KADERES PEASANTS DEVELOPMENT PLC.

BUSINESS PLAN TO ESTABLISH POLYPROPYLENE (PP) WOVEN BAG PLANT IN KARAGWE KAGERA REGION.

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1 EXECUTIVE SUMMARY

Kaderes Peasants Development Public Limited Company, in short *KADERES,* is a public company based in Karagwe, Kagera region. The company's current business is processing and trading of commodities i.e. coffee, soybeans, beans, and maize. KADERES was first registered as limited liability company in year 2008 and later in year 2010 converted into a public liability company as way of inclusion of farmers to be part owners, for the purpose of guaranteeing supply of raw materials for processing. The company currently operates a coffee curing plant and beans trading business on Plot No. 91/9
3 at Kaisho Street, Block G, Kayanga Town- Karagwe, Kagera Region.

This involves processing, marketing, and exporting mainly to East African region, Europe (coffee beans) and to World Food Programme (sweet beans). In the process, it is strengthening and facilitate peasants/small holder farmers to get fair prices for their produces through improved production capacities and market linkages services as well as certifying them in organic and fair trade. Where they also run and manage a warehouse receipt system that benefits both the Small holders, Company and the Consumers processed and traded Commodities. Through trading and processing of the commodities, the company has seen a business opportunity in Polypropylene Packaging Bags (PP woven bags) to warrant establishment of manufacturing plant.

PP Woven fabric is a textile formed by weaving. It is produced on a loom and made of many threads woven on a warp and a weft. Woven polypropylene bags or simply woven PP woven bags are the toughest packaging bags, widely used to pack materials for grain, milling and sugar industry. The company main product will be Polypropylene bag (PP Woven bags or Viroba) with carrying capacity of 100Kgs, 50kgs, 25kgs and below. Although the company's PP bags will be manufactured with various colours and sizes to suit various uses depending on the market demand.

The company aims to target multiple customers; local industrial companies and agricultural sector in lake zone regions of Kagera, Geita, Shinyanga, Mwanza and Mara but also western

zone regions of Kigoma and Tabora. The targeted clients include Agricultural Marketing Co-operative Societies (AMCOS), Cooperative Unions, animal feed producers, food processors, cement industries, farmers, and traders.

Market projects indicates that, the existing demand only for PP woven sacks (100Kg) is estimated at 27,986 tons per annum while supply of PP woven sacks is 15,140 tons leaving the gap of 12,846 tons which is covered by the imported sacks. The demand is projected to grow by 64,496 for the next ten year due to, increase of productivity in the agriculture sector, growth of manufacturing sector and growth in agro-processing sector,

Though there is market for PP bags, the company products will face stiff competition from existing manufactures off PP bags especially those in the lake zone region. The existing manufactures have already established a customer base. KADEREs plans to compete in this industry by producing high-quality products that can be selling at competitive price; also by leveraging its existing network in processing and trading of coffee and beans within the region.

KADERES plans to establish PP woven bag plant with installed capacity of 12 million bags per annum in Misenyi, Kagera region in Tanzania. The machinery and technology is expected to be imported from LOHIA CORP LIMITED in India. The main focus for this project will be manufacturing of PP woven bags for agricultural and industrial commodities. The raw materials used for production of PP woven bags is polypropylene granules (i.e. Flat Yarn Grade, Calcium Carbonate ($CaCO_3$), white and colour master batch). The material is a by-product of petroleum and will be imported from India, Middle East, and China.

The capital investment required for establishment of the proposed project is USD 14.8 million (TZS 35.1 billion); the amount is required for construction of factory foundation, building/warehouse, purchase of machinery, furniture, pre-operational costs and working capital. Below is the proposed breakdown:

Table 1: Investment Plan

Sn	Facility Name	Amount (USD)	TZS Equivalent	Purpose
1	Long Term Loan/LC	10,812,702	25,616,104,480	Procurement of Machineries and Equipment, trucks and moving items
2	Revolving Short-Term Loan	2,000,000	4.750,000.000	Meeting direct cost, raw materials, and operational expenses.
3	Own Equity	2,000,000	4.750,000.000	Construction and installation of factory building and other civil works
	Total	**14,812,702**	35,116,104,480	

The company seeks to borrow USD 12,812,702 to fund the investment over a period of 10 years that includes provision of long term loan for purchase of plant and machinery and earth moving vessels and equity of USD 2,000,000 for meeting day to day expenses and plant operational needs.

Description of capital goods for investment	**Phase 1**	**Phase 2**
	(Amount in USD)	**(Amount in USD)**
I. Building and civil works		
Steel structure (For plant house and warehouse)	48,523	1,000,000
Civil works construction (plant house and warehouse)	246,764	1,000,000
II. Plant and Machinery (New)	884,503	7,882,912
Warehouses	1,000,000	
III. Other machineries		
Heavy duty Printing machine	400,000	
Laminating machine	470,000	
Lab equipment standard	50,000	
Transportation-trucks (Fuso &canter) for distribution	300,000	
Folk lift	280,000	
Transportation-trucks- long vehicle	650,000	
Transportation-Cabic Toyota hilux for salespersons & management team	400,000	
Toyota Land cruiser	200,000	
SUB-TOTAL	**4,929,790**	**9,882,912**
GRAND TOTAL		**14,812,702**

The project financial analysis shows that the project is a viable undertaking. Financial indicators for the project are as follows.

- Average Net Profit Margin 21.8%
- Average Debt Service Coverage Ratio 2.42 times

- Average Return on Asset (ROA) 21.7%
- Average Return on Equity (ROE) 40.7%
- Internal Rate of Return (IRR) 46%
- Net Present Value (NPV) TZS 12 B

Sensitivity analysis has been performed and indicates that the project is sensitive with decrease of sales price and increase of raw material (PP Raffia granules). A decrease in unit sales price by 31% or below TZS 420 per bag while other variables remain the same, it results into negative NPV TZS 102,565,916. The same also applies to increase of raw material price beyond 65% or above TZS 4,600 per Kg results to negative NPV of TZS 187,550,663. However, due to steady market for the company's PP bags there is minimal possibility of decline of sales price or increase of raw material prices beyond the tested thresholds. This implies that, the project is technically sound, financially viable and economically feasible thus worth financing.

The proposed collaterals that is debenture over all the project's assets, mortgage over the landed property where the factory will be built and insurance of the same shall be sufficient and adequate to cover the proposed lending investment arrangements.

The company is a brown field company, but the project is a greenfield project termed on start up level; however its future outlook is promising as the majority shareholders have been operating successful in the agro-processing value chain which uses PP woven bags for packaging purposes and therefore understand the business side of the PP woven bags.

2 INTRODUCTION.

Kaderes Peasants Development Public Limited Company, in short *KADERES,* is a public company based in Karagwe, Kagera region. The company's current business is processing and trading of commodities i.e. coffee, soybeans, beans, and maize. KADERES was first registered as limited liability company in year 2008 and later in year 2010 converted into a public liability company as way of inclusion of farmers to be part owners, for the purpose of guaranteeing supply of raw materials for processing. The authorised share capital of the company is TZS 500 million,

divided into 1000 shares of TZS 500,000 each. The company is completely owned by Tanzanians as per table below

Table 2: Shareholding Structure

S/n	Name of Shareholder	Number of shares	Percentage Ownership
1	Leonard Kachebonaho	550	55%
2	Batreth Rwiguza	150	15%
3	Yusuf Twaib (Member)	100	10%
4	Evarister Beebwa	100	10%
5	Optatus Mwombeki	100	10%
	Total	**1,000**	**100%**

Therefore, Mr. Leonard Kachebonaho is the majority owner of the company, the CEO and chairman.

The company's vision is to build an effective community of empowered people managing their own lives. The mission is to facilitate and empower the peasants to fight against poverty through improved agricultural and socio-economic activities in a sustainable way.

The company currently operates a coffee curing plant and beans trading business on Plot No. 91/73 at Kaisho Street, Block G, Kayanga Town- Karagwe, Kagera Region. This involves processing, marketing, and exporting mainly to East African region, Europe (coffee beans) and to World Food Programme (sweet beans). In the process, it is strengthening and facilitate peasants/small holder farmers to get fair prices for their produces through improved production capacities and market linkages services as well as certifying them in organic and fair trade. Where they also run and manage a warehouse receipt system that benefits both the Small holders, Company and the Consumers processed and traded Commodities.
Through trading and processing of the aforementioned commodities, the company has seen a business opportunity in Polypropylene Packaging Bags (PP woven bags).

2.1 The Proposed Project.

Storage and handling is an integral part of any food grain processing chain. Storage of raw and processed grains, including legumes and other granulated commodities were used by humans since the beginning of history as a pre-requisite for ensuring food security due to off time availability and for withholding seed grain for long periods. Grain storage and handling is a

major concern for pulse growers and processors worldwide. However, during ambient storage conditions, grains are subjected to various physical, chemical and biological changes. The basic advantage of good storage is to create environmental conditions, which protect the product from the extremes of outside temperature and relative humidity fluctuations, both diurnal and seasonal, and maintain its quality. Both grain quality and quantity are affected by intrinsic and extrinsic factors and, among these, temperature and moisture content are the most important influences of shelf life.

Various hermetic storage and handling options, such as metallic silos, Purdue Improved Cowpea Storage (PICS) bags, Super Grain bags, etc., have been developed and widely promoted in the last few years. These bags are being considered practical and cost-effective storage technology, and are becoming very popular in several countries. Several studies showed that metal silos are effective in bringing the losses to zero if properly used, they work well and have potential in improving household food security and income but metal silos are expensive. As a result, most farmers are not able to buy them unless subsidized or through group credit.

For storage and handling bags, PICS originally developed for storage of cowpea, involves triple bagging the grains in hermetic conditions, and is widely used by farmers in sub-Saharan Africa. The grains are stored in double layer thick (80 µm) high density polyethylene (HDPE) bags and are held in a third polypropylene nylon bag. After filling with the grains, the bags are sealed airtight. This will cut off the oxygen to the weevils and hinder their metabolic pathways preventing them from producing water, and killing them by desiccation. Overall results showed that PICS was the most effective in terms of beans damage reduction, price affordability and availability. Super Grain, commercialized by Grain-Pro Inc. is another widely used water resistant and hermetic storage option. These bags are made up of a single thick layer of high-density polypropylene with a thickness of about 78µm, and used as liner along with normal polypropylene bags.

And, according to observations from this study, polypropylene carrier bags (which are common in rural areas) were just for short time storage and not otherwise, like using them for transportation. Polypropylene bags face many challenges when used as a long-term storage technology. These bags are supportive to growth of both micro- and macro-organisms, hence compromise quality of grain, thus for best storage it normally require for fumigation.

The company proposed project entails establishment of a factory for production of polypropylene packaging bags (PP woven bags) famously known in Tanzania as “mifuko ya Viroba” and Purdue Improved Cowpea Storage (PICS) bags on Plot No. 629 block ‘A’ Kabwera at Bunazi area-Misenyi, Kagera Region. Therefore, overarching goal of the intends to inform that, the project will focus into manufacturing woven PP carrier bags which at large will improve food security and reduce post-harvest losses. What drove the company to venture in this line of business is apportioned into two objectives:

Provide storage and handling facilities through introduction of high-technology carrier bags factory to easy storage and trading of various agricultural commodities.

Improve quality of agricultural produce through introduction of high-technology carrier bags (usage hermetic bags for crop storage) for managing post-harvest losses.

PP Woven bags are manufactured through a fabric that is a textile formed by weaving. It is produced on a loom and made of many threads woven on a warp and a weft. Woven polypropylene bags or simply woven PP bags are considered to be the toughest packaging bags, widely used in the packaging industry. They are used in packing fertilizers, animal feed, grains, cement, sugar, chemical resins, seeds, and other commodities.

Figure 1: Sample PP Woven Bags (Viroba)

The capital investment required for establishment of the project is USD 14.8 Million as per breakdown in table below and will be implemented in two phases:

Description of capital goods for investment	**Phase 1**	**Phase 2**
	(Amount in USD)	**(Amount in USD)**
I. Building and civil works		
Steel structure (For plant house and warehouse)	48,523	1,000,000
Civil works construction (plant house and warehouse)	246,764	1,000,000
II. Plant and Machinery (New)	884,503	7,882,912
Warehouses	1,000,000	
III. Other machineries		
Heavy duty Printing machine	400,000	
Laminating machine	470,000	
Lab equipment standard	50,000	
Transportation-trucks (Fuso &canter) for distribution	300,000	
Folk lift	280,000	
Transportation-trucks- long vehicle	650,000	
Transportation-Cabic Toyota hilux for salespersons & management team	400,000	
Toyota Land cruiser	200,000	
SUB-TOTAL	**4,929,790**	**9,882,912**
GRAND TOTAL		**14,812,702**

below; the amount is required for construction of the factory building, machinery purchase, and fixtures, pre operation expenses and initial working capital. The proposed plant will have installed capacity of producing 40,000 bags per day (12 million bags per year-300 days)for the first phase .

The project shall be implemented into phases: For phase 1 the project expected to include factory plant, machineries and equipment, vehicles and earth moving machineries. The list includes the following for factory:

A: List of capital goods for phase 1

Description of items on capital expenditures			Total Cost (TZS)
I. Building and civil works			699,830,000
Land and other initial civil works			115,000,000
Buildings-offices and Plant structure			584,830,000
II. Plant and Machinery (New)	Qty	Unit Price	2,096,273,040
Extruder ModelLorex E60B.600	1	393,624,375	393,624,375
Tape winders, Model LTW200CM	124	1,135,875	140,848,500
Cicular loom Model LSL6	16	27,610,500	441,768,000
Bag conversion mc model BCS850/45	1	78,899,625	78,899,625
Compress 213Cfm @10 Bar	1	65,181,750	65,181,750
Chiller-25TR	1	56,793,750	56,793,750
MsCheese tubes	30,000	1,142	34,251,000
Lab Instruments	1	13,253,040	13,253,040
Bag to bag Printing, 3 color	1	45,295,200	45,295,200
Hydraulic bale press 20Ton	1	22,647,600	22,647,600
Sewing mcs	10	4,529,520	45,295,200
Recycling plant	1	29,241,500	292,415,000

Conveyors, compressor and other auxiliaries			233,000,000
Sea freight, Import Taxes, Port Charges, Transport, Installation Charges			233,000,000
III. Total Project Cost (plant & machineries)			2,096,273,040
IV. Total Project Cost (plant & machineries)			**2,796,103,040**

Besides the above, the phase 1 will also include purchase of the following:

Description of items on capital expenditures	Qty	Price per unit	Total Cost (US$)
I. Building and civil works			
Fabricated steel structure	2	500,000	1,000,000
II. Plant and Machinery (New)	**Qty**	**Unit cost**	
Heavy duty Printing machine	1	400,000	400,000
Laminating machine	2	235,000	470,000
Lab equipment standard	-	50,000	50,000
Transportation-trucks (Fuso &canter) for distribution	10	30,000	300,000
Folk lift	4	35,000	280,000
Transportation-trucks- long vehicle	5	650,000	650,000
Transportation-Cabic Toyota hilux for salespersons & management team	10	40,000	400,000
Toyota Land cruiser	2	100,000	200,000
			3,750,000

Therefore, the total expected investment for the first phase is USD 4,929,790 for first phase of implementation. However, the cost took consideration of capital goods, thus excluded raw materials (polyethylene granules) purchase of nearly USD 1million per quarter and 2millions per annum.

B: List of capital goods for phase 2

Description of items on capital expenditures	Qty	Unit Cost (US$)	Total Cost (US$)
I. Building and civil works			**2,000,000**
Steel structure (For plant house and warehouse)	2	500,000	1,000,000
Civil works construction (plant house and warehouse)	2	500,000	1,000,000
II. Plant and Machinery (New)	**Qty**	**Unit Cost (EURO)**	
Tape stretching line model 1600ES	1	856,300	924,804

Winding machines staco TAPE 200XE	330	435,600	470,448
Water chilling unit MRM 402ST	30	60,420	65,254
Circular looms alpha 6.0	1	1,443,120	1,558,570
Sets dura CORE-aluminium bobbin core	1	179,200	193,536
Coating line lami TEC LX	1	789,490	852,649
Roll to roll printing machine	1	760,140	820,951
Water chilling unit MRM 161 ST	1	21,580	23,306
Conversion line multiKON servo	1	487,260	526,241
Hydralic sack press bale TEC	1	36,040	38,923
Lab equipment standard	1	45,930	49,604
Transportation-trucks	10	709,000	765,720
Full automatic air compressor	1	202,800	219,024
Installation/commission and others	1	574,800	620,784
Recycling plant		234,350	253,098
III. Total Project Cost (plant & machineries) in EURO		6,836,030	7,382,912
IV.Non woven polyethylene and other plastic packaging factory (plant & machineries) in USD			500,000
V. Total Project Cost (plant & civil works) in USD			7,882,912

In view of above, the expected investment cost for first phase and second phase is USD 12,812,702 at an interval of 10years from 2023 to 2033.

Security Arrangement

Primary source of repayment of the loan will be from cash flow from business operations, while secondary source of repayment shall be recovery from realization of Collaterals pledged as security to secure the loans. Collateral includes company's Landed Properties, Machinery and Debentures for both present and future assets current.

3 INDUSTRY ANALYSIS.

The Government of Tanzania conceives industrialization as the main catalyst to transform the economy, generate sustainable growth and reduce poverty. In order for Tanzania to become a semi-industrialized country, the contribution of manufacturing to the national economy must

reach a minimum of 40% of the GDP by 2025. Foreign Direct Investments (FDIs) are expected to provide the capital for the desired industrial development. Therefore, the industrialization policy will favour this new project for Kaderes Peasants Development PLC.

The package manufacturing industry in Tanzania is considered a supporting industry, that is, manufacturers of packages are subcontractors for producers or sellers of consumer products and commodities. The main packaging materials being used in Tanzania are paper, plastic, metal, and glass. Other materials such as wood, PP Foam and Jute, play no significant part in the package manufacturing industry since "package manufacturer" means, at the basis, converting raw materials into packaging forms. Packaging industries have several functions to fulfil, namely protecting, preserving, transporting, and marketing products, as well as providing product information. Quality of a product depends significantly on good packaging. In addition to performing these functions, packaging also has to adhere to further demands in the form of logistical requirements, legislation, environmental, considerations and safety requirements.

In the efforts of protection of environment against non-biodegradable plastic waste/pollution, Tanzania, through the Office of the Vice President, enforced a total ban of single-use plastic carrier bags. On 17th May 2019, the Environment Management (Prohibition of Plastic Carrier Bags) Regulations, 2019 were gazetted under Government Notice No. 394 of 2019 to legally enforce the ban, which came into force on 1st June 2019. The ban applies to usage, supply, sale, manufacturing, importation, storage, and exportation of plastic carrier bags by companies/industries and individuals, including citizens and non-citizens in Tanzania Mainland.

The plastic carrier-bags referred to under the law includes any plastic film-made bag with or without handles or supports/gussets regardless of their thickness EXCEPT plastic or plastic packaging for medical services, industrial products, construction industry, agricultural sector, food processing or sanitary and waste management.
The later are legally exempted on condition that the packaging meets the quality standards prescribed by the Tanzania Bureau of Standards and are managed and disposed of in accordance with the Environmental Management.

3.1 Plastic and Composite Packaging

Plastic and Composite Packaging Main Applications Plastic are versatile materials and are in many cases capable of matching or surpassing the characteristics of other types of packaging. They are light weight and open to a wide range of design and decoration possibilities. They have an excellent image hygiene-wise and are used widely in food packaging. There a various types of plastic packaging products available. In the flexible form, products include plastic film, bags, and woven sacks. Gravure printing can be on flexible film. In the more rigid form, products include plastic bottles and cups, all of which can be produced locally using moulds. Plastic packaging is used in food and non-food industries, including the vegetable oil, chemical, fertilizer and cosmetic industries. PET bottles, example of rigid-form products, are used for beverages, mineral water, vegetable oil and cosmetics. The PET bottle has great potential as a substitute for the glass bottle. The table below list rigid Plastic Packaging Producers

Table 3: Rigid Plastic Packaging Producers of Tanzania

S/N	Producer
1	Chemi and Cotex Industries Ltd
2	Simba plastic
3	A one products and bottles ltd
4	IPP (Bonite Bottlers)
5	Aldi investment (T) Ltd
6	Bin Fijaa industries
7	Commercial printing and packaging Ltd
8	Euro printing and packaging Ltd
9	Industries packaging Ltd
10	Pee-pee (T) Ltd
11	Raffia bags (T) Ktd
12	Quality plastics Ltd
13	Suchach Plastics
14	MAG Group Ltd
15	Saafa PET Bottles Manufacturers

Main producers of plastic packaging are categorized depending on the type of plastic they produce; these categories are flexible plastic packaging and laminate film, rigid plastic packaging and woven plastic sacks. On the other hand, PP woven bags have been the most used. PP oriented strips are becoming increasingly popular in Tanzania and have caught the eye of many end users for their requirement of packing materials.

They have become popular on account of their inertness towards chemical, moisture & excellent resistance towards rotting & fungus attack. They are non-toxic. Lighter in weight & have more advantages than conventional bags.

PP Woven bags ideally suitable for Building Materials, Cement, fertilizers, Urea, Potash, plastic, polymers, plastic pellets, etc. They can carry up to 1,500kg capacity depending on volume of the goods.

- Food grains: Rice, Wheat, Pulses, Tea, Coffee, Beans, Peanuts, Sand, Sugar.
- Chemicals: Pigments, Dyestuffs, oxides, barytes, alumina, hydrates, ores, gypsum, feldspar, mica, Lime, limestone,

Main producers of PP Woven bags in Tanzania are spread in all of the country, ranging from northern, southern, and eastern zone. There no players in the western and central zone of Tanzania covering regions of Dodoma, Singida, Tabora, and Kigoma.

Table 4: Major PP Woven bags producers of Tanzania.

S/N	Producer
1	Azam Poly Sacks
2	East African Polysacks
3	Hill Packaging
4	Tansack Ltd
5	Hasho Packaging
6	Techpack Tanzania Limited
7	A to Z Textiles Industries.
8	Fresho Packaging
9	Victoria Packaging Industries
10	Tukuyu Packing
11	Raffia Bags Ltd
12	Pee Pee (T) Ltd

3.2 Industry Risk Analysis

The industry is generally characterized by the following features: -

3.2.1 Threat of new entrants – Risk Level-Medium

The threat of new entrants is considered to be medium mainly due to the following reasons: medium capital requirement, access to expertise, access to necessary inputs and it is a

specialized industry. The investment in PP Woven bag packaging industry is very medium but has has high associated fixed costs in running the business which is also a strong deterrent to new entrants. KADERES will be been the only manufacturer of PP Bags in Kagera Region but is likely to face competition from manufactures in Mwanza, Shinyanga Region and Uganda. However, through the company's experience and understanding of the market from their supply business of Jute Bags, they are likely to have an upper hand in the local regional market.

3.2.2 Bargaining power of suppliers-Risk Level-High

The bargaining power of suppliers is high. Two of the major industry raw materials that is PP Raffia granules and Calcium Carbonate ($CaCO_3$) are not available locally and is imported hence industry has no control over the price of the inputs needed for production. Main suppliers are based in Middle East, South East Asia, and China, as these regions are also major exporters of PP Woven bags, sometimes there is collusion of super suppliers to create scarcity of the material and hiking of prices. Ideally, the cost of imported inputs is being determined by the price movement at the world market depending on the supply/demand factors. Given the fact that the industry is dependent on imported inputs, it is thus susceptible to foreign exchange risk due to fluctuations and unstable costs of raw materials. The estimated lead supply period is 30 days from date of order. Therefore, KADERES will require to have a reasonable working capital so as to be able to maintain at-least three months of raw materials at any given time.

3.2.3 Bargaining power of buyers – Risk Level-High

PP Woven bags are used by a variety of customers in wide ranging geographies and industries; hence, there is no buyer concentration. There is no customer loyalty as buyers are price sensitive and will switch from one company to another to save few shillings. It is also imperative for producers to be consistent in terms of product quality in order not to lose market share. KADERES has a proximity advantage as Kagera region is largely isolated from nearby producers in Mwanza and Shinyanga, who will have to add up transportation cost to their selling price for them to access the Kagera region market.

3.2.4 Threat of substitutes – Risk Level- Low

This risk is considered to be low despite the fact that jute bags are close substitute to PP Woven Bags; This is based on the fact that PP Woven bags offers packers, retailers, and consumers a

combination of positive attributes unique among packaging materials. Its application is perceived to be more stronger, desired and environmental friendly container (i.e. it is easier to seal and reuse). Also, it allows for ease of branding, transportation and also competitive in pricing.

3.2.5 Rivalry among existing competitors – Risk Level-Low

- The industry is characterized by strong demand which is attracting players from every part of the country to access different regions. The market is too big for every local player to access, but pricing strategy and product quality is key in order to increase market share.
- The products are generally considered affordable compared to prices of conventional jute bags which also have a shorter life span.
- The industry has several players who offer similar products hence there is little to differentiate between them. It is, however, worth noting that there are still some regions within Tanzania that are not sufficiently covered in terms of supplies thus representing opportunities for sales growth.
- High production capacity coupled with a wide and reliable distribution network which enable a company to take advantage of fluctuations in seasonal demand are key recompense.

3.2.6 Level of Innovation – Risk level -Medium

The industry requires constant innovations e specially on the different types of bags and related products, there is room for expansion to laminated HDPE bags, PE Foam used for packaging, construction, insulation, and other sundry sectors in Tanzania. Also, there is a vast market in the following polymer related products:

- Garbage Bags:

  A bin bag or bin liner or garbage bag, or trash bag is a disposable bag used to contain rubbish. Such bags are useful to line the insides of waste containers to prevent the insides of the receptacle from becoming coated in waste material. Most bags these days are made from plastic, and are typically black, red, blue, and yellow in color. The main consumers for garbage bags are hospitals, households, restaurants, hotels etc.

- **Plastic materials (Films):**

Plastic film is a thin continuous polymeric material. Thicker plastic material is often called a "sheet". These thin plastic membranes are used to separate areas or volumes, to hold items, to act as barriers, or as printable surfaces. Plastic films are used in a wide variety of applications including production of plastic bags, shrink rolls, building construction, landscaping, electrical fabrication, photographic film, film stock for movies, video tape, etc.

- **Drinking Straw:**

A drinking straw is a tube for transferring a beverage from its container to the mouth of the drinker. A thin tube of plastic (such as polypropylene and polystyrene) or other material, straight or with an angle-adjustable bellows segment, it is used by being held with one end in the mouth and another end in the drink. Muscular action (a combination of the muscles of the Tongue and Cheeks) reduces air pressure in the mouth and above the liquid in the straw, where upon atmospheric pressure forces the beverage through the straw. The product has the following advantages including:

- Drinking through a straw causes less enamel deterioration and less tooth sensitivity.
- It also helps prevent cavities.
- For those suffering with tooth sensitivity, sweet, very cold, or very hot beverages will be less harmful to the teeth when drinking through a straw.

- **PVC Shrink Labels:**

PVC Shrink label is amongst the most advanced and versatile form of labeling the world over. High quality of heat shrinks labels which are graced with brilliant colors & fine printing are suitable for all kinds of packing. Proud of multiple features, these can enhance the appearance and increase the value of the packed products, and can also resist dampness, dust and, what's more, it can prevent counterfeiting. It is insured that this label is perfect to protect the quality of the products packed with it. Attractive shrink labels can be shrunk on to most contours of varied container substrates including glass, PET, Plastic, composite cans, tin cans etc.

3.2.7 Government and Macroeconomic Risk –Risk Level- Medium

Changes on the government policies do affect packaging industry especially on the tax imposed on the PP Raffia granules and environmental protection in relation to ban on different types of plastics. Historically, every year the government has been increasing tax rate on imported raw materials such for industrial produce and same for finished goods. This has been impacting local manufactures more as exporters of same PP Woven bags mainly from India enjoy economies of scale and as well low production costs from their countries. Despite the imposed taxes, their products are still highly competitive in the local market vis-à-vis the local produced bags. However, Tanzania is the largest producer of agricultural products in East African region, considering the increasing population in the region, the demand for food and cash crops is not likely to drop. PP Woven bags are mostly used for storage and transportation of agricultural produce, and therefore, chances for demand of the same to drop are minimal. As for ban on plastics, PP woven bags are excluded, they are allowed by the law within the agreed specifications as per Tanzania Bureau of Standards (TBS).

4 USINESS ANALYSIS

The global market for polypropylene woven bags and sacks market was valued at US$ 3,4 billion in 2020. The market is expected to expand at a Compound annual growth rate (CAGR) of 4.2% over the forecast period, 2020-2030, ass per Fact.MR. Polypropylene woven bags and sacks are 100% reusable and non-toxic. Polypropylene woven bags and sacks find applications in various end use industries. Agriculture product packaging, food packaging, geotechnical packaging, tourism and transport, daily necessities, flood control products are some of the prominent applications of polypropylene woven bags and sacks. On the basis of bag type, the

polypropylene woven bags and sacks market is segmented into valve bags, gusseted bags, block bottom bags, pinch bottom bags, open mouth bags and others.

4.1 Product

The company main product will be Polypropylene bag (PP Woven bags or Viroba). The range of products shall include PP Woven sacks and bags with inner polythene liners and or lamination coating; Woven polypropylene sacks and bags without inner or lamination; Woven sacks with block bottom and valves. The company's PP bags will be manufactured with various colours and sizes to suit various uses depending on the market demand. Advantages of these bags compared to conventional jute bags include.

i. Long life due to durability
ii. Waterproof due to lamination
iii. Flexible and high strength
iv. Can be stored in an open air due to UV-Suitability

4.2 Targeted Market

KADERES' targeted market is local market especially industrial companies and agricultural sector that requires high quality packaging bags for their products in Tanzania with target of the lake zone region (Kagera, Shinyanga, Simiyu, Mwanza, and Mara regions) which has 40% of the country population. Also, western zone regions of Tabora and Kigoma are potential markets due to their high agriculture yield and production nature coupled with lack of PP woven plant in their regions. Some of the identified buyers includes animal feed manufacturers, food processors, cement industries, farmers, aggregators, fertilizer companies and distributors, and sugar factories.

4.3 Market Analysis

The market analysis conducted indicates that the market for PP woven bags is on the increasing trend especially in the agriculture sector and cement industry. This is solely based on increased production and consumption of maize and rice in the country as well for export markets, latest data indicate that production stands at 6,300,000 MT and 3,474,766 MT respectively (soure; FAO). As well as increase demand for cement for construction both in Tanzania and

neighbouring countries. Cement production has increased over the past five years due to entrant of Kisarawe and Dangote cement factory which moved production capacity needle from 3.7 million tonnes per annum in 2015 to 10.5 million tonnes per annum (Source: Oxford Business Review).

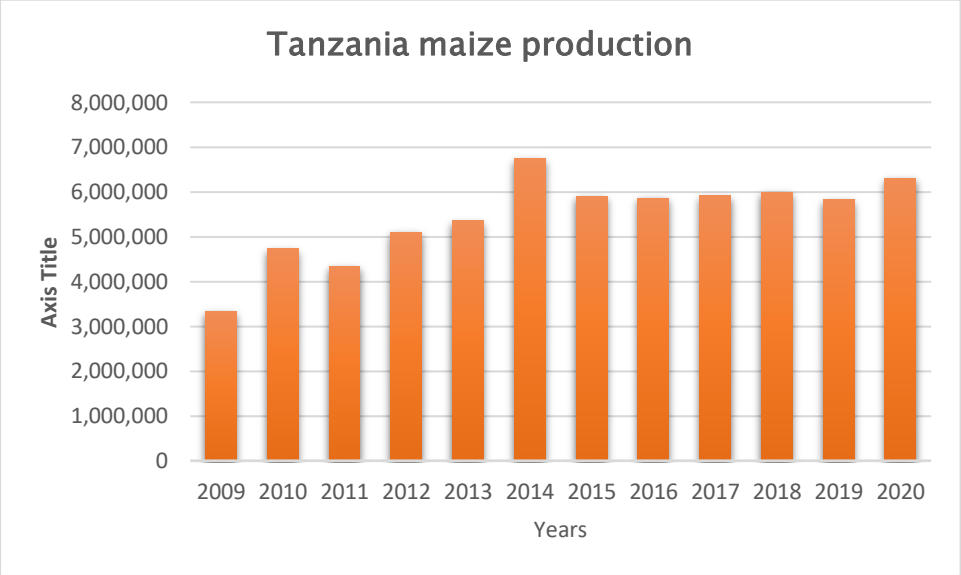


Figure 2: Tanzania Maize Production 10 years trend

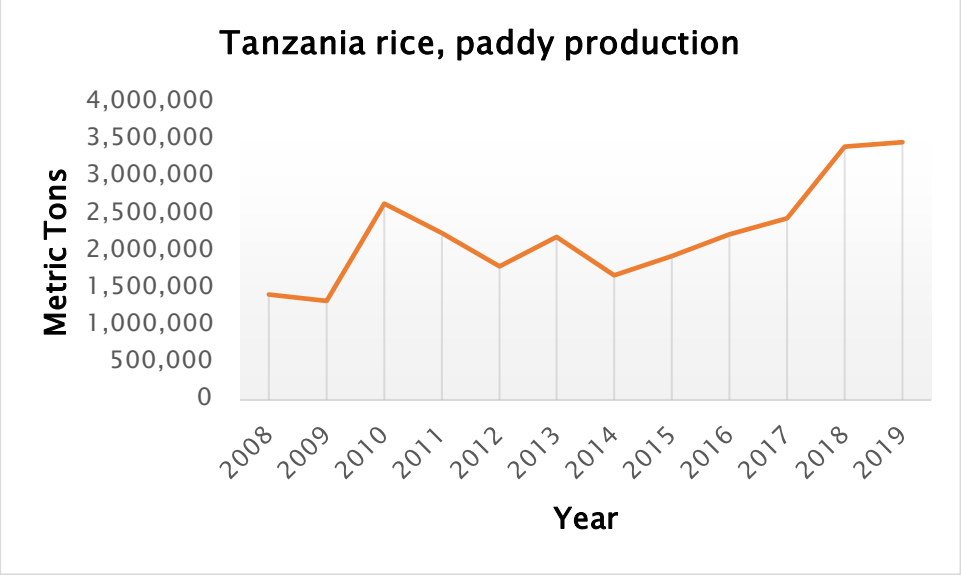


Figure 3: Tanzania Rice and Paddy Production 10 years trend

Table 5: Cement Factories and their capacity

S/N.	Name of the Company	Annual installed capacity production (Ton)
1	Mbeya Cement Company Limited	1,100,000

2	Tanga Cement Company Limited	1,250,000
3	Tanzania Portland Cement Company Limited	1,900,000
4	Athi River Cement Company Limited	2,250,000
5	Lake Cement Company Limited	500,000
6	Kilwa Cement Company Limited	300,000
7	Kisarawe Cement Factory	150,000
8	Dangote Industries Limited	3,500,000
	Total	**10,950,000**

Media source: Own construct.

4.4 Demand Risk – Risk Level-Medium

4.4.1 Demand for PP woven sacks for packing agro-products

The existing demand for PP woven sacks (100Kg) is estimated at 27,986 tons per annum while supply of PP woven sacks is 15,140 tons leaving the gap of 12,846 tons which is covered by the imported sacks. The demand is projected to grow by 64,496 for the next ten year due to, increase of productivity in the agriculture sector, growth of manufacturing sector and growth in agro-processing sector, Therefore, the establishment of KADERES packaging plant with production capacity of 12 million bags per annum is justifiable

4.4.2 Demand for PP woven sacks for packing cement

Currently Tanzania has main eight cement producing companies with a total installed production capacity of 10.45 million tons per annum of cement. Production capacity of 10,450,000 of cement require 209,000,000 pieces of cements sacks per annum. In additional to that the upcoming cement producing plant which will be implemented and operated by Sinoma & Hengya Cement (T) Limited in Tanga Region, will double the existing production capacity to 20,900,000 tons of cement. This means that about 418,000,000 pieces of cement sacks will be required. The existing suppliers has a total production capacity of not more than 100,000,000 pieces per annum leaving the demand gap of 318,000,000 pieces which will be covered by imports most at comparatively high prices. KADERES markets for PP woven sacks as follows: Fertilizer Importers, Animal feed Manufacturers, Agro processors, Flour millers, Gypsum manufacturers, Cement producers, Farmers, AMCOs, Traders.

4.4.3 Competition

The company expects to face the competition from other existing manufacturers of PP Bags as per below analysis.

a) **Azam Poly Sacks**: They supply mainly to Azam Companies and Bakhresa Group of companies in Tanzania, Rwanda, DRC, Zambia and Uganda. The external consumers of the products include the sugar companies which have some affiliations as well. The company installed capacity is to produce 60 million bags per year.

b) **Azania Poly Bag Industries**: is one of the largest manufacturers of woven polypropylene bags in Tanzania. The company started commercial production in 2009 and has since expanded to an annual production capacity of more than 40 million bags.

c) **Tansack Ltd:** The company is based in Tanga, Tansack manufactures PP bags and sell vial agents in Dar es Salaam. The agents take orders for small millers and sell in small quantities at a premium. The plant has capacity to produce 9 million bags per year.

d) **Fesho PP Bags Ltd**: Fresho PP Bags is a manufacturer of woven sacks in all sizes, materials, and colours based in Shinyanga region. They supply bags mainly of 100Kg carrying capacity to Lake zone regions. The company maximum installed capacity it 16 million bags per year.

e) **Hill Packing Company:** The company is based in Mapinga, Bagamoyo, they manufacture PP woven sacks for packaging of grain, flour animal feeds pp woven sacks with liner for packing & preserving sugar laminated pp woven sacks for packing detergents & salts pellet pp material sheeting material for various use. The company's annual installed capacity is 30 million bags.

f) **Lakairo Industries Group Co. Ltd:** This a group of industry venturing in manufacturing, service industry, investment, and real estate. They have PP Woven bag plant manufacturing bags for their own use and external market use, the plant is in Mwanza City covering the lake zone and western zone regions of Tabora and Kigoma.

g) **Harsho Packaging Company Ltd:** Is one of the growing manufacturers and distributors of woven polypropylene bags in Tanzania. They are based Moshi, Kilimanjaro. They manufacture bags both for their own animal feed and for external sell. Plant installed capacity is 3,600 tons per year.

h) **Global Packaging Ltd**: The company was established in 2013 for main purpose of manufacturing and selling of all packaging materials such as sacks and FMCG carry bags. The company is located in Kibaha town under joint venture arrangement with National Development Corporation. Th installed capacity of 16.2 million bags per year. The company has a sister company Wande Printing that is now venturing in manufacturing of other plastic related materials such as straws, plastic firms and PVC shrink labels equipment.

The company main competitive advantage is its location. Kagera region is the leading region in the country production of coffee and beans. The region relies on imported bags from Uganda and other regions of Tanzania. KADERES will have a pricing advantage due to lower distribution cost and fast delivery compared to other manufactures. Also, new modern machinery to produce PP woven sacks at lower cost will provide competitive pricing.

4.5 Supply Risk – Risk level – Low to Medium

There is no concentration of suppliers for the key raw materials i.e. PP Raffia granules, BOPP Resins, PP Raffia Lamination, Low-density polyethylene (LDPE), Calcium Carbonate-Filler, Other Consumables-Ink, thinner and master batch. Suppliers are mainly based in the Middle East, South East Asia, and China. Price risk is inherent in all raw materials given that they are traded in the international community. KADERES shall depends of various imports for major raw materials and machinery repairs. With the USD becoming more expensive, the growing costs are likely to hit their bottom line. The company will hedge on FX fluctuations and hence it is a risk which we will be monitored.

4.6 Production Risk – Risk level –Low

The production process of PP woven bags depends much on the availability of sustainable power supply. This has been a challenge to the manufacturing sector in Tanzania as there is only one supplier/distributor (i.e. TANESCO). Presently, TANESCO is increasing its capacity through construction of new hydro-electric power damn in Rufiji to fulfil the demand of the country, and as result the country will experience less power breakdowns/power rationing.

5 TECHNICAL DESCRIPTION

5.1 Technical Know-how

The technical know-how for the project will be provided by LOHIA CORP LIMITED, the foreign supplier is based in India. This supplier will supply, install, and make trial run and commissioning of the production plant. Necessary agreement will be executed between the KADERES and the supplier by incorporating all essential features. The main features which will be included in the contract as follows:

i. Taking out successfully trial run of the plants
ii. Acceptable quality of the final product in the market
iii. Imparting necessary training to employees in the production process
iv. Taking out successfully commercial production for the plants
v. Penalty clause for non-performance of the plants
vi. Machines will be warranted for manufacturing defects for 12 months from the date of commissioning or 15 months from the date of shipment, whichever is earlier.

The technology requires minimum supervision and low labour cost and has negative environmental impact. In additional, the technology is proven as is currently used by many countries in the world for a more than a decade.

5.2 Plants Capacity

Given the expected demand for agro and cement sacks as presented earlier, and the planned technology and investment, the proposed plant for first phase will have installed capacity of producing 40,000 bags per day (12 million/1,080 tones PP woven bags per year-300 days). The second phase will have double the capacity of the first phase, making aggregate capacity to 36millions per annum. Assuming that the envisage plants starts operation by 2021/22, this capacity will increase local production capacity from 54% to 58% of the annual projected national demand for sacks. Based on this production capacity, the envisaged plant is categorised as a low-scale PP woven sacks production plant. The company' choice of this scale of operation is based on the following factors:

- reasonable capability of the company to raise fund rom the external source to finance the expansion project as well as adequate managerial capability to implement and operate the project.
- There is adequate market to absorb production capacity of 40,000 bags per month.

- At this scale of production, the project will operate financially, economically, and commercially feasible.

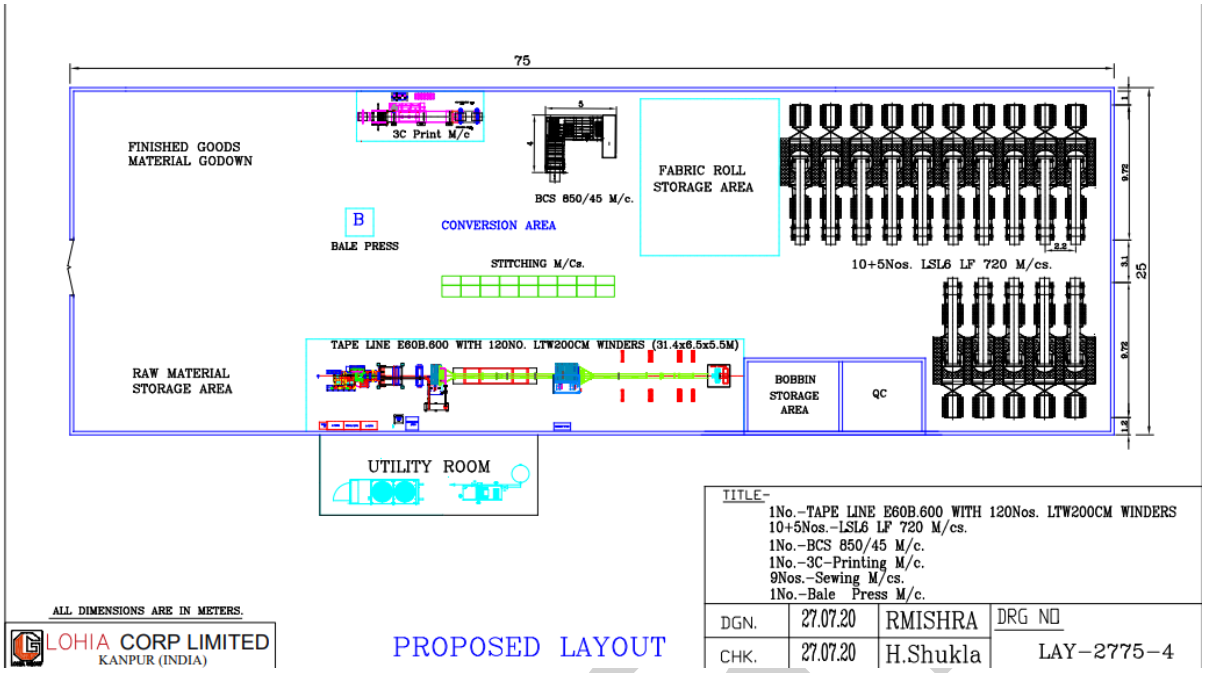


Figure 4: Proposed plant Layout

5.3 Production Program

The production program is scheduled based on the consideration that the envisaged plant will work for 300 days in a year, where the remaining days will be holidays, for maintenance and also observing crop seasonality. During the first year of operation the plant will operate at 65 percent capacity and then at 75 percent in the 2nd year and 85 percent in the 3rd year. The capacity will grow to 95 percent starting from the 4th year onwards. This consideration is developed based on the assumption that logistical barriers, staff incompetence, problem for availability of raw materials would be eliminated gradually within the first three years of operation.

5.4 Raw Materials and Utilities

The main raw materials required in production of PP woven sacks for packing cement and agro-sacks are as follows:

- PP Raffia
- PP Lamination

- Calcium Carbonate-Filler
- Other consumables-Ink, Thinner and master batch

Table 6:Raw materials requirement per month

S/n	Raw Materials	Quantity (Mt)	Price (USD)/Mt	Total Cost (USD)
1	PP Raffia	700	1,500	1,050.000
2	PP Lamination	200	1,500	300,000
3	Master Batches	5	8,000	40,000
4	Calcium Carbonate	100	800	80,000
Total				1,470,000

5.5 Manufacturing Process

The manufacturing of PP woven sacks consists of the following process.

i. **Extrusions:** This is the preparation of weaving materials with various colours and size.
ii. **Quality control:** This takes place in two stages namely, during production of the extruder and after production of sacks.
iii. **Weaving:** This is the second stage for the manufacturing of PP sacks which consists of several machines. This is a process which requires more workforces in the manufacturing plan.
iv. **Cutting section:** This is the section which deals with the cutting of the PP sacks according to the size to be produced.
v. **Printing section:** This section deals with printing of labels of the PP sacks according to the customer demands.
vi. **Bearing section:** This section deals with pressing and packaging of PP sacks into various quantities.

5.6 Machinery and Equipment

The proposed PP production line will consist of the following machineries

- Tape stretching line
- Winding machinery and Water chilling machinery
- Circular loom
- Stacoloom

- Aluminium bobbin
- Coating line
- Roll to roll printing machinery
- Conversion line and compressor
- Recycled machinery
- Stitching machinery and bale pressing machine

5.7 Land and Building

Land of approximately 5.5 acres issues with a title deed for construction of the plant, office building, warehouses and other requisites. The construction cost of the plant is estimated at USD 2,300,000 covering both phase and will involve the following:

✓ Purchase and installation of steel structures

✓ Civil works for land preparation, infrastructure development and foundation erection

✓ Security fencing

6 ORGANIZATION STRUCTURE

6.1 Organization Structure and Human Resource.

The envisaged plant operations and activities will be assigned to organizational units represented by the managerial staff, supervisors, and workforce to attain the objectives of the plant. The activities include planning, directing, coordinating, and controlling of the plant operations at the required level of quality and specified time.

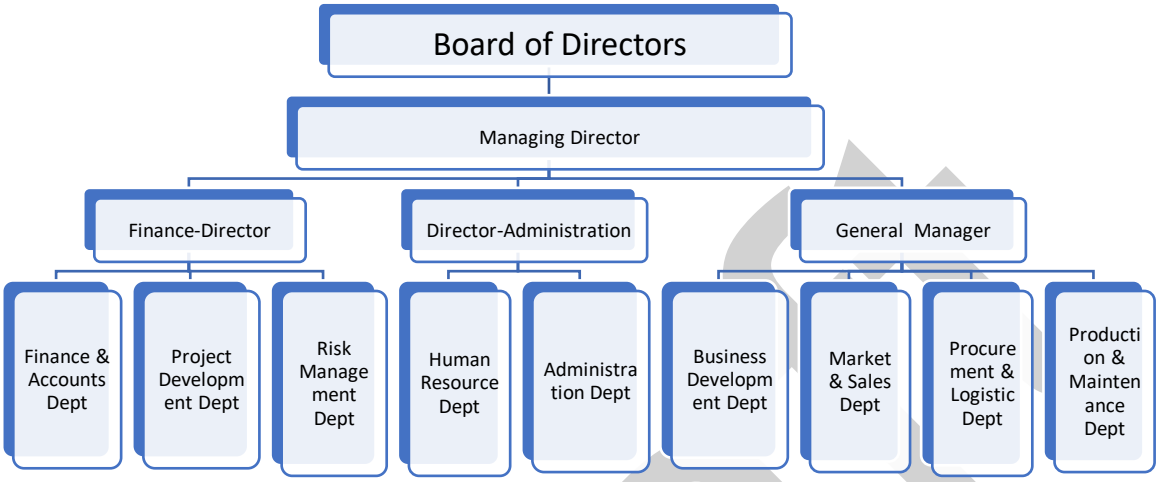
The organization structure will be staffed with eligible personnel with corresponding authority and responsibility for achievement of the goals and objectives of the firm. The highest body of the plant, the Board of Directors, is responsible for handling policy issues, approving strategic plan and follow up the activities of the Managing Director. The Managing Director is accountable to the Board of Directors. He is responsible for planning, executing, monitoring, and controlling the whole activities of the company. There are three-line departments under the Managing Director as follows:

✓ Department of Finance

✓ Department of Human Resource & Administration

✓ General Management Department

Organization Structure.



6.2 Labour requirements

- The technicians from the suppliers of the machinery will train and transfer technical knowledge to the local workforce that will be employed by the company. The company will recruit the experienced Project manager to oversee the plant implementation, operation, and production. He will be teaching the local workforce about the skills required at each stage of production. The qualified and experienced Tanzanians to work with the machinery will also be employed.
- The company will also arrange to get experienced people from other plastic products manufacturers who have experience in the similar business.

A total of 310 workers are required by the plant in the first 5years. The annual cost for the labour is TZS 255 million for the first year of operations.

- The company expect to recruit at least 180 local women and 120 local mean of different age structure. At least 10 foreigners are expected to be employed to develop skills and transfer knowledge to local staff. Table below illustrates:

Direct Employment	Male	Female

Foreigner	7	3
Tanzanian	120	180
Total	127	183

7 FINANCIAL ANALYSIS

7.1 Historical Financial Analysis

Table 7: Financial Highlights

Financial Indicator	31.12.2017 (TZS '000')	31.12.2018 (TZS '000')	31.12.2019 (TZS '000')
Total Sales	8,367,784	11,955,423	12,999,429
Change in Sales	NA	30%	8%
GP Margin	25%	25%	31%
NP Margin	11%	13%	13%
Net Worth	7,358,850	8,868,955	7,849,187
Total Debt	6,765,714	5,294,965	6,652,789
Gearing	0.92	0.60	0.85
Interest Coverage Ratio	15.23	14.53	6.65
NCAO	914,633	2,101,687	2,047,652
CADA	4,758,074	-1,919,022	-3,663,663

7.1.1 Sales and Profitability

Historical: The company has continued to record strong sales growth over the period, posting 30% growth YE 2018 compared to YE 2017 and deep in 2019 due to low coffee yield. This performance was driven volume changes of coffee green beans yield YOY. During this period, KADERE was able to leverage 2 key competitive advantages to drive volumes: 1) support from farmers who are part owner of the company and 2) storage assets and sales networks. These 2 advantages ensure availability of products with efficient costs compared to its competitors as such the company is able to sustain its market share. Gross margins increased as the company drove sales as well as notable improvement in its bottom line as average costs reduced on the back of cost saving strategies.

7.1.2 Balance Sheet Management

Equity has increased in FYE December 2018 and 2019. Debt/equity ratio remains at optimum level of less than 1 at 0.64. Even after making adjustment on the equity by eliminating revaluation reserve worth of 4.64Bio, adjusted gearing becomes 0.79. Improved gearing is attributed to company's tendency of retain large portion of profits. Gearing is expected to increase in FYE 2021/22 as client is increasing bank borrowing by TZS 1.75 Million to finance importation, installation, and operationalization of a PP Woven Bags plant.

There is no fund mismatch on the uses of short-term sources of funds versus long term uses - Fixed assets have always been financed by long term funds.

7.1.3 Cash Flow Analysis

Historically Cashflow has been strong driven by the fact that 90% of sales are on cash basis (while <10% are on short term credit). However, for the last two years the company has had negative cash after debt amortization mainly to poor loan structure for their coffee curing plant. The company will need to have a better funded line for the PP Woven Bag business to cater for cash flow shortages and accommodate credit sales terms to offset receivables to be created. As the packaging sales strategy relies on agents and super dealers who are provided goods on credit for onward sales.

7.2 Financial Projections.

7.3 Assumptions related to first phase of production

Operational Variables		
Number of Working Days	25.00	Days/Month
Number of Months Per Year	12	Months
No of Hours/Shift	8	
No of Shift/day	2	
Cost of Inflation	7%	
Plant Installed Capacity	12,000,000	bags/Year
Exchange Rate	2,330	
Usage Ratio		
1 Unit=25Kg of PP granules + 3 Kg of CaCO3	28000	gm
Weight of 1 100kg woven bag	90	gm
Number of bags per one-unit RM	311	
Annual PP Granules Consumption	964,285.71	Kg
Annual CaCO3 consumption	115,714.29	Kg
Variable Cost (TZS/Kg)		
PP Rafia Granuel	2,796	
$CaCO_3$	1,070	
Variable Unit Cost	3,866	
Revenue Driver		
Price of 100Kg bag	610	TZS/bag
Volume/capacity utilization starting at 50% increasing by 10%YoY till maximum of 90%		
Repair and Maintenance	3.000%	of income
Insurance	0.125%	of income
Property Tax	0.100%	of income
Land Rent	1.000%	of value of land
Income Tax rate	30%	
Dividend Pay-out	0%	on positive net income
Costs of Equity	11.74%	yield on 15-yr bond
Costs of Debt	12.0%	
Discount rate (WACC)	1.7%	
Interest on Overdraft	12.0%	Annual
Loan Tenure	10	
Grace Period	1	
Required Amount of Water	10,000	Litre per day
Cost per unit (lit)	1.5000	
Utility /Electricity		
Machinery Installed KW-Hr	342	

Hours Per Year	4,800,000	hrs
Assumed price (taking into cons. Capacity charge)	300	TZS per kwh
Depreciation: Building	2.0%	of property Value
Depreciation: Plant & Machinery	4.0%	of property Value
Depreciation: Furniture and Fittings	12.5%	of property Value
Depreciation: Motor Vehicles	25.0%	of property Value
Depreciation: Pre-operational Expenses	10.0%	of market value

7.4 Capital Expenditure

The total capital requirement refers to the amount of money a business needs for its normal operations and also the amount of cash for asset acquisition.

The source, type and specification of the fully automated production equipment have been identified. It is anticipated that the total project cost (excluding operation expenditure) will be USD4.92 millions in the first phase and USD 7.88million in the second phase. The amount will be funded using both equity of and debt structure respectively. The equity will fund land and construction of factory building, while debt will be channelled towards purchase, importation, and installation of plant and machinery of the PP woven bag. See below ANNEX 2 for reference.

7.5 Projected Income Statement

The revenue – cost trends reveal convincing trends, the revenue increase at decreasing trend while cost has shown to increase at decreasing trends, this indicates that, the project is self-sustainable within the projected ten years' time horizon. The project can realize positive net earnings of TZS 600 million during year one of operation that expand exponential up to TZS 2 billion during year five of operation.

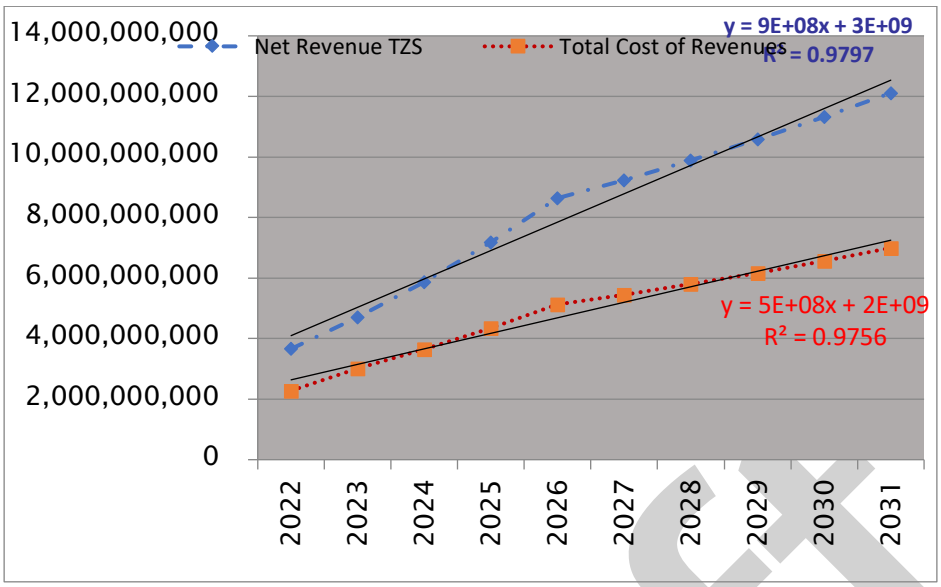


Figure 5: Revenue-cost projections

Main driver of revenue being periodic increase of production volumes and off-take price. The woven bag business is also heavily linked to the agriculture crop seasons depending on crops. During harvest period most in second half of the year from July to December, its expected expansion of sales. A change in these two parameters of price and volume will have either negative or positive impact on revenues.

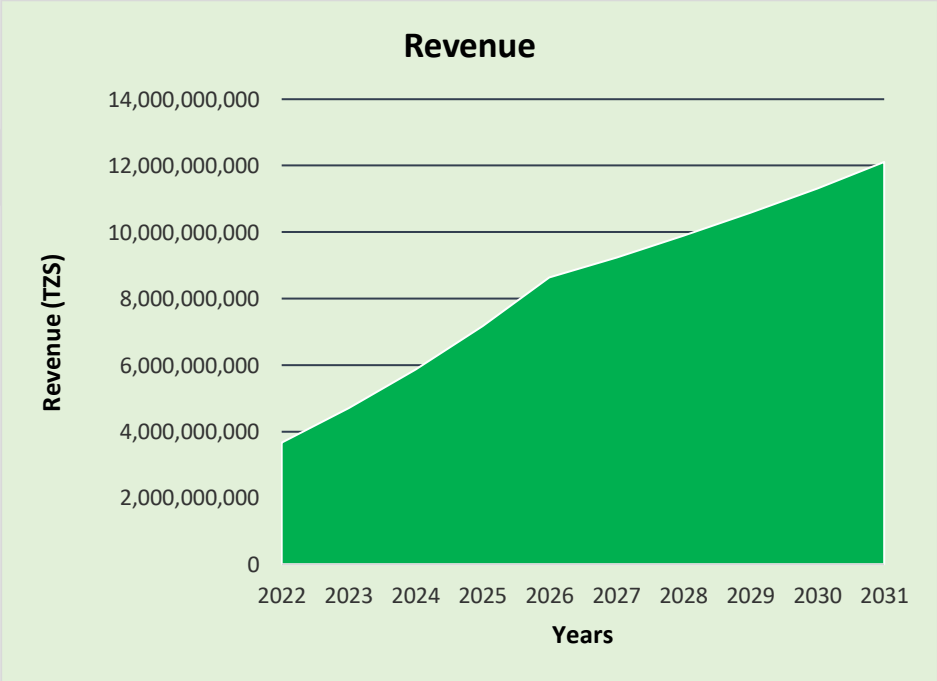


Figure 6: Revenue projected trend

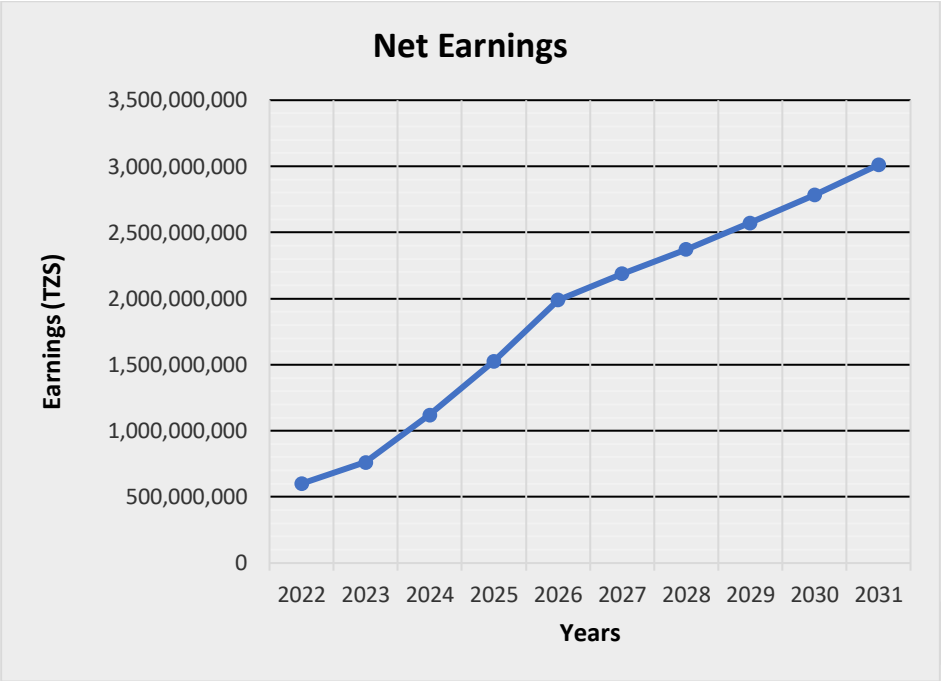


Figure 7: Net earnings projected trend

7.6 Operating Expenses

PP woven bag trading and production is volumetric business that relies on stock and receivables to make profit. Based on this and the fact that most of raw material (PP Raffia granules and Calcium Carbonate) will have to be heavily procured mostly from Middle East region and India through the open account basis. The plant will need to maintain at least a three months stock of the two materials. During year one operation, the company is using a working capital amount of not less than TZS 1.77 billion (equivalent to USD 761K) of which the half of it is requested in this application to be revolved to cover annual expenses. This will be mainly used for purchase of raw materials, operational expenses, sales, and distribution expenses.

7.7 Balance sheet Management

The projected balance sheet shows that, the projected account receivables increase at the higher rate compared to inventories which is the clear indication that, liquidity requirement is conversing during the projected ten years' time horizon. The company will conquer more of the short-term loan during the years, specific for inventory, since there is a clear indication

that the woven bags products will attract most of the major customer based on high demand in Lake zone and western zone regions of Tabora and Kigoma.

"TZS" Balance Sheet	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
ASSETS										
CURRENT ASSETS										
Cash	-452,289,600	-474,554,414	171,286,510	1,150,812,154	2,510,342,291	4,683,813,468	7,033,720,528	9,572,528,637	12,313,566,304	15,271,086,360
Accounts Receivable	915,000,000	563,932,800	703,976,112	860,862,217	1,036,262,894	1,108,801,296	1,186,417,387	1,269,466,604	1,358,329,266	1,453,412,315
Inventories	1,683,600,000	1,127,865,600	1,407,952,224	1,721,724,434	2,072,525,787	2,217,602,592	2,372,834,774	2,538,933,208	2,716,658,533	2,906,824,630
Other Current Assets	457,500,000	281,966,400	351,988,056	430,431,108	518,131,447	554,400,648	593,208,693	634,733,302	679,164,633	726,706,157
Total Current Assets	2,603,810,400	1,499,210,386	2,635,202,902	4,163,829,913	6,137,262,418	8,564,618,005	11,186,181,382	14,015,661,751	17,067,718,736	20,358,029,462
PROPERTY & EQUIPMENT	2,551,427,127	2,459,807,759	2,372,429,373	2,289,032,310	2,209,376,947	2,133,241,916	2,060,422,499	1,990,729,166	1,923,986,256	1,860,030,781
TOTAL ASSETS	5,155,237,527	3,959,018,145	5,007,632,276	6,452,862,224	8,346,639,365	10,697,859,921	13,246,603,881	16,006,390,917	18,991,704,992	22,218,060,244
LIABILITIES & SHAREHOLDERS' EQUITY										
CURRENT LIABILITIES										
Short Term Debt	113,635,544	121,519,227	129,954,768	138,980,796	148,638,647	158,972,548	170,029,821	181,861,103	194,520,576	208,066,211
Accounts Payable & Accrued Expen	1,683,600,000	1,127,865,600	1,407,952,224	1,721,724,434	2,072,525,787	2,217,602,592	2,372,834,774	2,538,933,208	2,716,658,533	2,906,824,630
Other Current Liab	109,800,000	67,671,936	84,477,133	103,303,466	124,351,547	133,056,156	142,370,086	152,335,992	162,999,512	174,409,478
Current portion of long term debt	0	0	0	0	0	0	0	0	0	0
Total Current Liabilities	1,907,035,544	1,317,056,763	1,622,384,125	1,964,008,696	2,345,515,982	2,509,631,295	2,685,234,681	2,873,130,304	3,074,178,620	3,289,300,319
LONG TERM DEBT (less current portion)	1,614,419,140	1,279,985,891	903,138,136	478,496,652	0	0	0	0	0	0
STOCKHOLDERS' EQUITY										
CommonStock	1,033,150,000	0	0	0	0	0	0	0	0	0
Preferred Stock	0	0	0	0	0	0	0	0	0	0
Retained Earnings	600,632,843	1,361,975,491	2,482,110,015	4,010,356,875	6,001,123,383	8,188,228,625	10,561,369,200	13,133,260,613	15,917,526,372	18,928,759,925
Total Equity	1,633,782,843	1,361,975,491	2,482,110,015	4,010,356,875	6,001,123,383	8,188,228,625	10,561,369,200	13,133,260,613	15,917,526,372	18,928,759,925
TOTAL LIABILITIES & EQUITY	5,155,237,527	3,959,018,145	5,007,632,276	6,452,862,224	8,346,639,365	10,697,859,921	13,246,603,881	16,006,390,917	18,991,704,992	22,218,060,244

Figure 8: Projected Balance Sheet

7.8 Cashflow Analysis

The project's cash flow is strong save for value of land as the gearing ratio for the project is a desirable one with near equal distribution of debt and equity. On the basis of the woven bag production operations, the project has positive cash flow from year 3 of operations, as for the beginning years the project shall solely rely on the working capital facility of USD 350k requested from this application to bridge is cash flow mismatch. Looking at liquidity cycle, the reflected changing working capital reflected in the cash flow statement indicates the project might not suffer from liquidity problem during the projected fifteen years of operations. Over the ten years' time horizon, cashflow is expected to grow to TZS 15 billion. See Annex 13 for reference.

7.9 Project Viability

"TZS"	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Summary Financials											
Revenue		3,660,000,000	4,699,440,000	5,866,467,600	7,173,851,808	8,635,524,114	9,240,010,802	9,886,811,558	10,578,888,367	11,319,410,553	12,111,769,291
Gross Profit		1,380,161,471	1,678,641,618	2,212,396,590	2,818,749,644	3,504,978,371	3,785,032,998	4,084,677,462	4,405,281,773	4,748,311,725	5,115,335,590
EBIT		1,284,019,458	1,587,022,250	2,125,018,205	2,735,352,581	3,425,323,008	3,708,897,968	4,011,858,045	4,335,588,440	4,681,568,815	5,051,380,116
Net Earnings		600,632,843	761,342,648	1,120,134,524	1,528,246,860	1,990,766,508	2,187,105,242	2,373,140,575	2,571,891,413	2,784,265,758	3,011,233,553
Net Cash from Operating Activities		-565,925,144	1,337,434,752	1,014,253,139	1,395,141,098	1,828,368,938	2,163,137,277	2,338,849,786	2,526,976,827	2,728,378,195	2,943,974,421
Capital Expenditures		2,465,865,015	0	0	0	0	0	0	0	0	0
Interest Income/(Expense)		0	-175,732,927	-133,318,420	-85,524,692	-31,669,523	0	0	0	0	0
Dividends		0	0	0	0	0	0	0	0	0	0
Cash		-452,289,600	-474,554,414	171,286,510	1,150,812,154	2,510,342,291	4,683,813,468	7,033,720,528	9,572,528,637	12,313,566,304	15,271,086,360
Total Equity		1,633,782,843	1,361,975,491	2,482,110,015	4,010,356,875	6,001,123,383	8,188,228,625	10,561,369,200	13,133,260,613	15,917,526,372	18,928,759,925
Total Debt		1,614,419,140	1,279,985,891	903,138,136	478,496,652	0	0	0	0	0	0
Growth											
Revenue Growth Rate - CAGR:			28%	25%	22%	20%	7%	7%	7%	7%	7%
Net Earnings Growth Rate - CAGR:			26.8%	47.1%	36.4%	30.3%	9.9%	8.5%	8.4%	8.3%	8.2%
Ratios											
Current Ratio		1.37	1.14	1.62	2.12	2.62	3.41	4.17	4.88	5.55	6.19
Debt to Capital (LT Debt + Equity)		0.50	0.48	0.27	0.11	0.00	0.00	0.00	0.00	0.00	0.00
DCSR		0.00	0.00	4.34	5.53	6.87	7.42	0.00	0.00	0.00	0.00
Profitability											
Gross Profit %		37.7%	35.7%	37.7%	39.3%	40.6%	41.0%	41.3%	41.6%	41.9%	42.2%
Net Earnings %		16.4%	16.2%	19.1%	21.3%	23.1%	23.7%	24.0%	24.3%	24.6%	24.9%
Returns											
Return on Assets (ROA)		11.7%	14.8%	28.3%	30.5%	30.9%	26.2%	22.2%	19.4%	17.4%	15.9%
Return on Equity (ROE)		36.8%	46.6%	82.2%	61.6%	49.6%	36.4%	29.0%	24.4%	21.2%	18.9%
Return on Capital (LT Debt + Equity)		18.5%	28.8%	33.1%	34.0%	33.2%	26.7%	22.5%	19.6%	17.5%	15.9%
Internal Rate of Return (IRR)		46%									
NPV		12,063,304,622									
											SALVAGE VAL
PP Woven Bags Sales	-2,465,865,015	600,632,843	761,342,648	1,120,134,524	1,528,246,860	1,990,766,508	2,187,105,242	2,373,140,575	2,571,891,413	2,784,265,758	4,871,264,335
Costs of Equity		11.4%									
Costs of Debt		12.0%									

Figure 9:Financial Ratio Summary

7.9.1 Net Present Value

The project net present value (NPV) is calculated, considering the computed weighted average cost of capital of 4.8%. The project shows NPV of TZS 12 billion, for 10 years' time horizon. The analysis takes into consideration the salvage value of the project.

7.9.2 Internal Rate of Return

The internal rate of return (IRR) has cemented the investment decision for this project. For the project to be financially viable, the IRR should be greater than the cost of funding that is assumed at 12.0% while the projected IRR is 46%.

7.9.3 Debt Service Coverage Ratio (DSCR)

The average DSCR during the ten year time horizon is projected at 2.42 times where minimum is observed in second year at 4.48 times, growing up to 7.2 times during year five as and when debt is repaid as well as profit is retained in the company. This indicates that the cash flow can pay-out the loan obligation and thus the project cannot run out of liquidity.

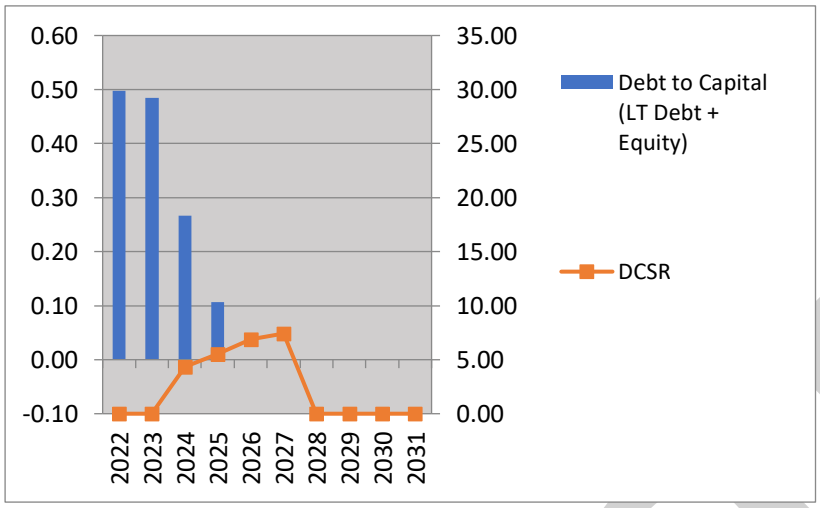


Figure 10: DCSR trend analysis

7.10 Return analysis

The discount valuation results reveal the project is viable. Given the fact that the company can settle the loan obligation, the WACC is not impacted by the cost of equity. The detailed calculation profitability index analysis is summarized below.

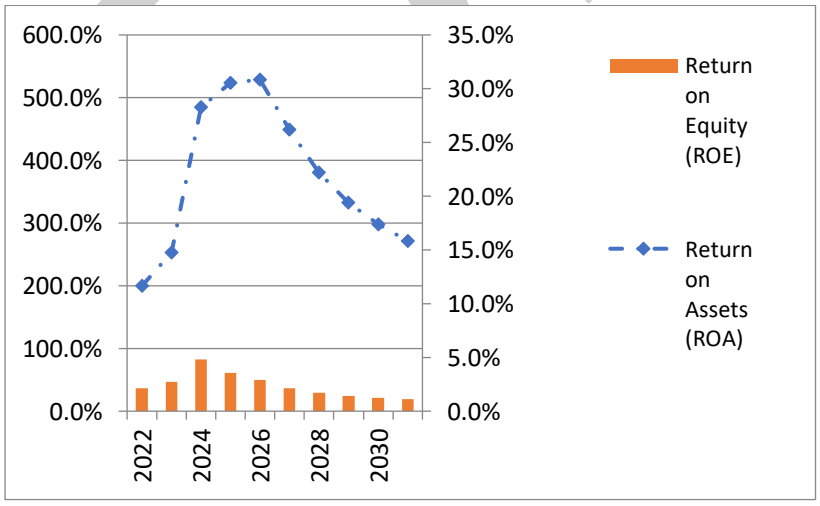


Figure 11: Return on Equity Analysis

7.11 Conclusion

The business plan shows a worthiness business case. For the base case scenario, IRR, NPV, DSCR and all other ratios indicators show that, the project is financially viable and worth financing. The entire scenario gives the return that is above the standard thresholds in terms of IRR (above the cost of capital), NPV (positive) and DSCR (above one), and thus we are confident that, the project can pass the Bank threshold, ready for loan funding.

8 SOCIO-ECONOMIC IMPACT

The project directly supports the Government of Tanzania drive on industrialisation. Specifically, it will contribute to enhanced development of the plastic packaging manufacturing sub-sector which is an important driver and support to other industrial activities. Project therefore has a substantial positive bearing in the national economy at large.

The project is expected to produce direct 300 direct employment and *over 300 indirect employments especially through retail value chain. The company is also expected to contribute to national income through different forms of taxes, health insurance schemes and pension schemes. It is planned that, at least 15% of the production may be exported to bordering countries and hence earn foreign currency.

The project will boost jobs, training, and standards. The envisaged services will create a substantial number of direct jobs. Some of the established services e.g. production PP woven strings, net and rod helps develop other downstream businesses, producing more tailored products. Through training, the project will also improve quality standards in the local woven bags manufacturing industry. The projects will generate substantial tax revenues (estimated to be TZS 8 billion over the ten years projected period) and foreign exchange earnings. The planned services will generate substantial foreign exchange and tax revenues (e.g., corporate tax, VAT, PAYEE)

In summary the project has a number of substantial socio-economic benefits including supporting country industrialization strategy includes; introducing a proven PP woven bag manufacturing technology to Kagera region, substituting imported bags with the locally

manufactured products, enhancing the country's ability to export plastic products neighbouring countries, enhancing shareholder and stakeholder revenues from the expected high return on investment, and increasing employment opportunities for local in Kagera region.

9 ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN

The Environmental Impact Assessment (EIA) carried in line with Government laws, regulations, and standards, it has shown that project has minimum but manageable environmental impacts. The promoter are already compliant to the environmental protection laws through their existing coffee curing project. Hence, they are familiar with the certification process.

Essentially the project will be manufacturing various types of polyethylene woven bags of different carrying sizes and rod by the foaming extrusion procession process. The products to be produced we all have a minimum thickness of 0.5 mm, which well, complies with what the law demands. Additionally, polypropylene raffia granules that are the main raw material are 100% recyclable. And as such, shows that the project will not be against Tanzania environmental laws.