

BANSAL STEEL ROLLING MILL

BUSINESS PLAN

FOR

**NEW INVESTMENT IN MILD STEEL TUBE
MILL PLANT**

May 2022

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1.0 THE EXECUTIVE SUMMARY

Bansal Steel Rolling Mills Limited (BSRM) is an established private limited liability company incorporated in Tanzania on 3rd April 2008 with an authorized share capital of Tsh 4,000,000,000/=. The Company has a Certificate of Incorporation Number **64941**, Business License Number **BL No. 20000018553**, TIN **106-646-775** and VAT Number **40-001727-R**.

Since its incorporation, the Company has been actively engaged in the manufacturing, trading and import of steel products.

Set up at Plot No 2353, Block No 'E' Kisongo Industrial Area in Arusha region, the factory is one of the country's biggest manufacturers of steel products. After the established in 2008, it commenced operations in 2012 and has since been certified by the Tanzania Bureau of Standards (TBS) on Certificate Number 204 for flat bars and Certificate Number 142:2006 for rolled steel.

Its issued & fully paid share capital has since increased to Tshs 1,424,500 divided into 142,450 shares of Tshs 10,000.00 . It is now owned respectively by the following shareholder as detailed hereunder.

Table 1. Composition of Shareholders and Ownership

S/n	Name of Shareholder	No of Shares	% Shares
1	Balvinder Singh Bansal	23,742	16.67 %
2	Tejinder Singh Bansal	23,742	16.67 %
3	Amarjit Kaur Bansal	23,742	16.66 %
4	Gurmail Singh Panesar	7,124	5.00 %
5	Gobindgarh Export india Pvt Ltd	64,100	45.00 %

Funding for the establishment of the factory was obtained through an L/C-cum term loan and equity contribution by the Bansal Transport, a sister Company which offered a Corporate Guarantee

1.1 Proposed Mild Steel Tube Plant

BSRM seek to diversify concentrically and horizontally through the addition of new product that has technological and marketing synergies with existing product as well as developing a new product that is complementary to its core business and which shall be attractive to current and new customers respectively.

The Company proposes to improve viability of the plant by value addition to the existing steel metal production by installing additional and balancing facilities to produce more valuable downstream products, such as re-bars with massive tensile strength with ready market opportunity. Towards this objective, the company proposes establish 260mm Double Drive Machinery and TMT Quenching Box with Accessories parallel to the existing plant to produce such re-bars. Additionally, the Company is introducing new products of welded steel tube, Pipes and Structural, Square and Rectangle using High Frequency (HF) Welder for Tube Mill.

The following Tables 2, 3 & 4 summarizes the financial requirements for the new investment as well as for the loans and overdraft take over, the detailed information is as given below:

Table: 2 Summary of Capital Investment Items Cost Estimates

	Total Cost:USD: '000'
(1) Investment capital Items cost estimates (ICICE)	
Building	458
Plant & Equipment for Rolling Mill-British Std Bar	489
Plant % Equipment for Mild Steel Tube Mill Plant Bar	1,043
Sub Total	<u>1,989</u>
Pre-operational expenses	<u>81</u>
Subtotal	2071
(2) Add: Working capital	
Incremental working capital	<u>433</u>
Total: Capital Investment Item Cost Estimates	<u>2,504</u>

Table: 3 Proposed Financing Plan

Type of Funds	Proportion %	Total Cost:USD: '000'
Equity		
Self-Generated funds/Bank overdraft	18.94%	474
Term Loan	<u>81.06%</u>	<u>2,030</u>
Total	<u>100.00%</u>	<u>2,504</u>

1.2 Projected financial results and viability of the New BSRM project

On the basis of various operating assumptions contained in Annexes 1 to 4 and the proposed project's operations indicate that the New BSRM investment project is expected to be commercially and financially viable. On the strength of the base case scenario projections to 2037, and using the parameters outlined above as well as other assumptions detailed in the report, the following observations are in order:

- On a free cash flow to the Firm, the IRR is 19.70%. This is delivered on average gearing over the explicit term of the projection of 18.94% equity and 81.06% debt.
- The indication is that, the Project would be viable based on the very conservative assumptions.
- The cumulative Debt Service Coverage Ratio (CSCR) during repayment period is more than 2:1 indicating that the project will generate surplus, adequate to meet repayment obligations.
- General performance after implementation of the proposed project shows the Company's net worth portraying growth over a 5-year period and subsequently, throughout the period. Growth on the turnover is projected

to be from 11.65% in the second to 16.73% in the third year before it evens out at 1.5% annually.

1.3 The Market for Steel Products

Steel has uses in different areas from domestic such as kitchen utensils, food cans to commercial uses such as surgical kits used in hospitals to various civil construction works materials such as iron bars for airports, roads, housing, water, electricity, and other engineering infrastructures require considerable steel related raw materials. Cast steel is a form of steel with massive tensile strength making it useful in the construction of large structures as bridges, railways and high rise buildings.

Demand for steel products is driven largely by growth in the supporting sector of construction. Since the construction sector is rapidly growing thus pushing the demand for steel.

- According to Industrial data Tanzania's demand for steel stands at 440,336 tonnes a year;
- Imports of Iron and Steel was US\$ 427.88 million during 2018, according to United Nation's COMTRADE-data base on international trade;
- Imports takes up almost 200,000 tons equivalent to 45% of the local demand.
- Confederation of Tanzania Industries (CTI) has urged the Government to raise import duties up to 35% from 25% to be line with other East African States but also to prop up local production
- The push towards imports is mainly to meet the demand for high tensile strength –rebar's used for construction high rise buildings, bridges, and railways.
- Local producers do supply to Burundi, Kenya, Malawi, Rwanda, Uganda and Zambia. Zambia and Malawi are served by merchants.

While demand has been on increase, supply has remained stationery as imports have starred due COVID -19 pandemic that has disrupted the global supply chain for steel materials and products from China, South Africa Turkey and Ukraine,. As a consequence, it has affected the price of steel as it has been on the increase all along.

Apparently, the demand for steel in Tanzania is expected to rise next year compared to 2020. The overall outlook for the steel sector is positive and the demand is likely to pick up next year on the back of revival economic growth after COVID -19 and the Government's resolve to implement large scale infrastructure projects, such as Standard Gauge Railway Line, Stiegler's Gorge Hydropower Project, Construction of Bus Stands in Arusha and other Regions and Roads, will contribute to the growth of domestic demand.

1.4 Raw Materials

Steel is a material most conducive for circular economy as it can be used, reused and recycled infinitely. While iron ore remains the primary source of steel making, used or re-used steel in the form of scrap is the secondary raw material for the steel industry.

Scrap metals account for about 95% of materials used for rebar production while imported raw materials in form of chemicals account for 5%

Although, scrap is the main raw material for secondary sector but primary sector also uses scrap in the mix of Basic Oxygen Furnaces (BOFs) to improve efficiency, minimize cost of production and other process needs:

Scrap as raw materials it has the following commercial benefits:

- Easily and readily available and using it as secondary raw material (scrap) it reduces the use of new resources and by doing so energy is saved and environment is protected;
- Deliveries of materials from suppliers can be arranged exactly to meet the operational demands from day to day;
- Less time required to obtain delivery of goods;
- Reduces energy consumption and pollution;
- Lower costs for processing materials;
- Cost savings are passed over to consumers;

Most of the major steel producing countries like Japan, USA, and China are continuously increasing scrap-based steel production with proportionate reduction from primary route.

Steel scraps comes from various sources such as mill scrap, used structural items like beams, reinforced steel and plates, plant and machineries including pipes, tubes, old vehicle, domestic goods, automotive scraps, ships building industry, railways etc

Hence, there is a worldwide trend to increase steel production using scrap as the main raw materials as recycling of scrap helps in conservation of vital natural resources besides other numerous benefits. There is a worldwide trend to increase steel production using scrap as cycling of scrap help in conservation of vital resources besides other benefits like minimizing Green House Gas (GHG).

1.5 Economic, environmental impact and risk facing the project

1.5.1 Economic

The Bansal Steel Rolling Mill's product plays a crucial role in generating prosperity and welfare. As a Company it generates employment, tax revenue and innovation.

For the last three years the Rolling has created direct employment of 108 people and unknown number in the value chain with multiplier effect.

The existing manpower will be increased to 155 after the proposed modernization which includes officers and supervisors.

1.5.2 Environmental impact and

The Company is already established and operating a steel making plant consisting of an Induction Electrical Arc Furnace with an installed of capacity of 60 Ton. The Plant is fully operational, listed and licensed under EIA Certificate No 576 EC/EIS/1293 of 18th June 2014 that gives it the environmental clearance for implementation of the project.

The new investment is carried out within the existing premises. The administrative and ancillary infrastructure will similarly be used in the expansion of the project. Hence, the expansion and enhancement of capacity will be achieved with minimum resources.

In the process as well as in the auxiliary plants, along with the useful product several waste materials will also be generated. These waste materials include gaseous emissions, wastewater generation, solid waste and noise generations. The waste products produced by the steel melting unit are directly related to the metal type, the furnace type and the energy used.

By volume, gaseous waste is the largest waste source from the steel melting unit. Most of the gaseous metal emissions are captured in the emissions control systems attached to induction furnace.

The project is being implemented to meet the highest environmental standards is steel production.

1.5.2 Risk facing the project

i) Market Risk

Steel industry in Tanzania is exposed to foreign exchange risk. This is due to importation of raw materials from abroad and the volatility of the local currency. Global economic situation is also another market risk that influences the performance of steel industry. As most raw materials, technology and expertise are normally imported from other countries mainly the developed countries, there is associated market risk to the local steel producers who must rely on performance of suppliers' economies.

Global economic trends are unpredictable however their effects can be managed through internal formulation and implementation of business strategies that are set to absorb the effects - buying scrap locally for raw materials. Bansal Group is well diversified to various sectors of the economy such that, there are alternative to support a suffering entity by operations of the other entities under the group. Shareholders' fund is also an alternative to support the business during those situations.

ii) Competition

Competition within the country is also another aspect of market risk facing the steel manufacturers. Competition in the steel industry is at medium level based on the number of steel producers as well as the increasing demand for steel products.

Therefore, competition does not pose significant risk for company's performance unless the company does not have stable financial support to enable large scale operations. There is also increasing demand for steel products influenced by growth of various sectors in the economy.

iii) Management Risk

The Company is managed by Corporate Board of Bansal Steel Rolling Mill under the chairman and founder Mr. Balvinder Singh Bansal. All companies under the group are vested with competent and experienced management team to ensure effective implementation of policies and strategies as directed and controlled by the Corporate Board. Despite the fact that, two of the management members are family related, it has other Directors not part of family with the management team who have over 30 years of experience steel production process of iron bars and sections to understand and respond to the needs of clients.

There is also a well-defined organization chart to guide business management. This reduces management risk in the business as the structure facilitates flow of communication as well as showing delegation of authority. All major business decisions for the Steel Rolling Mill are made by the Board of Directors chaired by the Managing Director; Mr. Tejinder Singh Bansal who has over 8 years' experience in steel melting and manufacturing of iron bars and sections. Therefore there is minimal management risk as the management team is experienced and staffs

2.0 STEEL INDUSTRY

Steel Industry has evolved over a period. Globally recognised, steel is a cornerstone and key driver for world's economy. The industry directly employs more than two million people worldwide, plus two million contractors and four million people in supporting industries, including industries such as construction, transport and energy, the steel industry is a source of employment for more than 50 million people (Source: World Steel Association)

The industry remains at the heart of global development. The April Short Range Outlook, forecasted that in 2019 and 2020 global steel demand was expected to continue to grow, but growth rates would have been moderate in tandem with a slowing global economy. However, uncertainty over the trade environment and volatility in the financial markets continued and could pose downside risks to this forecast.

The industry recently concluded a global economic modelling exercise with Oxford Economics that found that in 2017 the steel industry sold US\$2.5 trillion worth of products and created US\$500 billion value added. For every \$1 of value that is added by work within the steel industry itself, a further \$2.50 of value added activity was supported across other sectors of the global economy because of purchases of raw materials, goods, energy and services. This generates over US\$1.2 trillion of value added.

Steel is essential to society. And as a permanent material which can be recycled over and over again without losing its properties, steel is also fundamental to a successful circular economy. From transport systems, infrastructure and housing, to manufacturing, agriculture or energy, the industry is continuing to expand its offer of advanced high strength steels which reduce the weight of applications and encourage circular economy practices. For society, the benefits include durable products, local jobs, reduced emissions and the conservation of raw materials for future generations.

The industry around the world is now grappling with the effects of COVID-19. The decline in global steel demand in the first half of 2020 was predictable but as it came after slower than expected growth in 2019 due to the continuing manufacturing recession in the developed countries. However, it is possible that the impact on steel demand in the medium-term may turn out to be less severe than that seen during the global financial crisis in 2008/9. The steel industry remains at the core of a sustainable modern society and our products will form the basis for the economic recovery

Steel will continue to be the backbone and enabler of society's evolution and progress. It will make the world a better place to live. Tomorrow's smart cities will be built on steel. As an infinitely recyclable and reusable asset, using steel helps to reduce the burden on the Earth's resources.

3.0 BANSAL STEEL ROLLING MILL

The Company was registered in Tanzania in 2008 and since its incorporation, it has been actively engaged in the establishment of manufacturing process, trading export and import of steel products.

The Company invested massively in setting up of the factory in the Arusha outskirts. Funding for the factory which was partly equity and partly loans. Total investment was about USD 3.22 million with 56.5% equity and 43.5% loan. The Company had invested a total of USD 1.82 million in purchase of land, fencing the factory compound, water and drainage system, power, offices, road networks, and other miscellaneous expenses in the establishment of the factory. The other USD 1.50 million was obtained through LC cum loan were supported by Exim Bank. The factory commenced operations in June 2012.

Bansal Steel is produced via the Electric Arc Furnace (EAF) route using 100% high quality scrap. EAF uses electricity to melt recycled steel. Additives, such as alloys, are used to adjust to the desired chemical composition. Electrical energy can be supplemented with oxygen injected into the EAF. Downstream process stages, such as casting, reheating and rolling, are similar to those found in the Blast Furnace-(BF) -BOF route. (*Electric-based steelmaking enjoys a much comfortable position than integrated classical blast furnace – oxygen steel making facilities, regarding greenhouse emissions.*)

Recycled steel forms virtually 100% of the raw material required by the environmentally sustainable electric arc melting process

The Company seeks now seek invest into integrated manufacturing process to produce High Tensile Bars . It will continue to make the basic steel as well as British Standard Grade HTD bars using the water quenching process to obtain the required standards Vanadium Process. This new will have a processing capacity of 5,200 Mt per annum- (20 tons per day). All products will conform to British Standards. Thus high quality of the raw material will be required to deliver high quality steel bars with required specifications.

It is also seeking to invest into High Frequency (HF) Welder for Tube Mill that will produce steel pipes and structural, square, rectangle, angles, steel sections for civil construction and fabrication. This new will have a processing capacity of 5,200 Mt per annum- (20 tons per day).

The existing plant will continue to produce steel bars at its rated capacity of 60 ton per day or 15,600 tons annually.

4.0 MANAGEMENT AND ORGANIZATION

4.1 Management

A Board of Directors manages Bansal Transport Limited. The board comprises two directors. These are;

Mr. Balbinder Singh Bansal	Tanzania	Chairman
Mr. Tejinder Singh Bansal	Tanzania	Managing Director
Mrs Amarjit Kaur Bansal	Indian	Director
Mr Gurmail Singh Panesar	Kenyan	Director
Gobindgarh Export india Pvt Ltd	Indian	Indian

The Board formulates and determines the policy and strategic direction of the company. The chief executive officer Mr. Tejinder Singh Bansal is the Managing Director. He reports to the Board of Directors composed of the the shareholders.

The Managing Director responsible for all major decisions, overall running of business, corporate planning, setting up business strategies, monitoring implementation and achievements against set goals, policy making, financial planning and administration.

A team of three people run the day-to-day affairs of the Bansal Steel Rolling Mill and make the management team. These include;

- The Chairman
- Executive Director- Managing Director

4.2 Directors

- Mr. Balbinder Singh Bansal - Chairman
Age 75 years
Balbinder Singh Bansal a founder member of the Company with extensive steel and transport management experience in and outside Tanzania has a deep insight in the operations of steel industry. As a result, he believes strongly in harnessing the knowledge and capability of Steel Rolling Mill to diversify into new products.
- Mr. Tejinder Singh Bansal – Managing Director
Age 43 years
Teji has a Degree in International Business Administration from the United States International Univesristy based in Nairobi. He has six years' experience in marketing and transport businesss.
- Mr Gurmail Singh Panesar Operations Director
Age 72 years
Has over 30 years' experience and knowledge in the industry. His experience with operations dated in 1967 where he had successfully site and commissioned a number of Companies in Kenya. He was behind setting up the Bansal factory in Arusha

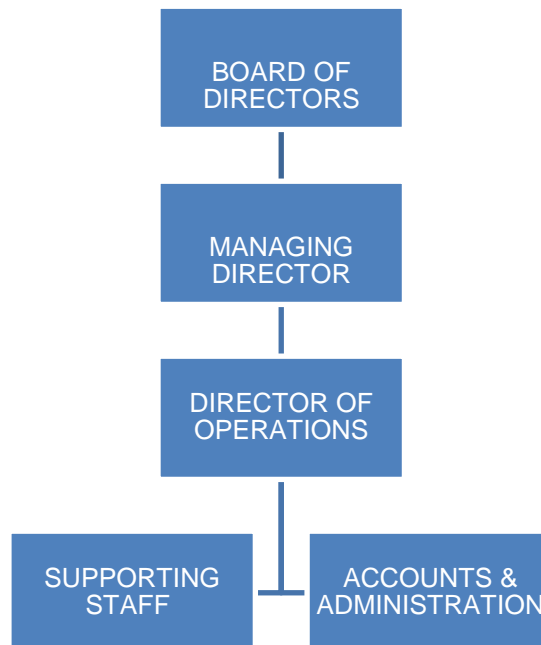
4.3 Management Team

As explained earlier, the Company is managed by Corporate Board of Bansal Steel Rolling Mill under the chairman and founder Mr. Balbinder Singh Bansal. The Company is vested with competent and experienced management team to ensure effective implementation of policies and strategies as directed and controlled by the Corporate Board. Despite the fact that, most of the management members are family related, the group ensures all management members have competent experience in the respective field the management team. The business plan shall consist of the following:

- The Chairman
- Managing Director
- Director of Operation

4.4 Organization Structure

In this organization structure of human resources it has a clear line of command, duties and responsibilities are all clearly spelled out. All these are implied in the organization chart below: -Figure 1.



In the context of the above, the organization chart is designed to optimize its “objective function” of Bansal Stee Rolling Mill. Everything the management team does is linked to the objective function

5.0 STEEL MARKET

As populations grow and nations around the world seek to improve their standards of living, it is inevitable that the demand for steel will increase. It is a critical product because no other material has the same unique combination of strength, formability and versatility.

The new generations of steel continue to be developed that make it possible for manufacturers and builders to implement durable, lightweight designs.

Going forward, materials that are ever stronger and meet higher environmental standards will be needed.

In Tanzania, the steel consumption growth is projected to grow even further in the future for two reasons:

- It is spurred by rapid growth of cities population, engineering, transportation and electricity subsectors.
- Tanzania's steel consumption per capita is comparatively low and therefore there is room for growth.

5.1 Target Market

The Company has segmented its market geographically, by customer type, and by consumer category. It is currently selling its products through wholesale, Dealers and Contractors. Below are major clients based in Dar es Salaam and Arusha.

1. Bulk Distributors
2. Aim Steel Ltd
3. Five Star Hardware
4. The hardware Deport
5. Tanga General Hardware Store
6. MM Steel
7. Mukesh hardware and
8. Oluto Trading Ltd

There also a number of hardware and contractors buying regularly from the factory due to quality aspects and service various civil works contracts in Tanga, Moshi, Arusha and coastal region

5.2 Costing and Pricing

In costing its steel products, Bansal Steel Rolling Mill separates overheads from direct costs related to producing and marketing of steel products. This is necessary as it enables management set appropriate prices and make properly informed capacity utilization decision.

5.3 Pricing objective

Bansal Steel Rolling Mill's major thrust is to acquire a large market share although it is therefore taking. It has though, have to generate enough cash flow to service its debt. Therefore price objective shall be guided with three objective: making profit, market share growth and cash flow generation.

5.4 Bases for pricing

The setting base is cost plus will also be competitors price. By setting the close to the competitors, the Company will be able to win more clients because of quality aspects.

If there shall be no major competitor in its class, the basis shall be what client/consumer is will to pay for the premium product

5.5 Term of Sale

Bansal Steel Rolling Mill's preferred terms of sale is cash. Credit sales is offered only when it is necessary to attract enough sales. The Company refrains from consignment sales, not only because it exposes it to the risk of default and delays, but also because they do not motivate dealers to sell. It recognizes that not using consignment system subjects it to competitive disadvantage. This means it had to develop other strategies to make it up for this disadvantage. It has established a credit rating system by which every prospective credit customer is assessed before credit sales is approved

6.0 PROJECT IMPLEMENTATION

BSRML's proposed PD project is expected to be implemented over a period of six (6) months from the first disbursement of its loan when an order for the equipment and machinery for its diversification of its products has been made - i.e. within the first week of July 2022. It is during this time that construction of the building to accommodate the said plant and machinery will also start.

Accordingly, the tentative physical implementation schedule for the establishment of BSRML's Products Diversification project is expected to be as shown in figure 1 below.

Figure 2: Tentative implementation schedule of BSRML's proposed PD project

Activity	No. of months per activity	Duration in months					
		July 2022	Aug	Sep	Oct	Nov	Dec 2022
Start of civil works for building of steel tubing machinery	3						
Order of and shipment of equipment and transport to Arusha	4						
Installation of all equipment at Arusha	1						
Trial runs up to commissioning	1 months to end Dec 2022.						

The period of six (6) months estimated to complete the implementation of the proposed project is considered reasonable for the size of the project as well as the accessibility to the site of the factor.

Commercial operations of the newly installed steel milling machinery are expected to start at the beginning of January 2023.

7.0 CAPITAL INVESTMENT COST ESTIMATES AND FINANCIAL PLAN

7.1 Investment Capital Items Cost Estimates (ICICE)

The investment capital items costs of BSRML's PD project are estimated at USD 2.504 million. The breakdown of these costs is indicated in Table 7 below.

Table 7: Breakdown of Investment Capital Items Cost Estimates

Investment Capital Items / Year	Amount – USD
New factory building	457,500
Plant and Equipment	1,531,929
Pre-operational expenses	81,373
Add Working Capital	433,213
Total	2,504,015

Detailed cost estimates of the expansion programme are shown in annexes 1.1 and 1.2 which form part and parcel of this Business Plane.

7.2 Basis of investment capital items cost estimates

The basis of the investment capital items cost estimates is discussed below.

(1) Civil works

Cost estimates for the civil works – i.e. the extended factory building that will house the plant and machinery for the new steel tubing division products -are based on a contractor's estimates, who is going to construct the building. There will be no new building for the plant and machinery that will be procured for the manufacture of reinforcement steel round bars with a compliance of British Standards as the existing building that accommodates machinery for the manufacture of non-British Standards compliance is sufficient to accommodate the required machinery for the Company's new product.

(2) Plant and machinery

Cost estimates for plant and machinery for both the machinery for the manufacture of reinforcement steel round bars of British Stds compliance and steel tubing products are based on proforma invoices from M/s Avtar Foundry & Workshop of Mandi Gobindgarh – 147 301 (Punjab) INDIA. Local inland cost estimates for clearing the machinery from the port of Dar es Salaam, Tanzania and transporting to Arusha at the Company's site are based on a proforma invoice from M/s Naibac Enterprises of Dar es Salaam, a registered Clearing and Forwarding Agent.

(3) Preoperational expenses

These expenses are based on current rates from financiers – in particular the CRDB Bank PLC.

Except for preoperational expenses, all the other investment capital items cost estimates include an element of contingencies.

7.3 Initial Working capital cost estimates

The initial working capital cost is estimated at USD 433,213/=. Details of these estimates are shown in annex 3.2, which is also attached to this project business plan.

7.4 Proposed Financing Plan and source of funding

(1) Financing plan

The capital investment items costs for BSRML's PD project are planned to be financed by way of both equity – self-generated funds and loan funds. Should the equity funds be inadequate to meet the initial working capital requirements, a bank overdraft is planned to be used to cover the gap.

The funding plan of the Company's proposed PD project's CIICE is indicated in Table 8 below.

Table 8: Financing plan – USD: '000'

Type of funds	USD: '000'
Equity - Self generated funds/Bank overdraft	474,153
Term Loan – equipment & O/D	2,029,862
Total	2,504,015

(2) Source of funds

Following BSRML's decision to proceed with the physical implementation of its proposed Products Diversification project, the Company is seeking a term loan of USD 1,599,862/= and a bank overdraft of USD 430,000/=from the CRDB Bank PLC.

8.0 PROJECTED FINANCIAL RESULTS

Financial projections have been prepared to see what the expected financial results are going to be like for a fifteen-year period of operations. The projections are based on various assumptions that are indicated in annexes 2 to 4. Three of the main assumptions underlying the financial projections are discussed hereunder.

8.1 Assumptions of the financial projections

Three of the assumptions underlying the financial projections that are discussed here are those related to (1) market, (2) inflation and (3) production.

(1) Market related assumptions:

Based on the market for building materials, in particular steel reinforcement bars and steel tubing ones as described in chapter 4, it has been assumed that the demand/supply gap for these product will remain in place during the whole fifteen-year period of BSRML's PD project. Accordingly, the estimated quantity of its new products that the Company is expected to sell is as indicated in Table 9 below.

Table 9: BSRML’s expected sales quantities of its new products – metric tonnes:

9.1 If the plant utilised in full capacity the project will employ a total number of 100 employees for which distribution is as follows:

	MEN	WOMEN	TOTAL
LOCAL	85	10	95
FOREIGN	5	-	5
TOTAL	95	10	100

The new project will also generate indirect employment through its subsectors, like transportation and construction sectors. It is estimated over all there will be 1000 to 2000 indirect jobs will be generated.

Products/Year	2023	2024	2025 -2036
Reinforcement steel bars of British Stds	3,900	4,290	4,934
Steel tubing products	3,900	4,290	4,934

(2) Inflation related assumption:

So as to reflect the impact of inflation on the expected financial results of BSRML’s PD project’s commercial operations once on stream as expected in early year 2022, an inflationary index based on an inflation rate of 1.50% has been factored into the financial projects. It is, however, pertinent to point out that, as per the latest Bank of Tanzania Monthly Economic Review of January 2022, shows inflation decreased to 4.6% in December 2022 from 4.7 above rate of inflation factored into the financial projections is lower than that of 3.3% for July 2020 for the Tanzania economy. Furthermore this inflation rate has been assumed to apply for both revenues and operating costs.

Arising from the above, the inflationary indices used in the financial projections are indicated in Table 10 hereunder.

Table 10: Inflationary indices factored in the financial projections

Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Inflationary index	1.00	1.02	1.03	1.05	1.06	1.08	1.09	1.11	1.13	1.14	1.16	1.18	1.20	1.21

(3) Production related assumptions:

Typical of virtually all industrial manufacturing operations, the quantity of final products is dependent on several factors, such as, to mention only a few, the quality of input raw materials for the manufacture of the respective product, the recovery rate (efficiency) of the manufacturing machinery as well as the state of the market for the product in question. For the purpose of this business plan the loss of raw materials during the manufacturing process is 10% for steel reinforcement bars – whether or not compliant to British standards while that of tubing products is at 2%.

Furthermore, the planned input capacity utilization is as shown in Table 11 below. The annual compound growth rate (CAGR) of this capacity utilisation has been assumed to be 10% and 15% for the 2nd and 3rd year of production respectively. Thereafter, the capacity utilisation has been planned to remain at the 3rd year's level for all the remaining projected operational years of the PD project.

Table 11: Planned input capacity utilization

Year	2023	2024	2025-2037
Planned input Capacity Utilization	75.00%	82.50%	94.88%

Finally, it is important at this juncture to point out that although it is the intention of BSRML to apply for a Certificate of Approved Enterprise for its PD project from the Tanzania Investment Centre (TIC) so as to get tax benefits, the projections have been prepared without these tax incentives due to time constraints.

8.2 Expected financial results

Detailed expected financial results of the operations of BSRML following the complete and successful implementation of its Products Diversification project are contained in appendices 1 to 7.

Appendix 1 shows the projected profit and loss accounts. Appendix 2 details the projected cash flows. Appendix 3 indicates the projected balance sheets. Appendix 4 shows the internal rate of return (IRR) of the project. Appendix 5 shows the profitability sensitivity analysis of the project. Appendix 6 is the payback period of the project. Appendix 7 indicates the Expected Key Financial Performance Indicators (EKFPs) of the PD project. This appendix is reproduced here below as Table 12.

Finally, as the PD project is only a diversification of the Company's saleable products, meaning that the existing saleable products will continue to be produced, consolidated financial projections of the operations of the company have also been prepared for the period from year 2023 to year 2037. To this end, one set of financial projections for the existing operations and another for consolidated ones are also part of this Business plan. Schedule 5 shows the EKFPs of the consolidated operations. This schedule is also reproduced hereunder as Table 12

On the basis of assumptions mentioned above, the proposed project's operations indicate that the investment is expected to be a cash-cow as it is expected to generate not only adequate cash to meet all its financial requirements but also surplus cash balances at the end of each financial year from the first year of its operations.

Furthermore it is expected to have an after tax internal rate of return (IRR) of 19.70%, which is considered acceptable for a US dollar denominated loan. This expected IRR is higher than the expected interest rate of the CRDB's own funds of 7.50% p.a. So the project is considered viable and acceptable.

8.3 Sensitivity Analysis

Since the profitability of BSRML's PDE project and that of the company as a whole may be affected by various factors within its operating environment, such as changes in compound annual growth rate (CAGR) of the demand for its steel products arising out of changes in market conditions or prices of its raw materials – e.g. scrap metal - a sensitivity analysis has been carried out on the operations of the proposed PD project to find out which factors within its operating environment have greater impact on its profitability. The sensitivity analysis has considered changes in six factors, namely:-

- selling prices of final steel product ;
- operating costs;
- capacity utilisation;
- loss during manufacturing process;
- compound annual growth rate of its capacity utilisation; and
- number of working days per year

The analysis has been done on the assumption that a change in any one of the six factors will happen mutually exclusive of the other five.

The sensitivity analysis has shown that the profitability of the project is expected to be most sensitive to changes in operating costs, followed by changes in selling prices. Changes in number of working days per year and changes in capacity utilisation have the same effect and are third in having greater impact on its profitability. Changes in the rate of loss during the manufacturing process are fourth in their impact on its profitability. Changes in the compound annual growth rate of its capacity utilisation – or demand for its steel products have the least impact on the project's profitability.

The resultant IRR arising from a 10 % change in any of the above six factors are shown in Table 13 below:

rate of loss during the manufacturing process

Table 13: Sensitivity Analysis Summary

S. No.	Particulars	Resultant IRR
	Base case	19.70%
1	10% Increase in operating costs	(4.64)%
2	10% Decrease in selling price	4.12%
3	10% Decrease in number of working days	17.78%
4	10% Decrease in capacity utilisation	17.78%
5	10% Decrease in CAGR of its capacity utilization	19.21%
6	10% Increase in rate of losses during the cleaning process	19.36%

As competition intensifies, the possibility of selling prices being reduced becomes very real. Also during a lull in economic activities as at this time of the war in Ukraine and Russia, the selling price of building materials are likely to go up.

Since the cost of utilities and other industrial inputs, metal scrap included, is somehow beyond the influence of consumers, there is also a real possibility of operating costs going up due to an increase in the cost of raw materials and inputs like these ones.

Yet the reality of the Tanzanian economy is such that as the cost of raw materials and other inputs for manufactured goods rises, the selling prices of products made out of those materials and inputs also go up. Under the circumstances, it is almost a certainty that, should operating costs of the proposed project go up, the project would increase the selling prices of its products, thus substantially nullifying the negative impact of any increase in its operating costs. As for the changes in capacity utilisation – i.e. quantity of goods manufactured – subject to changes in the growth of economic activities, there is a probability of a reduction in capacity utilization of the plant and machinery of the proposed project.

In context of the results of the sensitivity analysis the Management of BSRML is advised to be on the watch out on their operating costs, particularly their manufacturing costs.

8.5 Bank Overdraft Request

As stated in Chapter. Regarding financing part of the Capital Investment Items Cost Estimates (CIICE) of the Products Diversification (PD) project, BSRML is likely to resort to use a bank overdraft – estimated at USD 430 thousand. The main reason for this quantum of bank overdraft arises from the need for the company to have a minimum stock of imported H. R. coils raw material that is sufficient for a period of three months at all times.

9.0 ECONOMIC IMPACT

The economic impact of implementing BSRML's Products Diversification project to Tanzania is expected to be positive. The project's operations are expected to impact positively in three economic aspects. These are:-

- direct employment generation;
- tax payments to the government; and
- economic multiplier effects

Each of these aspects is briefly described hereunder.

9.1 Direct Employment

The project is expected to provide direct employment for at least 50.

9.2 Government revenue

As the operations of the proposed project are expected to be undertaken in a profitable manner, BSRML is expected to generate various taxes for the Government, in particular income taxes which as per appendix 1 are projected to increase from USD 0.075 million during the first year of its operations - i.e. year 2023 to USD 0.268 million in the fourteenth year of its projected operational period.

9.3 Multiplier effects

In addition to the direct economic effects stated above, BSRML's proposed PD project's operations are expected to generate various economic multiplier effects within the country's economy. These include – to mention, just two of them, i.e. (a) boosting the incomes of local suppliers of raw metal steel scrap and (b) saving foreign currency for imports of building materials - metal bars that are compliant to British Standards.

10.0 ENVIRONMENTAL IMPACT

The project is considered and expected to be environmentally friendly as described below.

10.1 Environmental impact during the implementation period

During the implementation of the project – i.e. when construction of the building for the steel tubing division as well as installation of machinery, there will be some negative environmental pollution of basically two types, namely:-

- noise; and
- dust from the construction and installation activities.

As the construction and other associated activities will be carried on in a manner that is approved by relevant Arusha City authorities, whatever noise and dust arising from these activities is tolerable and acceptable and usually of a short duration. Typical of construction activities, there will be protection of the areas under construction so that whatever waste of materials is retained within the site until completion of these activities when such waste will be carted away for dumping to locations specifically set up by municipal authorities to accommodate such waste.

Furthermore, the nature of this project is such that during its implementation, it not expected to lead to heavy excavation of the plot on which it will be located. Due to this the establishment of the project on the identified site is not going to lead to natural calamities – e.g. flooding due to blockage of water from any direction of its neighbourhoods that passes through that site.

Accordingly, save for the noise and dust caused during its implementation, the impact of its construction activities to the environment may also be billed as friendly.

10.2 Environmental impact during operations

When the project becomes operational, there will hardly be any negative environmental impact as there will likewise be very little dust and noise during the operation of the mills. Any waste from the foundry is recycled.

Liquid waste will be disposed of by way of approved sewage disposal system – namely, that of soak and cess pits. Solid waste will be collected and periodically picked up by refuse trucks of either the Municipality or any other authorised refuse collectors for dumping at various approved municipal refuse dump pits.

11.0 RISK FACTORS

As in the case of sensitivity analysis, within their operating environments, businesses also face various risks that are beyond their control, which if

not properly dealt with may negatively impact on their profitability. So as to enable BSRML's Management to know what risks the company is likely to face and how to deal with such risks, in the event they occur, an analysis has been carried out to find out the risks that BSRML business operations face and probable mitigation measures that may be applied to either minimize or neutralize or completely avoid such negative impact.

11.1 Risks BSRML is likely to face

For BSRML, the risks that its operations may face and the measures to mitigate their negative impact are stated in in the table below.

Table 17: Risks that BSRML is likely to face and attendant measures to mitigate their adverse impact on its operations

RISKS	MEASURES TO MITIGATE ADVERSE IMPACT
<p>1. Economic</p> <p>(a) A recession – locally or source countries of its customers If a recession sets in a country’s economy, it reduces economic activities within the country’s economy thus reducing the purchasing power of the people. This lowers demand for goods and services, which in turn leads to a slump in business’ profitability, including BSRML’s.</p> <p>(b) Hyper inflation Severe inflation also stifles the people’s purchasing power thus reducing their demand for various products and services. The economic impact of hyperinflation if it sets in would be the same as those of an economic recession.</p>	<p>(a) Build internal capacity to control operating costs so that BSRML’s operations are not too badly affected by low demand for its products/services.</p> <p>(b) Diversify the types of its clientele as a hedge against a recession since the impact of a recession is not the same for all clients.</p> <p>(c) Carry out a review of its tariffs with a view of lowering them to a level that results in continuing with its operations profitably by way of getting more customers.</p>
<p>2. Strategic Strategic risks are those arising from changes in government measures/policies that lead to negative impact on the business prospects of commercial enterprises such as BSRML. For example the government may introduce fiscal measures that impinge on the capacity of a commercial enterprise to sustain its profitability– e.g. categorising expenses that were previously tax allowable as no longer tax allowable.</p>	<p>(a) If an anti-business measure is introduced, with the support of industry/trade associations – e.g. the Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA) – the affected enterprise, say BSRML, would have to engage the Government with a view of retracting such measure(s).</p> <p>(b) Business entities such as BSRML have the obligation to behave as good corporate citizens and fulfil their responsibilities to government – e.g. paying their due taxes - and within their communities, thus dissuading the government from changing its pro-business measures/policies to anti- business ones.</p>
<p>3. Industry The major industry risk is that of competition from other industry operators/enterprises particularly in areas like that of tariffs for, and quality of, services provided both of which affect levels of demand for the business’s products. In the maize flour manufacturing industry, selling prices and quality of products are sensitive issues. If there is an oversupply of flour, there is usually a downward pressure to reduce tariffs so as to get more customers. A reduction in flour selling prices could result in an adverse impact on revenues and profitability if not followed by an increase in customers – the sensitivity analysis has shown that lowering of selling prices of flour is the second factor in negatively impacting on a flour miller.</p>	<p>(a) Undertaking effective marketing in line with the marketing strategies mentioned in the marketing section;</p> <p>(b) Management to be more resourceful in how to motivate its human resources for them to raise their productivity at minimum cost so as to lower overall operating costs.</p>
<p>4. Financial The major financial risk for BSRML is that of currency exchange rate risk. Since the company is not a foreign currency earner, some of its operating costs - e.g. imported spare parts for its machinery - may escalate due to the depreciation of the Tanzania shilling against the USD, causing the undertaking to suffer exchange losses.</p>	<p>(a) Management to devise a pricing policy of cost plus or something similar to this which enables the company to have capacity at all times to operate profitably.</p> <p>(b) To put in place a practice that allows very little credit to its patrons/customers so that its liquidity is high to the extent of enabling it to reinvest part of its spare cash in short term monetary instruments to cover any exchange losses that may occur.</p>
<p>5. Political, social, and religious disturbances</p>	<p>To fend off disturbances of a political, social or religious nature and so maintain peace and stability in the country, it is incumbent upon business entities to contribute positively to the</p>

Disturbances – whether political, social or religious – harm business as they create insecurity within the populace, thus leading to people to reduce their momentum for engaging in economic activities.

sustenance of a country's peaceful and stable environment. One way of doing this is to contribute to improve the living standards of most disadvantaged communities – e.g. giving donations to such communities.

11.2 Conclusions

In the pre-internet era, the probability of any of the above risks occurring in Tanzania during the life time of an enterprise appeared remote. However, following the world globalisation – since the internet era set in – the probability of any of the above risks occurring in the country is classified as either HIGH, or MEDIUM or LOW.

In the context of the above, the probability of, for example, risk no. 1 (a) occurring in Tanzania may be classified as **high+**, due to the status of the economies of the countries it mostly trades with. The world economic recession that hit most countries in year 2008 has shown that an economic recession that occurs in an overseas country's economy which is a major trading partner with other could spill over to the economies of its trading partners too. Equally, risk no. 2 could at present be classified as **medium-** as currently the government is undertaking quite costly infrastructural projects that need substantial public funding to implement. On the other hand, the probability of risk no. 3 happening in Tanzania may currently be classified as **low**. This is due to the ever-growing country's population which required shelter for their residences and offices for those opting to become entrepreneurs.

Arising from the above paragraph, it is therefore important for businesses like BSRML to have in place at all times measures to counter the impact of the occurrences of any of the risks mentioned herein above. To this end BSRML's management is advised to devise measures to guard itself against or mitigate any adverse effects arising from the occurrence of any of the risks stated above during its operations.

12.0 SUCCESS FACTORS FOR THE PROPOSED PROJECT

Three factors must be in place for the proposed project's operations to succeed. These are first, availability of a market, second, availability of inputs as well as utilities; and thirdly sound management. Each of them is briefly explained hereunder.

12.1 Market availability:

The basis of going into business is the existence of a market for the steel product or that a business is going to provide.

Chapter 5 shows that in Tanzania, the steel consumption growth is projected to grow even further in the future for two reasons:

- It is spurred by rapid growth of cities population, engineering, transportation and electricity subsectors.
- Tanzania's steel consumption per capita is comparatively low and therefore there is room for growth.

In view of the foregoing, the company should expect to realise the projected financial results stated in chapter 11 herein above.

12.2 Inputs and utilities availability:

The crucial inputs and utilities for the success of BSRML's PD project are raw materials - i.e. metal for its reinforcement steel bars of British Stds and H.R. coils for its steel tubing division. While scrap metal is available locally in adequate quantities, what matters is its final delivery to the factory particularly where heavy scrap metal is involved. As for the H. R. coils which are imported, there is assurance the company will get them as its sister company - the Bansal Transport Limited (BTL) - earns nearly 60% of its revenue in foreign currency. So BSRML is expected to enter into an arrangement for the former to procure some of its H.R. coils.

To hedge itself against electricity outages from the national grid and pending the materialization of the Stiegler's gorge massive electricity generation project by the Tanzania government, the company already has a standby generator that serves its electricity power requirements whenever electricity from the national grid is out for a sufficient time to finalise whatever raw materials that had already started being processed.

All in all therefore, BSRML is not expected to experience any problems in sourcing its inputs and utilities.

12.3 Sound management:

That BSRML is managed soundly is a fact not in doubt as the company is headed by a board of directors that has proven itself to be sound managers of their existing business.

13.0 CONCLUSION AND RECOMMENDATIONS

In the context of what has been stated regarding BSRML's proposed PD project in the foregoing chapters of this write-up, it may be concluded and recommended as under.

13.1 Conclusions

It is apparent from the foregoing chapters that the proposed PD project is expected to be profitable. There is also an ample market for its products. The project is also commercially viable as it is expected to be a cash-cow that ends with positive cash balance yearly from the second year of its become operational.

The project, if successfully implemented, is expected to have an internal rate of return of 18.54% that is considered accepted.

The economic impact for implementing and operating the project is also positive.

Lastly and most important, the operations of the project are also friendly to the environment.

13.2 Recommendations

As the project analysis shows that the proposed project is technically sound, commercially, economically and financially viable as well as environmentally friendly, it is recommended BSRML's PD project be implemented as described herein above so as to realise its expected benefits.