

# **FEASIBILITY STUDY**

**FOR THE IMPLIMENTATION PROGRAMME**

**OF**

**M/S METAL GLORY TANZANIA COMPANY LIMITED**

**IN**

**ESTABLISHING AND OPERATING A PROJECT FOR  
MANUFACTURING HIGH-QUALITY CORRUGATED ROOFING  
SHEETS**

**PREPARED BY**

**M/S METAL GLORY TANZANIA COMPANY LIMITED**

**DATE: JANUARY 8<sup>TH</sup>, 2025**



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## **METAL GLORY TANZANIA COMPANY LIMITED**

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**M/S METAL GLORY TANZANIA COMPANY LIMITED**  
**INVESTMENT PROPOSAL FOR ESTABLISHING AND OPERATING A PROJECT**  
**FOR MANUFACTURING HIGH-QUALITY CORRUGATED ROOFING SHEETS**

## **1. INVESTMENT PROPOSAL**

M/S METAL GLORY TANZANIA COMPANY LIMITED has prepared this feasibility study for the company's implementation program in establishing and operating a project for setting up facilities for manufacturing high-quality Corrugated Roofing Sheets in Plot Number 248/249, Nelson Mandela Road, Tabata Matumbi, Ilala District, Dar es Salaam Region.

Corrugated Roofing Sheets is made from rolled iron sheet, which are mostly covered with a zinc-coating layer, and then the color-painting layer, and then corrugated into different designs, which are delivered for use at the construction sites.

Originally, roofing sheets were made of pre-painted galvalume steel sheet, which is rolled steel sheets coated with zinc-aluminum-silicon-coated and then roll-formed into corrugated sheets.

The business plan has been investigated to analyze the all-necessary resources required for the implementation program. We also assess its economic viability for presentation to the company's promoters (Shareholders) to allocate funds and machinery and equipment to supplement the equity contribution.

Types of Metal Roofing performances:

1. Cooper-Extremely long-lasting, very soft with low melting temperature.
2. Aluminum-Long lasting, Resistant to salt water corrosion.
3. Zinc-Extremely Long Lasting, Resistant to corrosion, and lowest melting point.
4. Steel- Three Variations: galvanized, galvalume, and weathering steel (Corten).
5. Tin- often Referring to steel. No longer commonly applied.

## **2. COMPANY BACKGROUND**

**M/S METAL GLORY TANZANIA COMPANY LIMITED** is a privately owned company registered and incorporated in Tanzania by the Registrar of Companies on the 28 of July 2024 with a certificate of Incorporation No.: **176192402**.

There is an extensive market potential for the company's intended project manufacturing of corrugated roofing sheets under this implementation program as the market is growing day by day, especially in urban as well as rural areas for Housing, Real Estate, commercial & residential Projects, etc. The intended project in its implementation program will manufacture different kinds of corrugated roofing sheets.

A recent survey was undertaken by M/S METAL GLORY TANZANIA COMPANY LIMITED, has realized that there is a high demand for high-quality corrugated roofing sheets which will be made suitable for Housing, Real Estate, commercial & residential projects in rural and urban, etc.

There are several factors that will make the proposed project participate in the market such as quality and goodwill there are few manufacturers and importers of corrugated roofing sheets that can compete with the company's quality products with good services.

In the future, the intended project is also expected to export the corrugated roofing sheets to the neighboring countries to earn foreign currency, especially in this implementation program.

## **3. THE COMPANY'S OBJECTIVES**

M/S METAL GLORY TZ, COMPANY LIMITED, is a company of project for carrying on the business of manufacturing high-quality corrugated roofing sheets. The mission of the project is aimed at production and marketing high-quality corrugated roofing sheets for the local market to achieve the following Objectives:

- A. To foster the growth of the corrugated roofing sheets manufacturing industry in Tanzania.
- B. To reduce dependence on external sources for the importation of roofing sheets.
- C. To promote the Local market for locally produced corrugated roofing sheets.

- D. To promote the brand roofing sheets of quality locally.
- E. To promote growth and expansion of the private sector.
- F. The company will create more employment (more job opportunities for unskilled professionals and technicians, etc.).
- G. Skills development (human resources development) through job training and use of modern Chinese machinery and application of new technology (Chinese technology).
- H. Income generation, alleviation of poverty, and improvement of their social welfare.
- I. The company contributes to the government revenue through corporate tax such as SDL, PAYE, service levy, stamp duty, NSSF, WMA, and WCF.

#### **4. PLAN AND PROSPECTS**

- High-efficient production with good quality.
- To increase the export market to neighboring countries hence resulting in foreign earnings in addition to the prevailing local market.
- To purchase and import new plant & machinery and workshop equipments with the introduction of new technology.
- To increase the volume of production capacity of galvalume corrugated roofing sheets.

#### **5. SHAREHOLDERS (PROMOTERS).**

The Following sponsors are promoting the proposed project M/S METAL GLORY TANZANIA COMPANY LIMITED.

M/S METAL GLORY TANZANIA COMPANY LIMITED's Shareholders and Positions.

S/N	NAME OF SHAREHOLDERS	NO. OF SHARES	NATIONALITY	SHAREHOLDING PERCENTAGE
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1.	LI SONG	8000	CHINESE	80%
2.	ZHU XIAOCHEN	1000	CHINESE	10%
3	KONG WENCHAO	1000	CHINESE	10%

The share capital of the company is Tshs 1,500,000,000/= divided into 10,000 shares of Tshs 150,000/= each, and the company shall have the power to increase its capital and to divide the share in its capital for the time being into several classes of stock or shares and to attach thereto respectively such preferential, differed or special rights, privileges, or conditions as may be determined by or by the Article of Association of the company.

## **6. PROJECT LOCATION**

The company's business premises and warehouse are located at Plot Number 248/249, Nelson Mandela Road, Tabata Matumbi, Ilala District, Post Code 12103, Dar es Salaam Region. The postal Address is P.O. BOX 41073, Ilala District, Dar Es Salaam, Tanzania.

## **7. IMPLEMENTATION SCHEDULE**

### **● OCTOBER to DECEMBER, 2024**

- ❖ Preparing feasibility study for the implementation program in setting up facilities for manufacturing of corrugated roofing sheets.
- ❖ Registration with Tanzania Investment Centre (TIC) In the implementations program for the proposed project i.e., Application for the TIC Certificate of Incentives.

### **● JANUARY to APRIL, 2025**

- ❖ Application for Import Duty exemption on deemed capital goods after being awarded a TIC certificate of incentives.
- ❖ Ordering and importing new machineries, workshop equipments, tools, generators, office equipments, vehicles, forklifts, van trucks, etc.

❖ Clearing the capital goods from customs control (at the port and Airport).

● **AFTER MAY, 2025**

❖ Installing the plant and machinery for roll forming machine for manufacturing of corrugated roofing sheets.

❖ Recruiting new staff and training them on new technology skills (on how to operate new plant and machinery).

❖ Fully commencement of production of all kinds of corrugated roofing sheets in the established program.

## 8. CAPITAL INVESTMENT COST

ITEM	CAPITAL INVESTMENT (USD)
Land / Building	100,000.00
Plant / Machinery	280,000.00
Vehicles	150,000.00
Furniture and Fittings	10,000.00
Pre-expenses	43,000.00
Other Expenses	50,000.00
Working capital	800,000.00
<b><u>TOTAL</u></b>	<b><u>1,433,000.00</u></b>

## 9. FINANCIAL PLAN (SOURCE OF FUNDS)

The proposed project has firmed up finances for the intended program with its foreign funds (equity) and loan:

Own foreign fund (equity) USD \$ 1,433,000.00

## **10. SUBMISSION**

Wishes to submit its plan and application to the Tanzania Investment Centre (TIC) for registration and awarded of a TIC certificate of Incentives for the proposed program of investing in manufacturing corrugated roofing sheets project. This will enable the project to qualify for Tax Exemption of Deemed Capital Goods.

## **11. LIST OF MACHINERY & EQUIPMENT**

- Corrugated roofing sheets machines
- Ridge cap machines
- Cutting & slitting machines
- C and Z purlin machines
- Generators

## **12. MANUFACTURING PROCESS FOR CORRUGATED ROOFING SHEETS**

Roofing sheets are manufactured in automated production lines. During the production process, the metal sheets/roll is passed through the set of several forming rolls which form the cross profile of the roof tile. The metal sheet, loaded onto the feeder, is unrolled automatically during the process.

The basic process of making standing seam panels involves feeding metal coil into a roll-former. Once inside a roll-former, the metal coil goes through a series of rolls, which make bends and curves. Each successive roll makes more of a bend than the previous one. These rolls are made of hardened stainless steel for increased lifespan and durability. Some can bend a metal as thick as 22-gauge steel.

The rolls make up different standing seam profiles, such as Snap-Lock standing seam, Snap-Lock with a nailing strip (no clips required, when fastening these metal panels to the roof), Mechanical Lock Profiler-Panels, V-5 Crimp Panels, and many other exotic profiles.

Panel width can be manually set on each roll-forming machine, but typical widths are 12,16 and 20" wide panels. Panel width is dictated by a metal coil being used. For 12" wide panels you need a 16" coil. The "extra" 43 inches are not shaved off inside a machine-they go into making the locks on each side of the panel.

The computer control unit takes care of the machine operation speed, panel length, etc. A smart control unit with automatic shear can pretty much automate your manufacturing process, by running the coil at a specified speed and cutting it at a specified length. For example, you can program it to produce 10 panels at 28' 3" and 25 panels at 24'6" and it will do just that -at the required length, the machine stops, the automatics shear cuts off the panel, you pull it out and the next panel starts Rolling's out of the machine.

Besides the actual metal panels, there is also a lot to manufacturing a metal roof that escapes the eye- namely, making all the accessories for a metal roof: the drip edge, rake/gable trim, valley pans, ridges cap, Z-bar flashing, sidewall and head-wall flashing for the roof to wall connection, Chimney, and skylight curb flashing, etc. All of these items require precision manufacturing and are necessary for any type of vertical panel metal roof.

All the metal roof flashing is made in a sheet metal shop, on highly sophisticated, computerized sheet metal brakes, which can also be programmed to increase the speed of making the most popular profiles of metal roof flashing.

The way that a computerized brake is different from a manual or a hand brake is that when using a manual brake, you have to manually measure, mark, and set up the depth for each bend to happen, and you have to do it on each side of metal strip to be bent. While this is a viable option, it is very slow, labor-intensive, and not very precise.

The computerized or automatic sheet metal brakes, which is a necessary attribute of any good sheet metal shop, have special "fingers" or stops that will let you insert a strip of metal only so deep inside the brake, and the hydraulic bender, will make the bent. These computerized brakes are very heavy duty and can easily bend metal that is 22 gauge or thicker. Even a 3/16" thick metal

(aluminum and steel) can be bent in a heavy-duty industrial brake, but for metal roofing, it is overkill, as atypical thickness rarely exceeds 24-gauge metal in residential applications and 22 gauge in commercial profiles.

Besides sheet metal brakes, a metal shop needs an automated hydraulic shear to cut strips of metal to the required width, so that a brakes operator can quickly produce the required components and not worry about having the pieces of metal cut.

Besides the shear, the break, and other smaller specialty tools, each sheet metal shop has some heavy-duty racks, where the metal coils, sheets of metal and already produced flashing accessories are stored, and a forklift to load and unload all the coils and other heavy stuff. Shop workers cannot lift a typical 2,000 or 3,000 lb. Metal coil on their own.

The bottom line is that running a metal roofing panels manufacturing facility is quite costly, and all work must be coordinated between the guys who make the panels and the sheet metal shop. Most of the time, to simplify things, the roll-forming machine is located in the shop, on a transportable trailer, and is only taken to a job -site when the job is far from the shop, and panels are too long to be transported by conventional means often, metal roofing contractors who own a roll-forming machine, and manufacture their standing seam panels, employ an independent sheet metal shop to produce their flashing and accessories, as running a fully equipped shop can be afford only by bigger, commercial size roofing contractors.

### Manufacturing Sheet Metal Coil

We will skip the process of converting iron ore into iron/steel, processing and purifying it, etc. Instead, we will start with the manufacturer of sheet metal roofing coils, and what they do.

First of all, metal roofs can be made from steel, aluminum, Zinc, Copper, and even stainless steel. However, iron sheet and aluminum are the most popular metals, and we will concentrate on these two: -

There are about four or five large suppliers of metal roofing coil in steel, and two or three in aluminum, with smaller players picking up the slack.

All of these guys take a thick metal coil, and run it through rolling machines, to reduce the thickness to a required grade-usually 29,26,24 and 22 gauge in galvanized steel, and 0.32"/.040" in aluminum.

The steel coil also undergoes a hot-dip galvanized process, where the coil runs through a pool of boiling galvanic mix of molten zinc (G-90 galvanization) or a mixture of zinc and aluminum (Galvalume). Once the coil is formed in the hot galvanic metal., a thin galvanization layer is formed all around otherwise highly corrosive steel.

Then the coil is run through an annealing machine, which is basically a hot furnace with cooling tubes and ammonia gas inside the chambers. Annealing softens the metal, which can then be easily rolled down to the required thickness. Aluminum coils do not require galvanization and just go through an annealer machine, before getting rolled down.

Applying solar reflective paint (Kynar 500) is done once a metal coil has been galvalumed and cleaned. The coil is then fed into a special “Painting Machine”, which is a series of separate units, each responsible for its operation.

First, the coil is thoroughly cleaned and dried. Then it goes through a primer application chamber, where primer is applied to both sides of the coil. Then it goes through a banking chamber where the coil is dried at a higher temperature, and primer is baked on. Then another primer and bake-on drying process happens for better, more even primer application.

Once the coil has been primed, and the primer has cured in the “banking” chamber, it goes through the painting cycle, which is essentially the same as priming, only the main color is added to the underside of the coil, which once again goes through the baking/drying cycle.

Once the coil is painted, it gets shipped to various metal roofing manufacturers such as Englert, Fabray, PAC, CLAD, etc.- These guys slit the coils to their standard width and cut them into smaller coils-usually 1,000-3,000 lbs., instead of huge 10,000 lb. coils, which come from coil manufacturers.

These smaller coils are then either formed into different types of metal roofing panels or sold off to smaller sheets metal shops or contractors with roll-forming machines, who either install them or resell them to metal roofing contractors.

### **13. ECONOMIC GROWTH**

The positive economic growth that had been registered in Tanzania has attracted more investments

in the country, which increased construction projects such as industries, warehouses, housing, real estate, hence an increase in demand for high-quality corrugated roofing sheets.

## **14. COMPETITION AND MARKETING**

Though there are several importers and manufacturers of corrugated roofing sheets in Tanzania, still the supply is not enough compared to the level of demand.

However, the company expects to participate in the local and export market of roofing sheets and strives to be top suppliers with good quality and sales services, because we are professional in roofing sheet production and international steel supply-chain management and experienced in international market of steel trading.

## **15. PROMOTION AND ADVERTAISMENT.**

Promotion and advertainment is one of the efficient marketing strategies. The company will advertise its products on the newspapers, street banners and later on the television.

## **16. BUSINESS STRATEGY.**

Management of the company has developed and implemented some strategies to increase productivity, meet the growing demand, and become competitive in the market. These business strategies are improvement of production technology and product quality, advertising and promoting, employing qualified and experienced personnel, on-the-job training, business discipline, etc.

## **17. ENVIRONMENTAL ISSUE**

All the projects' operations will be carried out in an environmentally friendly manner, the wastes will be recycled. It will have a good sewerage and drainage system.

## **18. PROJECT MANAGEMENT**

The overall management of the M/S METAL GLORY TANZANIA COMPANY LIMITED is vested in the Board Of directors. Mr. KONG WENCHAO, is the Managing Director of the company, who is well-versed in manufacturing corrugated roofing sheets and professional in the international market of steel trading.

## **19. MANPOWER AND TRANSFER OF TECHNOLOGY**

This project being the manufacturer of aluminum corrugated roofing sheets, in its implementation program will usher in the country new technology (transfer of knowledge and technology). The advantage of value addition is due to such incoming technology.

Further, the country can reduce its dependence on the importation of high-quality corrugated roofing sheets. Hence Tanzania will be able to purchase high-quality and durable roofing sheets at a reasonable price.

The program will gradually employ up to more than 30 local people and raise their income, improve their social welfare, and pay taxes; it is a poverty alleviation program.

Local employees will get on-the-job training and in the long run, will improve their technical competence in manufacturing high-quality corrugated roofing sheets.

## **20. CONCLUSION AND RECOMMENDATION**

The financial evaluation of the proposed project done so far indicates that this program will be a profitable both economically and financially viable venture.

The management being experienced businessmen process example managerial capabilities in various business disciplines based on the above factors it is recommended that the company should be granted the certificate of incentives for the proposed program to enjoy tax exemption on capital and deemed capital goods and increase its production capacity.

## 21. FINANCIAL AND ECONOMIC ANALYSIS

### ● Project Profit and Loss Account

The company envisages generating a profit of USD \$ 80,000 in the 1st operating year. The profit amount is expected to steadily rise to USD \$ 100,000 in 2<sup>nd</sup> year, USD \$120,000 in 3<sup>rd</sup> year, USD \$150,000 in 4<sup>th</sup> year and USD \$180,000 in 5<sup>th</sup> year.

### ● Project Cash Flows

The projected cash flows for the next five years indicate that the company will have enough funds for service and repay the loan and interest payments. Hence the financial obligations will be met in a timely fashion.

## 22. SENSITIVITY ANALYSIS.

To assess further the viability of the implementation project, a sensitivity analysis has been worked out based on several unfavorable conditions that might negatively affect the operation of M/S METAL GLORY TANZANIA COMPANY LIMITED.

Effect of cost increase on profitability (based on year II Corrugated roofing Sheets income in USD)

INCOME	COSTS	INCREASE	PROFIT BEFORE DEPRECIATION
390,000	310,000	-	80,000
390,000	325,500	5%	64,500
390,000	341,000	10%	49,000

Effect of corrugated roofing sheets income decrease and drop on profitability (based on year II Costs in USD)

<b>INCOME</b>	<b>INCOME DECREASE</b>	<b>COST</b>	<b>PROFIT BEFORE DEPRECIATION</b>
390,000	-	310,000	80,000
370,500	5%	310,000	60,500
351,000	10%	310,000	41,000

The viability and profitability of the company operations appears more sensitive to sale income and revenue than the increase in operating costs. This implies that the company should strive to maintain the existing market and undertake an aggressive marketing strategy to hire more clients and expands its market or clients' base.

## Appendix I

M/S METAL GLORY TANZANIA COMPANY LIMITED

### PROJECTED INCOME AND PROFIT STATEMENT

Figure Unit: Thousand Dollars (USD 1,000)

INCOME	YEARS				
	I	II	III	IV	IV
Sales Income	390.0	430.0	470.0	520.0	570.0
<b>Total Income</b>	<b>390.0</b>	<b>430.0</b>	<b>470.0</b>	<b>520.0</b>	<b>570.0</b>
<ul style="list-style-type: none"><li>• Utilities</li><li>• Salaries and Wages</li><li>• Transportation/fuel</li><li>• Administrative expenses</li><li>• Other Expenses</li></ul>	50.0	60.0	60.0	60.0	60.0
	40.0	50.0	60.0	60.0	70.0
	20.0	20.0	20.0	30.0	30.0
	30.0	30.0	40.0	40.0	40.0
	170.0	170.0	170.0	180.0	190.0
<b>Total Expenditure</b>	<b>310.0</b>	<b>330.0</b>	<b>350.0</b>	<b>370.0</b>	<b>390.0</b>
<b>Net Profit (Pretax and Depreciation)</b>	<b>80.0</b>	<b>100.0</b>	<b>120.0</b>	<b>150.0</b>	<b>180.0</b>

## Appendix II

M/S METAL GLORY TANZANIA COMPANY LIMITED

### PROJECTED CASH FLOW STATEMENT

Figure Unit: Thousand Dollars (USD 1,000)

YEAR	I	II	III	IV	V
Income from Operation	110.0	120.0	130.0	140.0	150.0
<b>Total Cash inflow</b>	<b>110.0</b>	<b>120.0</b>	<b>130.0</b>	<b>140.0</b>	<b>150.0</b>
Interest Payments	20.0	16.0	12.0	8.0	4.0
Loan Repayments	40.0	40.0	40.0	40.0	40.0
Taxes	10.0	10.0	10.0	12.0	15.0
<b>Total Cash Outflow</b>	<b>70.0</b>	<b>66.0</b>	<b>62.0</b>	<b>60.0</b>	<b>59.0</b>
<b>Surplus Cash Generated (Before wear &amp; tear)</b>	<b>40.0</b>	<b>54.0</b>	<b>68.0</b>	<b>80.0</b>	<b>91.0</b>

## Appendix III

M/S METAL GLORY TANZANIA COMPANY LIMITED

PROJECTED INCOME STATEMENT

Figure Unit: Thousand Dollars (USD 1,000)

<b>Year</b>	<b>Principle</b>	<b>Interest</b>	<b>Total</b>	<b>Amount</b>
<b>0</b>	/	/	/	<b>200.0</b>
<b>I</b>	40.0	20.0	60.0	<b>160.0</b>
<b>II</b>	40.0	16.0	56.0	<b>120.0</b>
<b>III</b>	40.0	12.0	52.0	<b>80.0</b>
<b>IV</b>	40.0	8.0	48.0	<b>40.0</b>
<b>V</b>	40.0	4.0	44.0	<b>0.0</b>