for production in the month = 3,240tonnes x 8 months = **25,920tonnes**]

21.2: PRODUCTS WHICH WILL BE PRODUCED: IN (SUMMER) LOW SEASON

Good production:

PRODUCTS	PRODUCTION PER DAY/ TONNES	PRODUCTION PER MONTH TONNES	PRODUCTION PER 4 MONTHS TONNES
Pig iron/Steel	130	3,510	14,040
TOTAL	130	3,510	14,040

So far in all the (4) four months, the expected to operate for (27) days of production days, the production is 4"27".

[130tons of pig iron/steel x 27days for production in the month = 3,510tonnes x 4 months = **14,040 tonnes**]

Therefore total annual production is **14,040 tons + 25,920tons = 39,960tons up 40,000 tons** of pig iron/steel produced from **35m³** blast furnace industry.

22: ESTIMATED INCOME (RECEIPTS) FOR SALE OF PIG IRON WILL BE PRODUCING PER DAY, MONTH AND YEAR,

22.1. Product sales in the **winter season** is shown here below:

<u>INCOME per day</u>	<u>INCOME per Month</u>	<u>INCOME Per 8 months</u>
120 tons	3,240 tons	25,920 tons
<u>x 650,000 shs</u>	<u>x 650,000shs</u>	<u>x 650,000shs</u>
<u>78,000,000 shs</u>	<u>2,106,000,000 shs</u>	<u>16,848,000,000shs</u>

22.2 Product sales in the **summer season** is shown here below:

<u>INCOME per day</u>	<u>INCOME per Month</u>	<u>INCOME Per 4 months</u>
130 tons	3,510 tons	14,040 tonnes
<u>x 650,000shs</u>	<u>x 650,000shs</u>	<u>x 650,000shs</u>
<u>84,500,000shs</u>	<u>2,281,500,000shs</u>	<u>9,126,000,000shs</u>

22.3 **Gross annual receipt for selling 39,960 tons up 40,000tons of pig iron/steel produced from 35m³ blast furnace industry in the year is **Tshs. 16,848,000,000 + Tshs. 9,126,000,000= Tshs25,974,000,000.** Please see cash flow statement detailed in **page 17** of year 2 from **S/N 25** of the first production and sales.**

22.4. Expected price in export market for selling one (1)ton of pig iron is between **USD 200 up USD 300.**

22.5. Expected price in local market for selling one(1)ton of pig iron/steel is **Tshs 650,000.**

NB: EXCHANGE RATE = 1US \$ IS TSHS. 2,325 as calculated in the years 2022



23: ESTIMATED PROJECT EXPENSES PER DAY, MONTH AND YEAR

- (a) **Electricity and water consumption for 35m³ blast furnace (smelter industry)**
- Costing per day is Tshs. 862,440/= (review page 12)
 - 862,440 Tshs in the month = **Tshs 27,350,000/=**
 - 27,350,000Tshs x 12 months (annual) = **Tsh. 328,200,000/=**
- (b) **Fuel (Diesel) for HVD Trucks (Commercial vehicles).**
- 800 litres will be consumed per day
 - 800 litres x 2,600 Tshs = 2,080,000 Tshs consumption per day
 - 2,080,000 Tshs x 27 days in the months = **Tshs 56,160,000.**
 - 56,160,000 Tshs x 12 months for consumption in the year = **Tshs. 672,920,000.**
- (c) **Tyres for HVD Truck (commercial vehicles).**
- 800,000 Tshs x 12 tires truck **Tshs 9,600,000/=**
 - 9,600,000 Tshs x 2 period of changing the tires in the year = **Tshs. 19,200,000/=**
- (d) **Tyres for ancillaries vehicles.**
- 400,000 Tshs x 10 tires for car (Pick up and hardtop) = Tshs 4,000,000/=
 - 4,000,000 Tshs x 2 period of changing the tires per year = **Tshs. 8,000,000/=**
- (e) **Fuel (Diesel) for ancillaries vehicles for Administrative services as be Consumed.**
- 100 litres x Tshs.2,600 = Tshs.260,000 payment per day
 - Tshs 260,000 x 26 days in the month = Tshs 6,760,000/= payment per month
 - Tshs 6,760,000 x 12 months in the year = **Tshs 81,120,000/=** payment per year
- (f) **Fuel (Diesel) expenses for Bulldozer.**
- Consumption per day is LTRS 278 equivalent to Tshs 722,800.
 - Consumption per month is LTRS 8,333 equivalent to Tshs 21,666,667.
 - Fuel consumption per year 100,000 litres x 2,600 Tshs. = **Tshs. 260,000,004.**
- (g) **Direct expenditure per year = Tshs 90,960,000/=** (Review gape 11)
- (h) **Fuel (Diesel) for machineries (excavator, wheel loader and forklift).**
- Fuel consumption per day is 472.2 litres x Tshs. 2,600
 - Litres 11,340x 26 days in the month
 - Tshs 29,484,000 x 12 months in the year = **Tshs 353,808,000/=**
- (i) **Estimated salaries for 380 workers per annum is Tshs.2,778,600,000/=** (review page 10).
- (j) **Lubricant (Oil and grease).**
- The price for one (1) liters/kgs is **Tsh 15,000.**
 - Consumption per month is LTRS/KGS 1,444 equivalent to Tsh 21,665,800.
 - Consumption for eleven (11) months in the year is LTRS/KGS 15,888 equivalent to **Tsh 238,323,800/=**
- (k) Estimated others expenses is **Tsh 13,934,120,396** detailed in **page 17** to S/N 25.

Total Gross Project operating expenses per annum is estimated to Tshs. 18,758,052,196/= . But, all details see cash flow of page17 to S/N 25. Or for accounting details see sensitivity analysis of financial statement in page 18 to S/N 26.

NB: Please see cash flow statement detailed in page 17 to S/N 25 from paragraph No.17 up 47 fro the first production and sales.

CASH FLOW STATEMENT		
NO.	DESCRIPTION	1
1	CASH FLOW	
2	EXISTING CASH EQUITY	156,000,000
3	BANK LOAN NEED	6,742,500,000
4	PROPOSED / ADDITIONAL EQUITY	50,271,186
5	GOVERNMENT SUPPORT	-
6	SALES	-
7	TOTAL CASH IN FLOW	6,948,771,186
8	CASH OUT FLOW	
9	PRE-OPERATION	156,000,000
10	PURCHASE OF 35m ³ BLAST FURNACE (INDUSTRY FOR SMELTING IRON ORE TO BE IRON)	2,435,974,110
11	PURCHASE OF CRAWLER BULLDOZER	250,001,976
12	PURCHASE OF WHEEL LOADER	73,470,936
13	PURCHASE OF EX CAVATOR	150,771,824
14	PURCHASE OF MINERAL SEPARATOR, SCREENING & CRUSHER MACHINE	183,082,396
15	PURCHASE OF TWO TRUCKS (TIPPER)	180,881,508
16	PURCHASE OF TWO LAND CRUISERS (PICK-UP & HARD TOP)	341,116,720
17	PURCHASE OF ONE FORK LIFT	25,340,896
18	LAND COMPASATION FOR RAW MATERIAL OF IRON ORE SITE	630,274,950
19	LAND COMPASATION FOR RAW MATERIAL OF LIMESTONE SITE	420,183,300
20	PURCHASE OF 1,980 TONS FOR RAW MATERIAL OF METALLURGICAL COKE USE IN NEXT THREE (3) MONTHS	0
21	CLEARING, FOWARDING AND HANDLING CHARGES FOR PLANT, MACHINERIES AND EQUIPMENT	0
22	CLEARING AND FOWARDING CHARGE FOR 1,980 TONS OF MET-COKE USE IN THREE (3) MONTHS	0
23	TRC - CHARGES FOR 1,980TONS OF COKE TRANSPORTATION FROM DAR PORT TO UVINZA STATION	0
24	TRC - CHARGES FOR EQUIPMENT TRANSPORTATION FROM DAR PORT TO UVINZA STATION	0
25	TRA-VAT FOR METALLURGICAL COKE 1,980 TONS FOR RAW MATERIAL USE IN THREE (3) MONTHS	0
26	MARKETING	-
27	SERVICE & MAINTANCE	-
28	INSURANCE	-
29	WATER BILL	-
30	POWER (ELECTRICITY BILL)	-
31	GREEN HOUSE	-
32	TRAINING	-
33	UP-DATE	-
34	SALARIES	-
35	FUEL (DIESEL) FOR HVD TRUCKS (COMMERCIAL VEHICLES)	-
36	TYRES FOR HVD TRUCK (COMMERCIAL VEHICLES)	-
37	TYRES FOR ANCILLARY VEHICLES (PICK UP AND HARDTOP)	-
38	FUEL (DIESEL) FOR INCILLARY VEHICLES (PICK UP AND HARDTOP)	-
39	FUEL (DIESEL) FOR CRAWLER BULLDOZER CONSUMPTION	-
40	OIL / LUBRICANT FOR GENERAL PROJECTION CONSUMPTION	-
41	PAYEMENT FOR MAINTANANCE/SERVICES OF CRAWLER BULLDOZER	-
42	PAYEMENT FOR SPARE PARTS OF CRAWLER BULLDOZER	-
43	DIRECT EXPENDITURE (e.g all government CESS)	-
44	MACHINERIES (EXCAVATOR, WHEELLOADER AND FORKLIFT)	-
45	INFLATION / CONTIGENCIES (Calculated to 6% OF TSHs 4,847,098,616 / 700,000,000 / 552,182,400 / 162,617,628)	290,825,917
46	LOAN REPAYMENTS (CALCULATED TO 18% OF BANK INTEREST RATE)	0
47	DIVIDENDS	-
	TOTAL CASH OUT FLOW	5,137,924,531
	NET CASH FLOW	1,810,846,653
	ACCUMULATED CASH FLOW	1,810,846,653

NB: This is 12 months is reserved for grace period to allow project settlement and take off

PREPARED BY DIRECTORATE OF BFFTC(T) LTD
P. O. BOX 1131 KIGOMA

Sign:

ATHUMANI KHAMISI ATHUMANI
CHAIRMAN



HAMISI HILALI M.
MANAGING DIRECTOR
0767 071 326

CASH FLOW STATEMENT					
Sl. No.	DESCRIPTION	1	2	3	4
1	CASH BOOK (STARTING BALANCE)	-22,741,617	-	-	-
2	CASH FLOW				
3	EXISTING CASH EQUITY	-	-	-	-
4	BANK NEEDED	-	-	-	-
5	GOVERNMENT SUPPORT	-	-	-	-
6	FOR SALE the PIG IRON in ration is 3,330 tons per month. @ton is Tsh.650,000/=	2,164,500,000	2,164,500,000	2,164,500,000	2,164,500,000
7	TOTAL CASH IN FLOW	2,141,758,383	2,164,500,000	2,164,500,000	2,164,500,000
8	CASH OUT FLOW				
9	PURCHASE OF 33M ³ BLAST FURNACE (SMELTER INDUSTRY)	-	-	-	-
10	PURCHASE OF CRAWLER BULLDOZER	-	-	-	-
11	PURCHASE OF WHEEL LOADER	-	-	-	-
12	PURCHASE OF EX CAVATOR	-	-	-	-
13	PURCHASE OF MINERAL SEPARATOR, SCREENING & CRUCHER MACHINE	-	-	-	-
14	PURCHASE OF TWO TRUCK (TIPPER)	-	-	-	-
15	PURCHASE OF TWO LAND CRUISER (PICK-UP & HARD TOP)	-	-	-	-
16	PURCHASE OF FORK LIFT	-	-	-	-
17	PURCHASES OF 3,340 TONS OF METALLURGICAL COKE USE IN 3MONTH FOR RAW MATERIAL	-	-	-	184,060,800
18	PURCHASES OF 2800 TONS OF LIME STONE USE PER MONTH FOR RAW MATERIAL	140,000,000	140,000,000	140,000,000	140,000,000
19	PURCHASES OF 6400 TONS OF IRON ORE USE PER MONTH FOR RAW MATERIAL	400,000,000	400,000,000	400,000,000	400,000,000
20	MINERALS ROYALTY (CALCULATED TO 3% OF EXPECTED MONTHLY SALES)	64,993,500	64,993,500	64,993,500	64,993,500
21	THE MET- COKE TRANSPORTATION CHARGE FOR 660MT FROM DAR PORT TO UYINGA STATION	105,000,000	105,000,000	105,000,000	105,000,000
22	MARKETING	2,000,000	-	-	-
23	TRA - VAT FOR MET- COKE (18% OF TSHS. 184, 060,800)	-	-	-	33,130,944
24	NSSP CONTRIBUTION (10%) OF TSHS. 231,550,000	23,155,000	23,155,000	23,155,000	23,155,000
25	BDL (SERVICE DEVELOPMENT HEAVY) 4% OF 231,550,000	9,262,000	9,262,000	9,262,000	9,262,000
26	CRR	300,000,000	-	-	-
27	CLEARING AND FORWARDING AGENCY CHARGE	-	-	-	-
28	SERVICE, REPAIR & MAINTANANCE	10,000,000	-	-	-
29	INSURANCE	120,000,000	-	-	-
30	WATER BILL	1,350,000	1,350,000	1,350,000	1,350,000
31	POWER (ELECTRICITY BILL)	26,000,000	26,000,000	26,000,000	26,000,000
32	GREEN HOUSE	-	-	-	-
33	TRAINING	-	-	-	-
34	UPDATE (ADMINISTRATION EXPENSES)	5,000,000	-	-	5,000,000
35	SALARIES FOR 380 EMPLOYEES (REVIEW PAGE 10)	231,550,000	231,550,000	231,550,000	231,550,000
36	FUEL (DIESEL) FOR HYD TRUCK'S (COMMERCIAL VEHICLES)	56,160,000	56,160,000	56,160,000	56,160,000
37	TYRES FOR HYD TRUCK'S (COMMERCIAL VEHICLES)	-	-	-	-
38	TYRES FOR PICK UP AND HARDTOP (ANCILLARY VEHICLES)	-	-	-	-
39	FUEL (DIESEL) FOR PICK UP AND HARDTOP (ANCILLARY VEHICLES)	6,760,000	6,760,000	6,760,000	6,760,000
40	FUEL (DIESEL) FOR CRAWLER BULLDOZER CONSUMPTION	21,666,667	21,666,667	21,666,667	21,666,667
41	OIL / LUBRICANT FOR GENERAL PROJECTION CONSUMPTION (NOS/LITRES 1,444)	-	21,665,800	21,665,800	21,665,800
42	PAYMENT FOR CRAWLER BULLDOZER MAINTANANCE/SERVICES	1,060,325	1,060,325	1,060,325	1,060,325
43	PAYMENT FOR CRAWLER BULLDOZER SPARE PARTS	4,623,008	4,623,008	4,623,008	4,623,008
44	DIRECT EXPENDITURE FOR MINERAL LICENSES (REVIEW PAGE 11)	-	-	-	-
45	FUEL (DIESEL)FOR MACHINERIES (EXCAVATOR, WHEEL LOADER AND FORKLIFT)	29,484,000	29,484,000	29,484,000	29,484,000
46	INFLATION AND CONTIGENCIES (5% OF TSH 1356,064,500) is total from S/N 10 up to S/N 45	77,903,225	77,903,225	77,903,225	77,903,225
47	LOAN REPAYMENTS (Interest rate Calculated to 18%) for THs.6,742,500,000	132,602,500	132,602,500	132,602,500	132,602,500
48	DIVIDENDS	-	-	-	-
49	TOTAL CASH OUT FLOW	1,768,570,225	1,353,236,028	1,353,236,028	1,675,427,769
50	NET CASH FLOW	373,188,158	811,263,972	811,263,972	589,072,231
	ACCUMULATIVE CASH FLOW	373,188,158	1,184,452,133	1,995,716,108	2,584,788,339

Summary Loan repayment Schedule

Principal Loan amount is Tshs. 6,742,500,000/=

Period: 5 years

Interest: 18% annually

TOTAL PRINCIPAL LOAN	TOTAL LOAN INTEREST	MONTHLY LOAN REPAYMENT	ANNUAL LOAN REPAYMENT	TOTAL REPAYMENT
6,742,500,000	1,213,650,000	132,602,500	1,591,230,000	3,956,150,000

PREPARED BY DIRECTORATE OF BFFTC(T) LTD
P. O. BOX 1131 KIGOMA

Sign:

ATHUMANI KHAMISI ATHUMANI
CHAIRMAN
0754 348 543HAMISI HILALI MAHUBA
MANAGING DIRECTOR
0767 071 326

27. AKNOWLEDGE PROJECT FEASIBILITY STUDY OF NEW 35M³ BLAST FURNACE INDUSTRY FOR SMELTING IRON ORE TO BE PIG IRON IN MATENDO

TABLE OF CONTENTS

S/N	ITEM	PAGE
1.0	INTRODUCTION	1
	1.1 Background	1
	1.2 Project Sponsors	1
	1.3 Layout of the Study	1
2.0	EXECUTIVE SUMMARY	2
	2.1 Introduction	2
	2.2 Market-Blast furnace operation	2
	2.3 Ultimate Project Status	3
	2.4 Organization and Manpower Requirements	4
	2.5 Project Implementation	4
	2.6 Investment Structure	4
	2.7 Financing Pattern	5
	2.8 Internal rate of return (IRR) after tax	5
	2.9 Economic Advantages	5
3.0	MARKET, MARKETING AND PROJECT CAPACITY	6
	3.1 General	6
	3.2 Existing blast furnace	6
	3.3 Potentiality on the uses of blast furnace	6
	3.4 Viability of business	7
4.0	THE PROJECT OPERATIONAL NEEDS	7
	4.1 General	7
	4.2 Blast furnace (operations) and production	7
5.0	CIVIL WORKS AND BUILDINGS	7
	5.1 General	7
	5.2 Accessibility of the Site	7
	5.3 Design Concept	8
	5.4 Auxiliary Service Requirement	8 up 9
6.0	MANPOWER REQUIREMENTS	10
	6.1 Management	10
	6.2 Organization Set up	10
	6.3 Manpower Requirements	10 up 11
	6.4 Recruitment and Training	12
7.0	IMPLEMENTATION SCHEDULE	12
	7.1 General	12
	7.2 Preliminary Formalities	12
	7.3 Project Stage	13
8.0	ECONOMIC BENEFITS OF THE BRANDS FISHERIES & FARMERS TRADE CENTRE (T) LTD	14
9.0	CONCLUSION	15 up 16
10.0	There are other supporting documents	17 etc.

BRANDS FISHERIES & FARMERS TRADE CENTRE TANZANIA LIMITED

1.0: INTRODUCTION

1.1 Background:

The study feasibility report covers the production of iron out of the initiation / establishment of new integrated modern technology of slag recycling plant and smelter blast furnace plant for producing the iron, this is project will be based in Matendo Village of Matendo ward in Kigoma District at Kigoma Region.

Essentially the undertaking will involve the operation of new industry of iron production from treating, processing and smelting the iron ore to be pig iron in Matendo Village at Kigoma District of Kigoma Region. That means there will be a iron production plant.

1.2 The project sponsors are **BRANDS FISHERIES & FARMERS TRADE CENTRE TANZANIA LIMITED** whose shareholder Directors has vat experience in initiating multitude of projects/investments, the ones in question being inclusive.

1.3 Layout of the Study:

This report presents a fully fledged financial and techno economic analysis status relevant to the proposed plant of new integrated modern technology for producing of pig iron.



The report is covered in **9 chapters**. An introduction is as presented in this **chapter 1**. Thereafter follows the coverage on the summary / recommendations in **chapter 2**. The operational capacity have been presented in **chapter 3**. A proposal on manpower requirements / organization include the brief up on the investment structure have been presented in **chapter 4**. Financing pattern have been presented in **chapter 5**. Thereafter follows the covers the aspect market, marketing and project capacity have been presented in **chapter 6**.

Aspects on project operational needs are presented in **chapter 7**. Then follows civil works / buildings have been presented in **chapter 7**. An outline on the implementation schedule is covered in **chapter 12**. The report ends up with the financial / economic analysis in **chapter 14**.

2.0 SUMMARY AND RECOMMENDATIONS.

2.1 Introduction:

The report accounts for the financial and techno-economic analysis on the setting/operating of integrated new blast furnace plant for smelting iron ore (Fe_2O_3) for the purpose of producing the pig iron (Fe) operations to be based in **Matendo Village in Kigoma District**.

The project undertakers are **BRANDS FISHERIES & FARMERS TRADE CENTRE TANZANIA LTD** whose shareholder Directors are renowned for experience in initiating/operating multitude of projects, the one in question inclusive.

2.2 Market- blast furnace operations:

The annual demand for blast furnace (service) operation and production in Tanzania alone with over country in EAST AFRICA is substantially into several millions tons of iron materials. This is high, it import confirmed by fully iron products status of existing suppliers. To be precise, the demand for blast furnace operation and production in Tanzania needs not much emphasize



On the other hand it should be stressed that the management of **BRANDS FISHERIES & FARMERS TRADE CENTRE TANZANIA LTD** has to be cost conscious so as to ensure that iron/steel products are at competitive price levels and at acceptable quality levels. The observance of these aspects will in turn enable **BRANDS FISHERIES & FARMERS TRADE CENTRE (T) LTD** secure its rightful market share for the production in question.

2.2 Ultimate Project Status:

The smelter blast furnace, machinery, equipments to opted for will be of modern status with appropriate technological set up, fully provided with all necessary accessories.

The project promoters have already arranged with largest suppliers companies from CHINA to supply them with the required new smelter 35M³ blast furnace complete plant, machineries e.g bulldozer's, excavator's, fork lift's, dumpers trucks, ancillaries vehicles, wheel loaders, mineral cone crusher, jaw crusher, magnetic separation equipment, screening equipment, conveying equipment ball mill, spiral classifier and hydro cyclone to enable the installation / construction of such a smelter blast furnace plant.

Like wise the smelter blast furnace will be opted will be of sound design/ construction fully equipped with necessary accessories like the concentrator and sintering machine.

The project will have an envisaged operational capacity levels. The attainable operational and production capacity levels will be at **60%**, **70%** and **85%** of the anticipated levels for years 1, 2, 3 – 5 respectively.



2.3 Organization and Manpower requirement:

The roles of the project will be executed through three (3) departments. Administration / Finance. Technical / Operations and Marketing. The Heads of these departments is the project Manager will constitute the core of the management. The initial work force has been estimated people. However, when the project maturity say from year four it is envisaged that the project will employ directly about **380-400** people.

2.4 Project Implementation:

The envisaged period for total project implementation is 12 months.

2.5 Investment Structure:

The total initial investment in fixed assets and working capital is estimated at **US Dollars 2,988,719** follows.

TABLE 2:1 INVESTMENT STRUCTURE

ITEM	APPROX. USD
Fixed Assets	
Land	44,731
office equipments.	860
Proposed/additional.(USD 451,810+21,622=473,432)	473,432
Blast furnace industry, machineries, Vehicles, equipment and Furnitures.	1,566,072
Pre-expenses	21,505
Sub total	2,106,600
Initial working Capital	882,119
GRAND TOTAL	2,988,719

exchange rate is 1 US\$ equivalent to **Tshs. 2,325**,calculated in the year 2022



2.6 Financing Pattern:

The total additional investment of USD **2,988,719** shall be financed as follows:-

TABLE 2:2 FINANCING PATTERN BREAKDOWN.

SOURCE	US \$
Fixed Assets:	
Land /mining Land (Equity) (1.50%)	44,731
Office equipment (Equity) (0.03%)	860
Proposed / additional (Loan) (15.12%)	451,810
Proposed / additional (equity) (0.72%)	21,622
Pre- Expenses (Equity) (0.72%)	21,505
Long term loan (52.40%)	1,566,072
Sub total	2,106,600
Working Capital:	
Long term loan (29.51%)	882,119
Sub total	882,119
GRAND TOTAL (100%)	2,988,719

2.7 Internal Rate of Return (IRR) After Tax:

The project's internal rate of return after tax is **16%** well above the lending rate of **8%** used for the study.

2.8 Economic Advantages:

On the basis of the above account the analysis has overwhelmingly proved that the project is financial sound and techno-economically viable. Furthermore, the project has immense potential towards the earning of the badly needed forex earnings and substantial potential for job creating.



3. MARKET, MARKETING AND PROJECT CAPACITY.

3.1 General

Market refers to the availability of the occasion when traders trade in the finished goods or simply the availability of the number of traders (in our case Industries) that demand the produce of our proposed engagement. Iron products not only have markets within Tanzania but at all East Africa Community Countries, there is no known blast furnace (iron ore smelting firm). Secondly, the **Agoa** program opens markets for Tanzanian made products to enter USA in Markets.

Tanzanian Industries use in Iron/Steel making and markets has consumed the iron materials an estimated **511,000 tons** a year. This collecting an average of **1,400 tons** per day. However, the existing facilities that constitute the products can collect **400 tons** only per day leaving a deficit of **1,000 tons** unsupplied. This is equivalent to **71.43%** of the real requirement with such observation; we conclude that there is substantial demand for iron products within the country.

The proposal blast furnace industry will enable the production of adequate pig iron products that will fill in the missing quantities and feed the export market for the benefit of the project and the Country's population neighboring the firm (as salaried/waged worker and petty business entrepreneurs). The government taxation gain is set to improve.

3.2 Existing blast furnace industries

In the Eastern Africa block (zone) is negative. We do not have a set up of similar making, this is technology of iron ore processing for producing the iron in East Africa is negative. There is no blast furnace plant in the country in question.

3.3 Potentiality on the uses of blast furnace operation and production

As note above such iron products and materials is **511,000 tons** per annum. This level has been derived on assumption that the growth rate of the iron products in the project areas is at **28.57%**. The computation has not taken to the account of the iron/ steel making plants who operate into these areas.

If the iron products of the was to be taken into the account the above figure represent if the annual production of steel making users would have been much higher. This implies that the proposed blast furnace as spelt out in this project will only meet or portion of the annual demand for the production in question.

3.4 VIABILITY OF BUSINESS: Price of products depend the price of others competitors. The project viability is promising our pricing will fluctuate in relation to our competitors. In future, the inset Julius Nyerere hydro electricity power costs by making it cheaper and this enabling our products to be cheaper hence on high demand locally and outside Tanzania Boundaries.

4. THE PROJECT OPERATIONAL NEEDS

4.1 General

In the first it will involve the operation out of blast furnace services for the production of iron/ steel in Matendo Village of Kigoma District. Essentially the activities will center on providing the production of iron /steel.

4.2 Blast furnace operations

It is main core operation/service is to steer the production of iron/steel products of about **40,000 tons** per annum. Our proposed blast furnace plant has the capacity of producing between **39,960** up **40,000** tons of pig iron/steel per annum.

5. CIVIL WORKS AND BUILDINGS

5.1 General

As mentioned elsewhere herein in this document, the headquarters of the project shall be located within **MATENDO Village of KIGOMA District**. The design, buildings and road networks in **MATENDO** are their best to receive such a project.

5.2 Accessibility of the site:

The project site is very good accessible, easily be reachable. It have full provision of all the basic necessities: Good road network, abundant resourceful labour power, Electricity and water.



5.3 Design Concept:

The proposed building is built of fired bricks and concrete blocks bricks properly designed with ample space to cover all the functional spaces and other social amenities space requirements. It is envisaged that the projections factories, building and packing space requirement area is **26,000m²**.

5.4 Auxiliary Service Requirement:

5.4.1 Power supply System

- **Main power supply:**

It will have power supply from the Diesel Powered Generator as the Region is yet to be connected to the National Grid. This power has proved highly reliable.

- **Fire Protection:**

It is proposed to provide fire detection and fire fighting systems. Fire detection devises, Alarm and communication systems whereas fire fighting system will feature portable extinguishers, hoes reels, wet and dry rises and automatic sprinkler system.



5.4.2 Recruitment:

Wide inlet/entrance is provided by the Company.

5.4.3 Parking Space for the Office headquarters:

The premise has ample parking space adequate to accommodate several vehicles and machineries at any given time.

5.4.4 Water Supply:

- **Source of Water:**

The source of potable water for the premise will be that Matendo Village water supply of Kigoma District Council.

Design of water supply is based on the Ministry of water and irrigation design manual.

Materials specifications for pipes and fittings have been don't by Matendo water supply of Kigoma District Council under Kigoma Regional water supply and sewerage authority according to the relevant British standards;

5.4.5 Storm Water Drainage and Sewerage System.

- **Storm Water Drainage:**

Storm water – run – off are collected from projected buildings by means of spouts a full boras through down pipes and are discharged into the open channel and deposited into the road side drains.

- **Sewerage System:**

Waste and foul water is collected from projected buildings and many factory by means of UPVCP pipes of different sizes e.g 50mm, 100mm and 150mm to the Matendo water supply in good quality of standard sewer lines.

6. MANPOWER REQUIREMENTS:

6.1: Management:

The success of a venture of this kind depends on the competence of the personnel recruited to manage. It is assumed that relevant personnel with requisite skills shall be available within the Country. There will be a need of recruiting expatriates in some key positions.

The overall in charge, responsible for the day to day operations will be the project manager who will in turn be answerable to the Board of Directors.

6.2: Organization Setup:

Initially the operations will broadly be divided into the following:-

- ❖ Finance / Administration Department
- ❖ Engineering and Technical Department
- ❖ Marketing and Sales Department

6.3: Manpower Requirements:

6.3.1 Total Manpower Requirement:

Based on the proposed organization structure the project will initially employ a total of **380** persons. However, it is anticipated that by time project attains maturity the envisaged employees will be in the Region of **500- 800** people.

The breakdown of the initial force in terms of its categories is as after presented in Table 6.1.

TABLE 6.1 PERSONNEL REQUIREMENTS

S/N	CATEGORY	STRENGTH
1.	FINANCE / ADMINISTRATION DEPARTMENT	
1.1	Project Manager	1
1.2	Administrative Manager	1
1.3	Accountant	1
1.4	Cashier	1
1.5	Personal Secretary	1
1.6	VHS Radio operator	1
1.7	Messenger	1
1.8	Security Guards	8
	Sub Total (1)	15
2.	ENGINEERING / TECHNICAL DEPARTMENT	
2.1	Geologist and Operations	1
2.2	Production Manager	1
2.3	ENGINEER	1
2.4	Supervisor \BAND Commander	1
2.5	Duty Chiefs	3
2.6	Crawler Bulldozer Operator	1
2.7	Drivers & machineries operators	10
2.8	Electricians	3
2.9	MECHANICIANS	3
2.10	Assistant machineries Operators	2
2.11	Metering workers	3
2.12	Furnace Operators	45
2.13	Cast Iron Mechanics	12
2.14	Slag discharge workers	12
2.15	HOIST workers	12
2.16	Feeder workers	27
2.17	Hot air workers	12
2.18	Water pump blower	12
2.19	Maintenance workers	12
2.20	Mining workers	168
2.21	help hands (Day workers)	20
	Sub Total (2)	361
3.	MARKETING AND SALES DEPARTMENT	
3.1	Marketing Manager	1
3.2	Sales officers	2
3.3	Store keeper	1
	Sub Total (3)	4
	GRAND TOTAL	380



6.4. RECRUITMENT AND TRAINING

6.4.1 Recruitment

All new staff would be recruited at least one month before the project operations are commenced.

6.4.2 Training.

The Management of the plant would strive to employ competent and qualified personnel in the furnace operations undertaking. To reduce cost few senior staff will be trained at the selected locally available institution.

All other supporting will be trained on the job. However, it is expected that most of them will have some basic knowledge and experience in the operation/business in question.

7. IMPLEMENTATION SCHEDULE:

7.1 General

Both local and external factors have been taken into account when drawing out the proposed schedule of implementation. Factors such as finalization of construction of processing plant (blast furnace industry), godown and office block, acquisition of blast furnace plant, machinery and equipment, recruitment of qualified personnel and other factor have been looked into. However, the project will take a maximum of twelve (12) months to take off.

7.2 Preliminary Formalities:

On the finalization of the study a duration of about two (2) weeks will be needed for executive of the preliminary formalities of the project.

7.3 Project Stage:

7.3.1 Construction of plant, refractory, garage and office Building:

The company will provide the owner buildings at **Matendo Village** for office personnel and administration services as well as for storage of limestone, metallurgical coke and pig iron produced including others project facilities. The construction process will take twelve (12) months.

7.3.2 Construction of Building plant:

This undertaking will require a period of twelve (12) months to completion.

7.3.3 Ordering Acquisition of the plant (blast furnace) Machineries / Equipments / Vehicles / Furniture

Timely ordering will have to be executed to match the rate of development of the plant. Time needed will run into several months expected to over three (3) months for ordering, clearing and transporting the equipment to **Matendo mining Site**.

7.3.4 Installation of Furniture/Fittings:

Once the building is constructed and then will follow the furniture and fittings upon arrival at the project site.

7.3.5 Trial Operations:

Upon completion acquisition of the blast furnace industry operations subsequent installation of machinery and equipment the will follow trial operations runs of the project. This will take about two (2) weeks.

7.3.6 Commercial Operation:

On completion of the trial runs then will follow commercial operations.



8. ECONOMIC BENEFITS OF THE BRANDS FISHERIES & FARMERS TRADE CENTRE TANZANIA LTD.

The successful operation and production of this integrated industrial blast furnace for processing and smelting iron ore to be pig iron/steel undertaking will contribute significant economic benefits to Kigoma Region people and Tanzania as whole. In summary the benefits which will be realized are as follows:-

The execution of this project will bring about employment opportunities for **380** persons.

Significant contribution to self-sufficiency in iron/steel making, processing, producing and services the people in Kigoma Region.

Provision of income to other services providers, thus contributing to the reduction of poverty. The income to be earned will help in improving standard of living of the workers and other people residing in the Region.

The direct income for the workers, combined with other social benefits that the Management of the **BRANDS FISHERIES & FARMERS TRADE CENTRE TANZANIA LTD** provide, will help in overall efforts of alleviation of poverty in the Region.

Provision of a market for steel products and services demanded by expanded tax base to the Treasury and local Government authorities and generation of substantial income to the Government. The Government earns considerable revenue from the project operations in terms tax collections.

9. CONCLUSION.

The investment and development of this integrated blast furnace project operation undertaking is in line with the Government objective of encouraging proper development of various services and blast furnace operations being among.

In addition, it will have a positive impact on the development of the region, as it would generate a number of benefits and more positive impact on the economy of the region. As noted above this undertaking will bring about the generation a number of benefits and reliable incomes for the employees of the project and providers of the operations and iron/steel demanded by the project's workforce / their families.

This document has provided a full analysis on the financial, Techno-economic viability on the establishment/operation of the integrated blast furnace operations undertaking along with the financing requirements/parameters have been considered and have established that the proposed is technically sound, financially viable, and economically/socially beneficial.

In order to ensure prompt implantation of the project and achieving the operational targets a number of factors have to be taken into account this will include the level of the proposed investment in this projects, anticipated significant roles in poverty eradication/alleviation, the overall status of the national economy, and the proposed project area.

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In the context of the immense useful potential of this project, the management of the **Company BRANDS FISHERIES & FARMERS TRADE CENTRE TANZANIA LTD** anticipated that all interested parties in the region / and the Government of Tanzania will give their full support so as to ensure timely implementation of the project and apprehension of successful operation.

- Concerning project competition is positive.
- Concerning projection environmental effects is positive.
- Concerning projection income generation is successful good and continuation after project termination.
- Concerning local development for this project is very good.
- Concerning implementation for this project is well and increasable.



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ATHUMANI .H. ATHUMANI
EXECUTIVE CHAIRMAN



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HAMISI .H. MAHUBA
MANAGING DIRECTOR