DEVELOPING THE IRON AND STEEL INDUSTRY IN UGANDA – HARNESSING THE LOW HANGING FRUITS

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Executive Summary

The iron and steel industry is the back bone of industrialisation and historically, all developed economies have developed this industry first, in order to support the process of industrialisation and development. Uganda's iron ore deposits in the south western region are among the highest quality iron ores in the world.

Uganda's Vision 2040 states that in the first ten (10) years of its implementation, emphasis will be put on the establishment of economic lifeline industries among which is the iron and steel industry. Furthermore, among the identified key core projects to be started on immediately on the commencement of the Vision period is an iron ore industry in Muko Kabale. In the first National Development Plan (NDPI) it was planned to develop the use of iron ore to produce ingots that would supply the steel rolling mills. This target having not been achieved in the NDPI period, NDPII earmarked iron ore among the six (6) minerals for exploitation and value addition during its period, 2014/15-2019/20. It is two (2) years to the completion of the NDPII period but this target is yet to be achieved. The current trade deficit in the iron and steel sector is about USD 200 million.

There is a need to fast track the process of establishing the iron and steel industry in the country in order to ensure the achievement of Vision 2040 and NDPII targets. This can be achieved by government intervention through two ways:

1. Developing a specific incentive regime for investors venturing into iron ore smelting. This can include;
    a. A ten year corporation tax exemption for re-investment to expand business operations,
    b. Concessional power tariffs to the sector,
    c. Exemption of duty on importation of raw materials especially coal,
    d. Tax exemption on transportation of raw materials sourced from within the country; moving iron ore from the deposits to the factory,
    e. Capital subsidy to facilitate initial operational costs,
    f. In the on-going Common External Tariff (CET) review, the zero tariff on wire rods importation should be reviewed as this is produced locally by Tembo Steel Ltd. This **will save** the country about **USD 40 million in importation** of wire rods and **USD 300 million** with the DRI plant established. Monthly national demand for wire rods is 6,000 tonnes: Tembo Steel Ltd produces 3,000 tonnes but has an installed capacity of 12,000 tonnes.
    g. Government needs to revoke non-performing licenses held by speculators. This hinders investments in the iron ore mining activities and thus cripples industrial growth.

2. Harnessing low hanging fruits by extending assistance to private investors that are operating in the phase close to iron ore smelting and already have plans to smelt iron ore. These include (details in section 7.1.2);
    a. Tembo Steel Ltd and
    b. Pramukh Steel Ltd

If only Tembo Steel Ltd and Pramukh Steel Ltd are supported in the first phase, to establish direct reduced iron (DRI) plants i.e sponge iron production through smelting iron ore, at least **4,000 jobs will be created**. With their use of scrap as raw material, the two companies save the country **UGX 3.44 trillion in forex expenditure**.

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1. Introduction

History has it that in the 1940s when the colonial government planned to construct Nalubale Power Plant, it first set-up a cement factory in Tororo to supply the required cement for the plant construction (Uganda Cement Factory). Today, a number of projects are being executed; Standard Gauge Railway (SGR), Entebbe Expressway, New Jinja Nile Bridge, Karuma, Isimba and Bujagali dams among others, which need iron and steel in big quantities. The iron and steel requirement for these is about USD 135 million, all of which is imported.

Many other planned and on-going projects also require large amounts of iron and steel; Entebbe Airport Expansion, Kabaale Airport, Oil roads, Motor Vehicle Factory, New Karuma Bridge, Expressways, to mention but a few. All this iron and steel will be imported (with a large out flow of forex), yet the country has one of the best quality deposits of iron ore, which are unexploited.

Uganda's Vision 2040 states that in the first ten (10) years of its implementation, emphasis will be put on the establishment of economic lifeline industries among which is the iron and steel industry. Furthermore, among the identified key core projects to be started on immediately on the commencement of the Vision period is an iron ore industry in Muko Kabale.

In the first National Development Plan (NDPI) it was planned to develop the use of iron ore to produce ingots that would supply the steel rolling mills. This target having not been achieved in the NDPI period, NDPII earmarked iron ore among the six (6) minerals for exploitation and value addition during its period, 2014/15-2019/20. It is two (2) years to the completion of the NDPII period but this project is yet to take off. With industrialisation being targeted as one of the avenues to be used to achieve Vision 2040, an established iron and steel industry is paramount.

2. Objective of the Paper

The President of the Republic of Uganda banned the exportation of unprocessed iron ore in 2011. The ban was aimed at developing the iron and steel industry in the country by facilitating the promotion of value addition on raw iron ore; enabling job creation, infrastructure development, technological growth and advancement and reduction in forex expenditure. Presented here is the situational analysis of the iron and steel industry in Uganda and recommendations for its development by harnessing the low hanging fruits.

3. Why Iron and Steel

Iron and steel are vital materials and find their use in almost all areas of life and both can easily be recycled after their use to make new materials. Steel is the world's most important structural material because of its high strength in relation to its weight and price. It is produced in many forms – from thin sheets and wires to heavy load-bearing structural members. It can have many different properties; can be hard or soft, tough or brittle, thick or thin, or super-strong and at the same time withstand significant wear and tear. It can also have a combination of characteristics and its properties are determined by the recipe used in the steelworks, rolling mills and after-treatments. Steel can be utilised in a number of structural engineering works.
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Furthermore, iron and steel based products have come to be associated with the industrialisation of economies. With industrialisation considered to be among the main avenues to use to achieve Vision 2040 (theme for FY 2017/18 budget, and probably next three year, is "industrialisation for job creation and shared prosperity"), a developed iron and steel industry is paramount.

If only Tembo Steel Ltd and Pramukh Steel Ltd are supported to establish direct reduced iron (DRI) plants i.e sponge iron production through smelting iron ore, at least 4,000 jobs will be created. Currently, with their use of scrap to produce their products, the two companies save the country UGX 3.44 trillion in forex expenditure.

4. Methodology

To develop this document/study, NPA undertook field visits to the prospective iron ore deposits and to 16 of the existing steel processing plants and rolling mills around the country. The purpose was to get first-hand information on the on-going activities in the iron ore mining areas and also understand the activities of the iron and steel plants in relation to the sector value chain. Key areas of focus during the industrial visits included establishing the; installed and production capacities, required raw materials, energy requirements, products being produced, challenges and future plans in relation to developing the iron and steel sector.

5. Significance of the Iron and Steel Industry to Uganda's Economy

Currently, Uganda's imports of iron and steel products are worth USD 280 million and exports are worth USD 86 million, which represents a trade deficit of USD 194 million. A strong integrated iron and steel industry will not only facilitate industrial take-off in the country but also lead to saving of forex expenditure, increase employment opportunities and form a strong basis to support the growth of other sectors through forward-back ward linkages. The industry will also increase local content in on-going and planned projects like the SGR, motor vehicle assembly plant, planned Kabaale airport and expressways, oil roads, new Karuma bridge among other projects, through the supply of the needed steel from local production.

An assessment of the steel consumption and requirement for a few on-going and planned projects is given in **Table 1**. Most of the steel being used for these projects is imported and therefore the country is losing about USD 135 million yet these projects are funded by loans. A developed iron and steel industry will put this money into the economy.

Table 1: Steel requirements for some projects in Uganda

Project	Details	Status	Steel usage (tonnes)*	Cost (million USD)
Karuma Dam	600 MW	On-going	36,000	25.2
Isimba Dam	183 MW	On-going	11,000	7.7
Bujagali Dam	250 MW	Complete	15,000	10.5
Jinja Nile Bridge	0.525 km (20 m deep and 70 m high)	On-going	4,487	3.14
Entebbe Expressway	51.36 km	On-going	21,472	15.0
Standard Gauge Railway	Track length 338 km (Kampala-Malaba)	Planned	86,000 (Rebars)	60.2
			6,000 (structural steel)	12.0
Total				**133.54**

* The steel price per tonne is taken at an average of USD 700 except for structural steel which is taken at USD 2,000.

Furthermore, it can be observed from **Figure 1** that steel consumption/imports in the EAC region have been on a steady increase for the past ten (10) years and its projected to be 4.934 million tonnes (USD 3.454 trillion) by 2020. Currently, the value of the iron and steel imports into the region stands at USD 1.316 trillion. 70-80% of these imports are raw materials for the steel rolling mills. Consequently, having an integrated steel plant will enable the country access a share of the EAC market which will increase on the country's revenue earning.

However, penetration of the EAC market will require production of high quality products at competitive prices. This will necessitate putting in place a conducive environment for the manufacturers to be able to produce competitively; good transport network, low cost loans, low power tariffs compared to the existing prices, favourable tax incentives among others.

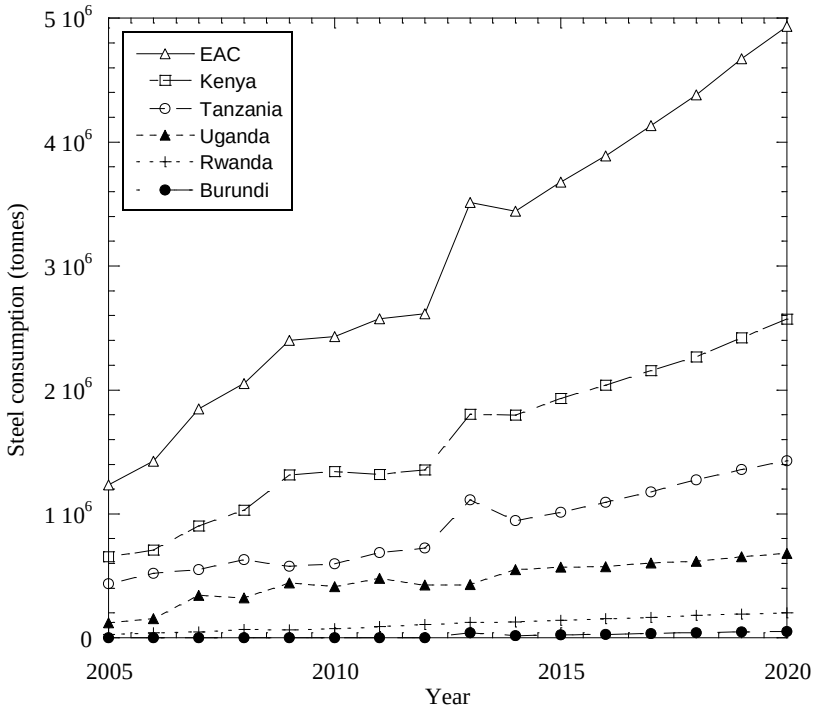

Figure 1: Steel Consumption in the EA Region

6. Situational Analysis of Uganda's Iron and Steel Industry

Summarised information of the characteristics of the industries in the iron and steel sector in Uganda is as given in **Table 2**.

Table 2: Summarised State of the Iron and Steel Industry in Uganda

Capacity (tonnes/annum)		Raw materials		Power usage/month	Employment (people)	Products	Market	Investment (USD)
Installed	**Production**	**Type**	**Source**					
1,000,000	510,700	Hot Rolled Coils (HRC), Galvanised coil, Wire rods, billets, Zinc. Lead, cast iron and mild steel scrap, raw iron ore (10-12%), furnace oil	Local, South Africa, Japan, India, China, Russia, Germany, Egypt, Ukraine, Kenya, Rwanda, Burundi, South Sudan, DRC, Tanzania,	100 MW	5,000	Corrugated iron sheets, wire products, iron bars, nails, chain link, barbed wire, expanded wire mesh, Angles, flats, hollow, tubes, Z-sections	Local (70%), Kenya, Rwanda, Burundi, Tanzania, DRC, South Sudan	1 Billion

Overall, it can be noted that there is a total installed capacity of close to 1,000,000 tonnes per annum for the plants visited. Of the installed capacity, only 50.17% (501,700 tonnes) is being utilised. Of the total annual iron and steel production of 501,700, only about 165,000 tonnes (32.89%) are produced from scrap and raw iron ore. This implies that 67.11% (485,200 tonnes) of the raw material for iron and steel making in Uganda are imported, not taking into consideration the accessories; zinc, aluminium among others.

Out of the total 165,000 tonnes manufactured through melting scrap and iron ore, iron ore accounts for only 10% (16,500 tonnes) per annum. The ore is used mainly to refine the scrap for some industries. Essentially, out of the 500 million tonnes of iron ore available in the country, only 0.0033% is being utilised per year.

The produced iron and steel products are mainly sold locally (70%), with some exports to the neighbouring East African countries. The employment level and total investment for the whole industry stands at about 5,000 workers and USD 1 billion respectively.

6.1 Value Chain Analysis of Uganda's Iron and Steel Sector

Iron and steel are produced from raw iron ore through a number of processes, which are summarised using the train analogy in **Figure 2**. Some of the required information to fully execute each phase is given in the different wagons and together the wagons represent the value chain of the iron and steel industry.

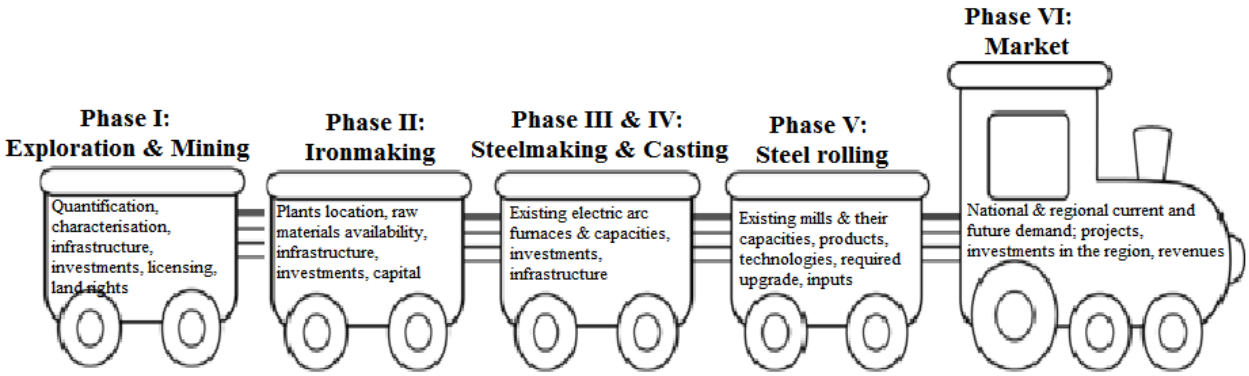

Figure 2: Phases involved in the production process for iron and steel.

The status of industries in Uganda's iron and steel sector along the value chain is as highlighted in **Table 3**.

Table 3: Assessment of existing industries along the iron and steel value chain

	Company	Phase						
		I	II	III	IV	V[1]		VI
						1	2	
1.	International Mining Company of Uganda	■						
2.	WCH	■						
3.	Tororo Cement Ltd						■	■
4.	Tembo Steel – Iganga			■	■	■	■	■
5.	Tembo Steel – Lugazi			■	■	■	■	■
6.	Bavima Steel Ltd						■	■
7.	Madhvani Steel Ltd					■	■	■
8.	MMI Steel Ltd						■	■
9.	Pramukh Steel Ltd			■	■	■	■	■
10.	Tian Tang Steel*			▒	▒	■	■	■
11.	Roofings Ltd – Lubowa						■	■
12.	Roofings Ltd – Namanve*			▒	▒	■	■	■
13.	Steel & Tube Ltd*			▒	▒	■	■	■
14.	Uganda Baati						■	■
15.	Viva Steel Ltd						■	■
16.	EA Roofings Ltd						■	■
17.	Mesha Steel							■ ■
18.	BM Steel Ltd		Closed				■	■
19.	Steel Rolling Mills Ltd			Closed				

*Tian Tang Steel Ltd, Roofings Ltd Namanve and Steel and Tube Ltd have induction furnaces which they use to melt scrap. This process contributes 10% of their total production

7. Developing the Iron and Steel Industry in Uganda

It can be noted from **Table 3**, that there is a need to develop phase II of the iron and steel value chain in the country. This can be achieved in two ways;

[1] At the phase of Steel Rolling, there are two stages; 1 – Some firms import billets, reheat these and roll them into bars and, 2 – most bring in coils and wires and roll and draw them into sheets and wires. Those starting at V-1 add more value than their counterparts.

i. Government investing directly in the industry, or
ii. Government supporting already existing private investment that are ready to expand into phase II.

From the field visits, four companies highlighted their plans to expand into phase II

a) Tembo Steels Ltd
b) Pramukh Steel Ltd
c) Madhvani Steel Ltd
d) Kigezi Steel Co. Ltd (not yet operational)

Of the four companies, Tembo Steels Ltd was the one found to be in the most advanced stages of establishing a direct reducing iron (DRI) plant followed by Pramukh Steel Ltd.

7.1 What Needs to be Done to Develop the Iron and Steel Industry

In developing the iron and steel sub-sector to facilitate the smelting of iron ore to produce sponge iron and eventually steel production in the country, the government needs to accomplish the following;

7.1.1 Develop a General Incentives Package to Develop the Industry for Investors Investing from Phase II upwards

Establish an incentives package for investors that want to venture into iron ore smelting to produce sponge iron or pig iron. These incentives could include

i) A ten year corporation tax exemption to facilitate re-investment to expand the business,
ii) Concessional power tariffs to the sub-sector,
iii) Exemption of duty on importation of raw materials especially coal,
iv) Tax exemption on transportation of raw materials sourced from within the country; moving iron ore from the deposits to the factory,
v) Capital subsidy to facilitate initial operational costs (to cushion the new company from acquiring loans at the early stage since the cost of capital in the country is very high),
vi) In the on-going Common External Tariff (CET) review, the zero tariff on wire rods importation should be reviewed as this is produced locally by Tembo Steel Ltd. This **will save** the country about **USD 40 million in importation** of wire rods and **USD 300 million** with the DRI plant established. Monthly national demand for wire rods is 6,000 tonnes: Tembo Steel Ltd produces 3,000 tonnes but has an installed capacity of 12,000 tonnes.
vii) Government needs to revoke non-performing licenses held by speculators. This hinders investments in the iron ore mining activities and thus cripples industrial growth.

It can be noted from **Table 4** that 50 licenses have been given out by the MEMD to prospective investors for developments to be made in phase one; iron ore mining. As per the statistics at the Ministry, the current licenses were issued starting back in 2010, but only 2 companies have actually put investments on the ground. These licenses need to be re-called and given to credible investors after thorough assessment and conditions should be attached to their award.

Table 4: Number of licenses given out for Iron ore prospecting and their performance

Region	License Type	Number	Status	Area (km^2)
Western – Kisoro, Kabale, Ntungamo, Kanungu, Rukungiri, Bushenyi, Mittomo, Sheema	EL	38	• 30 active • 8 expired	1,288.008
	LL	2	• 1 active • 1 expired	0.318
	ML	4	• All active	8.687
Eastern – Manafwa and Tororo	EL	3	• Active	19.280
	ML	1	• Active	1.122
Northern – Nakapiripirit	EL	1	• Active	100.000
Central – Mubende	EL	1	• Active	39.000
Total		**50**	• **41 active** • **9 expired**	**1,437.135**

EL – Exploration License; LL – Location License; ML – Mining Lease

On the general whole, the incentives package should be tied to specific deliverables over a specified period of time as will be agreed between the government and the respective investors.

7.1.2 Extend Specific Assistance to Private Companies that are Investing in Iron Ore Smelting – Harness Low Hanging Fruits

Assistance can be extended to private companies that have plans to or are investing in establishing iron ore smelting plants to produce sponge iron, especially those in the advanced stages of establishing the DRI plant; mainly Tembo Steel Ltd followed by Pramukh Steel Ltd.

7.1.2.1 Tembo Steel Ltd

Of the four highlighted companies with plans to smelt iron ore, Tembo Steel Ltd is the one in the most advanced staged of establishing a DRI plant. The company has already procured machinery for the DRI plant and is in the process of constructing the factory.

Tembo Steels Ltd owns two plants, both of which are in phase II of the iron and steel value chain;

- Lugazi Plant (100,000 tonnes installed capacity); operating at 40,000 tonnes, and
- Iganga Plant (60,000 tonnes installed capacity); operating at 36,000 tonnes.

Both plants use 100% scrap melting for the production of the steel products among which include; TMT bars, structural steel V/Z/T angles, flat bars, channels, hot rolled strips, hollow sections, nails, wire rods, wire, BRC/W mesh, and electrodes. Additionally, the company adds 10-12% iron ore in the production process.

The turnover for the company for FY2016/17 is UGX 250/= billion. Additionally, the company is

- One of the largest tax payer in the country,
- Among the top five (5) power consumers in the country, and
- Among the top 15 tax payers on rental revenue

7.1.2.1.1 Assistance required from government to establish the direct reducing iron (DRI) plant

Tembo Steel Ltd has already procured most of the required machinery for the DRI plant and the construction phase of the plant has commenced in Iganga. The following assistance is required to fast track this process:

i) 10 year corporate tax exemption so as to re-invest and expand the plant,
ii) Concessional power tariff,
iii) Grant subsidy for operational capital amounting to USD 5 million,
iv) Waiver of tax on importation of coal from Tanzania,
v) In the on-going Common External Tariff (CET) review, the zero tariff on wire rods importation should be reviewed as this is produced locally by Tembo Steel Ltd. This **will save** the country about **USD 40 million in importation** of wire rods and **USD 300 million** with the DRI plant established. Monthly national demand for wire rods is 6,000 tonnes: Tembo Steel Ltd produces 3,000 tonnes but has an installed capacity of 12,000 tonnes. and
vi) Assistance in getting a mining license for iron ore (this though would not hinder operations as two companies have already invested in mining equipment and have land and licenses. These can supply the DRI plant once operations start)

7.1.2.1.2 Contribution towards economic development

The following are the expected contributions from Tembo Steel Ltd after the assistance is extended and the DRI plant becomes operational

Table 5: Tembo's contribution in terms of tax and employment

	Area of contribution, annually	FY2016/17	After DRI plant completion
1.	VAT (UGX billion)	15	36
2.	Power consumption (UGX billion)	36 (25 MW)	66 (60 MW)
3.	Employment (people)	2,000	4,000
4.	Export turnover (UGX billion)	15	40
5.	Annual turnover (UGX billion)	250	550

From **Table 5**, it can be observed that annually, Tembo Steel Ltd ***will be paying UGX 19 billion more in VAT; consume an extra 35 MW of power, which is worth UGX 30 billion; create 2,000 more jobs; increase the export earnings by UGX 25 billion and its turn over by UGX 200 billion***.

Tembo Steel Ltd is using 100% scrap and raw iron ore as its raw materials for the production of the various iron and steel products. This thus saves the country the forex revenue that would have been spent in importing billets and coils for the production of the same products. **Table 6** highlights the quantities of the products made from imported billets and coils and the difference in prices of a tonnage between the products made from imported raw materials and those made from scrap/raw iron ore. ***It can be observed that the country saves UGX 156 billion in forex expenditure on iron and steel products in the market. Additionally, funds amounting to UGX 3.1 trillion that would be spent on importing the billets and coils used to produce the required products is also saved. Effectively, Tembo Steels saves the country UGX 3.2568 trillion in forex expenditure per***

annum. This saving can be doubled or tripled with the introduction of direct reducing plants in the country.

Table 6: Tembo contribution in terms of forex saving

Name of the product	Sale from imported billets and coils (MT/month)	Selling price (UGX/MT/month)			Total in forex expenditure per annum by importer (UGX Billion)
		From scrap	Imported billets	Difference	
TMT	4,000	2,800,000	3,300,000	500,000	24
Wire rod	4,000	3,500,000	4,500,000	1,000,000	48
HRC	5,200	3,600,000	4,600,00	1,000,000	62
Structural steel	2,000	3,700,000	4,600,000	900,000	22
Total	**15,200**	**13,600,000**	**17,000,000**	**3,400,000**	**156**

7.1.2.2 Pramukh Steel Ltd

The company has a factory located in Njeru, Jinja on Kayuga Road. It is in phase II of the iron and steel production value chain and produces TMT bars using 100% scrap as raw material. Its installed capacity is 40,000 tonnes and operates at 13,500 tonnes per annum.

The company currently seats on 40 acres of land and its turnover for the year 2016/17 was UGX 52.

7.1.2.2.1 Assistance required from government to establish the direct reducing iron (DRI) plant

Pramukh Steel Ltd has acquired land in Njeru, 50 acres, for the DRI plant and seeks the following assistance to start the DRI plant: proposed plant capacity is

i) 10 year corporate tax exemption so as to re-invest and expand the plant,
ii) Concessional power tariff,
iii) Low interest loan amounting to USD 20 million, at an interest rate of 4-5% per annum
iv) Tax exemption on importation of plant machinery, and
v) Waiver of tax on importation of coal from Tanzania.

7.1.2.2.2 Contribution towards economic development

The following are the expected contributions from Pramukh Steel Ltd after the assistance is extended and the DRI plant becomes operational

Table 7: Pramukh Contribution in terms of tax and employment

	Area of contribution	FY2016/17	After DRI Plant completion
1.	VAT (UGX billion)	7.8	15
2.	Power consumption (UGX billion)	1.3 (11 MW)	2.4 (20 MW)
3.	Employment (people)	1,000	2,500
4.	Export turnover (UGX billion)	8.6	20
5.	Annual turnover (UGX billion)	52	100

From **Table 7**, it can be observed that annually, Pramukh Steel Ltd ***will be paying UGX 7.2 billion more in VAT; consume an extra 10 MW of power, which is worth UGX 1.4 billion; create 1,500 more jobs; increase the export earnings by UGX 12 billion and its turn over by UGX 48 billion***.

Pramukh Steel Ltd is using 100% scrap as its raw material for the production of the various iron and steel products, which saves the country the forex revenue that would have been spent in importing billets and coils for the production of the same products. **Table 8** highlights the quantities of the products made from imported billets and coils and the difference in prices of a tonnage between the products made from imported raw materials and those made from scrap/raw iron ore at Pramukh Steel Ltd. ***It can be observed that the country saves UGX 20 billion in forex expenditure on iron and steel products in the market. Additionally, funds amounting to UGX 158.4 billion that would be spent on importing the billets and coils used to produce the required products is also saved. Effectively, Pramukh Steels saves the country UGX 179.13 billion in forex expenditure per annum***. This saving can be increased with the establishment of DRI plants.

Table 8: Pramukh Contribution in terms of forex saving

Name of the product	Sale from imported billets and coils (MT/month)	Selling price (UGX/MT/month)			Total in forex expenditure per annum by importer (UGX Billion)
		From scrap	Imported billets	Difference	
TMT	4,000	2,868,200	3,300,000	431,800	20.73
Total	**4,000**	**2,868,200**	**3,300,000**	**431,800**	**20.73**

7.1.2.3 Madhvani Steel Ltd

The company is in phase V of the iron and steel production value chain; it imports billets and makes iron bars, which is its only product. It has an installed capacity of 40,000 tonnes and production capacity of 15,000 tonnes annually.

The company has a mining license located in Manafwa and plans to set up a pig iron processing plant at a total cost of USD 80 million. The required assistance from government is;

i) Tax holiday for a minimum of 20 years,
ii) Exemption of duty on importation of raw materials,
iii) Exemption of WHT/VAT/duties in imported plant and machinery and all other project related activities including consultancy services,
iv) Soft loans with government support, and
v) Assistance from the government on acquiring the required 100 acres of land

7.1.2.4 Kigezi Steel Company Ltd

This is a company that is yet to start operations but the directors indicated that they have plans of establishing a sponge iron plant. Assistance required from government to ensure this include;

i) A loan amounting to USD 40 million,
ii) Assistance to acquire land either in Namanve industrial park or 100 acres in Masaka, and

iii) Activation of MV Kaawa to provide transport services across lake Victoria from Tanzania to facilitate transportation of coal.

8. Conclusion

A developed iron and steel industry is the back borne of industrialisation. As the country is targeting becoming a developed economy by 2040 and using industrialisation as one of the avenues, building and strengthening the iron and steel industry is key to this process. With Uganda endowed with the one of the best quality iron ores (need less investment to process) in the world, the government can develop this industry by harnessing the low hanging fruits. This can be through setting up an incentive package for private investors that are venturing into iron ore smelting and in the short term, extending assistance to the identified industries that are close to phase II and already have plans to invest in iron ore smelting; Tembo and Pramukh Steel Ltd in the first phase. This will greatly boost the country's efforts towards industrialisation and eventually achievement of Vision 2040.