

ARBITER TANZANIA LIMITED

BUSINESS PLAN

FOR

THE PROPOSED CONSTRUCTION OF A WAREHOUSE

AND INSTALLATION OF A RICE PROCESSING

PLANT IN MOROGORO MUNICIPAL: **VOLUME I**



Prepared by:



1st Floor, Msamvu Bus Terminal Building,
P O Box 627, Morogoro,
Tanzania.
Tel: +255 (0) 787515162
Email: jwdagro@gmail.com

JUNE, 2023

TABLE OF CONTENTS

TABLE OF CONTENTS	II
EXECUTIVE SUMMARY	IV
1.0 INTRODUCTION	1
1.1 COMPANY BACKGROUND	3
1.1.1 <i>Current company activities</i>	3
1.1.2 <i>Contact person</i>	3
2.0 GOVERNANCE	4
2.1 PROJECT MANAGEMENT.....	4
3.0 RELATIONSHIP WITH OTHER BANKERS	5
4.0 REQUEST FROM THE BANK	6
4.1 GRACE PERIOD.....	7
5.0 PROPOSED FINANCING PLAN	7
6.0 PROJECT DESCRIPTION	7
6.1 RATIONALE OF THE PROJECT	8
6.2 PROJECT OBJECTIVE.....	8
6.3 SCOPE	8
6.4 PROJECT LOCATION	8
6.5 INFRASTRUCTURE.....	9
6.6 STATUS OF IMPLEMENTATION.....	9
6.7 CONSTRUCTION OF A WAREHOUSE.....	9
6.8 RICE PROCESSING	9
6.8.1 <i>Selection of the rice processing plant</i>	10
6.9 SOURCING RAW MATERIALS	11
6.10 PROJECT COST.....	12
6.11 AVAILABILITY OF MANPOWER	12
6.12 ECONOMIC IMPORTANCE OF THE PROJECT	12
6.13 MARKET AVAILABILITY	13
6.13.1 <i>Future potential markets</i>	13
6.13.2 <i>Sales Strategies</i>	13
6.13.3 <i>Pricing Strategy</i>	14
7 PROPOSED SECURITY	14
8 FINANCIAL ANALYSIS	15
8.1 CONSIDERATIONS AND ASSUMPTIONS.....	15
8.2 FINANCIAL PROJECTIONS	15
8.2.1 <i>Revenue Projection</i>	15
8.2.2 <i>Projected income statement</i>	16
8.2.3 <i>Projected statement of financial position</i>	17
8.2.4 <i>Cash flow projection and liquidity</i>	18
10.0 RISK ANALYSIS	19
11.0 ENVIRONMENTAL AND SOCIAL IMPACT OF THE PROJECT	19
11.1 SOCIAL IMPACT OF THE PROJECT	20
11.2 ENVIRONMENTAL IMPACT.....	20

11.2.1 Solid waste	20
12.0 PROPOSED PROJECT IMPLEMENTATION SCHEDULE.....	20
13.0 CONCLUSIONS.....	21
REFERENCES	22
15.0 APPENDICES.....	22
APPENDIX 15.1 GENERAL SUMMARY OF WAREHOUSE BILL OF QUANTITIES (BOQ)	23
APPENDIX 15.2. INVOICE FOR THE PROCESSING PLANT.....	24
APPENDIX 15.3 INVOICE FOR THE ACCESSORIES AND INSTALLATION	25
APPENDIX 15.4 LEGAL DOCUMENTS.....	26
APPENDIX 15.5 BOARD RESOLUTION.....	31
APPENDIX 15.6 LOAN SECURITY DOCUMENTS	33

EXECUTIVE SUMMARY

Rice is the second most important food crop in Tanzania after maize. Rice is grown in all regions of the United Republic of Tanzania with the leading regions being Morogoro, Shinyanga, Tabora, Mwanza, Mbeya and Rukwa. Others include Kilimanjaro, Arusha, Manyara, Iringa, Mara, Tanga and Kigoma.

The potential of rice business in Tanzania is growing due to the growing food demand in the local, regional and international markets. The availability of suitable resources for rice production and the geographical location of Tanzania with all the necessary transport networks to reach the local, regional and international markets are among the main reasons for the growing potential of the agricultural sector, specifically the rice sub sector. The growing population with the preference of eating rice, the limited potential of the agriculture sector in the neighboring countries and the current good political environments contributes to the increased potential of the rice sub sector in Tanzania.

ARBITER Tanzania Limited identified this rice business potential and would like to invest in the rice processing, branding and marketing with the target to reach the local regional and international markets. The company intends to build a warehouse and install a modern rice processing plant for processing high quality rice. The project is expected to be implemented at plot No. 12, Block E, located at Kihonda, Morogoro municipal. The site selection took into account the fact that Morogoro region is among the top three rice producing regions. Similarly, Morogoro is well connected by all major transport networks making it much ease to source the raw material from other regions and also access the rice market within and outside Tanzania.

This proposal is developed for requesting financial support from TIB Development Bank for the construction of a new warehouse as well as for procurement and installation of a modern rice processing plant. The total cost of the project is estimated to be TZS. 1.80 billion of which TIB is requested to finance TZS. 1.22 billion and ARBITER Tanzania Limited will contribute TZS 0.58 billion. This makes debt to equity ratio of 68:32.

The financial support requested from TIB is made up of a long term loan of TZS. 1.06 billion for capital expenditure in the civil works and for procurement of processing plant. Similarly, a short term loan of TZS. 0.16 billion is requested as a working capital for procurement of paddy rice from farmers. The project is planned to be implemented for a period of seven years, two years beyond the term of the bank loan in order to monitor the company's net worth after the end of the loan facility.

The revenue projection from the sales of rice, fine husks for animal feed and renting the processing facility is estimated to be TZS 1.35 billion in year 1, TZS 2.71 billion in year 5 and will increase to TZS 4.42 billion by year 7. On the other hand, the net profit generated from the project is expected to be TZS 0.41 billion in year 1, which will increase to TZS 1.06 and 1.91 billion in year 5 and 7 respectively.

The company would initially require a short term loan to pay for the working capital. By the end of the third year, the company cash flow will improve and be able to meet all its financial obligations including the capacity to service the loan. The cash flow projection suggests that by the end of the loan facility, the company will have enough cash to continue with its business which provides confidence that the project is viable.

The proposed project will increase the company's net worth from TZS. 1.64 billion before commencement of operation to TZS 3.87 billion in year 5. The company's net worth will reach 7.28 billion by year 7.

The financial projections presented in this report all indicate that the project is profitable and will generate enough revenues to be able to service the loan and also increase the net worth of the company. TIB is therefore requested and encouraged to finance the project for mutual benefits.

1.0 INTRODUCTION

The economy and livelihood of many people in Tanzania and other African countries depend on the agriculture sector. The sector serves as the main generator of income as well as provider of the much needed food. According to the survey conducted by the National Bureau of Statistics (NBS) of Tanzania, over 65 percent of the households in Tanzania are involved in agriculture (NBS, 2021). The same trend was reported in Rwanda where over 80 percent of the households are involved in agriculture (NISR, 2020). Similarly, in Kenya and Uganda, over 60 percent (KNBS, 2017) and 79 (UBOS, 2022) percent of the households are involved in agriculture sector respectively. The agricultural sector in Tanzania contributes 23 and 30% to GDP and export goods respectively (NBS, 2019). Similar trends were also reported in Rwanda where the sector contributes 33% to the GDP and 50% to export goods (NAP, 2018). Obviously, with such majority of households involved in agriculture and with the noted contribution of the agriculture sector to the GDP and export goods, it is sensible for Tanzania and other African countries to modernize the agricultural sector in order to contribute more in the economy and the livelihood of the African communities.

Box1: Statement of the President of the Africa Development Bank



The potential of the agricultural sector in the economic development of Africa have not been fully utilized. As stated by the President of Africa Development Bank (Box 1), the future millionaires and billionaires of Africa will come from the agriculture sector. Africa should consider itself as the food basket of the world as it is the only continent with adequate land and water resources as well as suitable weather condition for agriculture and animal production. This can only be achieved if African countries put efforts in promoting and modernizing the agricultural sector. The sector should be considered as a business and not a subsistence with the solely purpose of only providing food for the African communities.

African countries should develop policies, laws and regulations that promote and support the sustainable development and investment in the agricultural sector. The focus for the investment should not only concentrate on small scale farmers, but also put more efforts in the medium and large scale commercial farmers. The investment should further focus in modernizing and mechanizing the farming operations, installation of irrigation systems to avoid relying on rainfed agriculture and also agro processing for value addition of the farm produces.

Tanzania has huge potential in the agriculture sector and one of the countries in the region which can earn and develop its economy from the agriculture. The country has all the necessary agricultural related resources and transport networks to reach the local, regional and international market. In fact with a very little efforts of modernizing the agricultural

sector, apart from exporting food and raw materials to other parts of the global, Tanzania can be the main source of food for the Eastern and Central African countries.

Rice is one of the widely grown crops in Tanzania. In fact, it is the second most important food crop after maize in terms of number of households involved, area planted and production volumes. Farmers are growing rice as a food and a cash crop. The leading regions in rice production in Tanzania are Morogoro, Shinyanga, Tabora, Mwanza, Mbeya, and Rukwa. Others are Kilimanjaro, Arusha, Manyara, Iringa, Mara, Tanga and Kigoma. The crop is cultivated in three ecologies and mainly by smallholder farmers. The rainfed lowland, irrigated lowland and upland cropping systems are the main rice production ecosystems in Tanzania with most of the rice produced under rainfed lowland ecosystem.

As the case for many other crops, farmers in the rice sub sector experience low crop production and productivity caused by various biotic and abiotic stresses. The low use of agro inputs especially seeds of improved rice varieties and fertilizers has often mentioned as one of the factors leading to low production and productivity. Other factors include inadequate extension services and lack of reliable and competitive market for farmers' crop produce which discourages them from investing in modern technologies such as irrigation and use of agro inputs.

The area under rice production in Tanzania has increased from 900,275 ha during 2011/12 crop season to 1,109,814 ha in 2017/2018. In the same way, the milled rice production increased from 1.2 to 2.2 million MT during the same period (NRDS, 2019). Figure 1 summarizes the milled rice production trends in Tanzania for a period of 10 years (2009 to 2017).

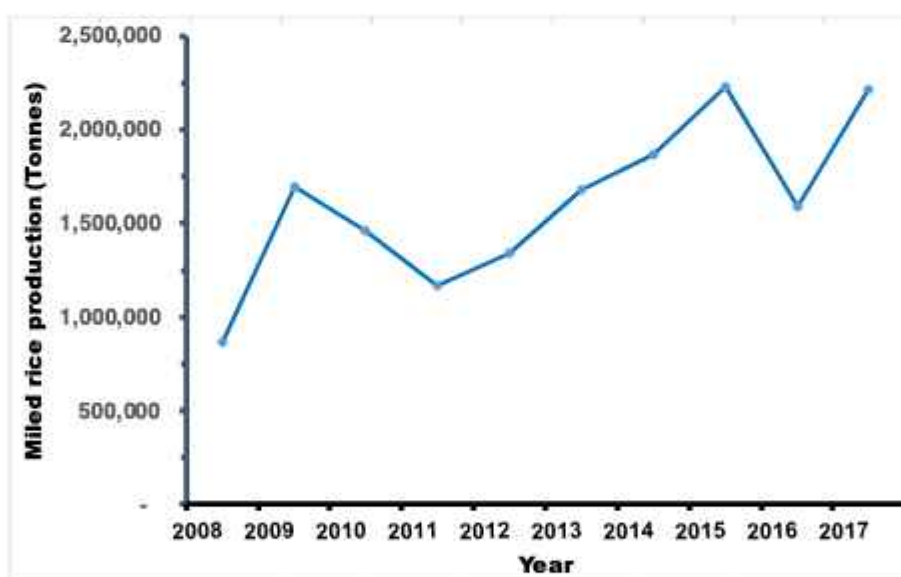


Figure 1: Milled rice production trend for ten year -2009 to 2017 (Sources Ministry of Agriculture)

The trend clearly indicates that the production has substantially increased each year at an average rate of 107,248 MT per year. Despite of such increase, Tanzania and other countries in the region import rice almost every year. This implies that there are local, regional and international readily available rice markets. The demand for rice is consistently increasing, primarily due to increased population and change in the eating behaviour for many communities. Tanzanian and other African countries import rice to meet the food demand each year. This is a huge opportunity for the local investors to invest in commercial

rice production, processing and marketing. It is against this background that ARBITER Tanzania Limited would like to explore the opportunity by investing in the rice sub sector.

This proposal is developed by ARBITER Tanzania Limited for submission to TIB Development Bank for requesting a loan facility for investing in the construction of a warehouse and procurement of a modern rice processing plant for processing, grading and branding high quality rice for local, regional and international markets. The proposal outlines the detail background of the project, market analysis, capital cost and financial projections as well as analysis of potential risks that the project is likely to encounter. Similarly, the social and economic impacts of the project to the communities are highlighted.

1.1 Company background

ARBITER Tanzania Limited was incorporated in the United Republic of Tanzania with registration No. 26722 of 12 December, 1994 and Tanzania Revenue Authority certificate with tax identification number 100-867-699. The company is Value Added Tax (VAT) registered with certificate No. 10-018505-K. The company's head office is located at Plot No. MM/MBB/206, Block MB/5275, Korogwe, Kimara road next to TMDA office building. The purpose of establishing the company is to contribute in the economic development of the country through the agricultural and the construction sectors. The founder and the General Manager of ARBITER Tanzania Limited has been farming various crops for the last fifteen years. Throughout this period, he developed experiences and interest in farming and now has in cooperated agriculture in the objectives of the company.

Vision: A leading and a sustainable investor in infrastructure development and crop production, processing and marketing.

Mission: To invest in infrastructure development and crop production and processing for the local, regional and international markets.

1.1.1 Current company activities

ARBITER Tanzania Limited was initially a construction company. Based on the experience of the founder and General Manager of ARBITER Tanzania Limited, who has been farming and doing commodity trading for the last 15 years, the company has incorporated agricultural activities in its objectives. The plan is to procure paddy rice from farmers, process, brand and market. This option is more preferred than the actual farming because it produces more margin and also has less risk than the actual farming. In so doing, the company will create not only a competitive market for farmers' crop produce but also will create employment in the farming, agro processing and trading activities.

1.1.2 Contact person

The main promoter of the proposed project and the contact person is Mr. Agapiti Kobello who is also a founder, a General Manager and a Chairman of the Board of ARBITER Tanzania Limited. The contact details of the promoter is as follows:

Name: Agapit Kobello
Position: General Manager & Chairman of the Board
Tel: +255 754282587
Email: kobello74@gmail.com

2.0 GOVERNANCE

The shareholding of the company is composed of three shareholders with the authorized share capital of TZS 1 million. The company has also issued and paid capital of the same amount. Table 1 summarizes the details of the shareholders and their corresponding shares they own in the company. The qualifications and experiences of the shareholders are presented in section 2.1

Table 1: Summary of the details of the shareholders and Board members

S/N	NAME OF SHAREHOLDER	AGE	POSITION	PERCENTAGE OF SHARES OWNED
1	Agapiti Kobello	67	General Manager & Chairman	50
2	Pendael Mutoni	69	Board member	25
3	Emmanuel Mutoni	66	Board member	25
4	Richard Mwalingo	38	Secretary.	-

2.1 Project Management

The nature of the business requires a minimum number of permanent staff with the majority of the work force recruited on temporary basis. The company is managed by a General Manager with the assistance of three permanent departmental Managers. The number of permanent staff will increase in the course of implementing the project. The staff will be organised in three departments namely Finance and Administration, Production and Processing and Marketing and Sales (Figure 2). The legal and internal audit services will be recruited as part time jobs.



Figure 2: Management structure of ARBITER Tanzania Limited

ARBITER Tanzania Limited has a Board of Directors consisting of four members. The day-to-day operations will be managed the Management Team of the company which is made up of the General Manager, the Production & Processing Manager, Sale and Marketing and Finance & Administration Managers. The brief profiles of the management team is presented hereunder:

1. Agapit Kobello – General Manager & Chairman

Mr. Agapit Kobello is a founder of ARBITER Tanzania Limited. He is a holder of a Master of Arts in Economic Planning and Policy from the Institute of Social Studies, The Hague, Netherlands and Advanced Diploma in Economic Policy and Planning from the Institute of Development Management, Mzumbe, Morogoro, Tanzania. Mr. Kobello is a retiree of the Bank of Tanzania (BOT) where he worked as a Director of Banking Supervision. Prior to this

position, he worked as a Manager of Operations Review and Policy and Principal Bank Examiner of BOT. Mr. Kobell will be the General Manager and Chairman of Board of ARBITER Tanzania Limited.

2. Mr. Dickson Mkude – Production & Processing Manager

Mr. Dickson Mkude holds the position of Production & Processing Manager of ARBITER Tanzania Limited. He is a holder of a Diploma in Agriculture from Ilonga Agricultural Training Institute, Morogoro, Tanzania. Prior to joining ARBITER Tanzania, Mr. Dickson was the Operations Manager of JWD Farming Limited. His major responsibilities were supervision of field operations such as land preparation, planting, weeding and harvesting. He was also responsible in agricultural seed production, processing and marketing.

3. Noella Kobello - Sales & Marketing Manager

Ms Noella Kobello is a holder of BCom specialized in marketing from Mahajana University of Mysore, India. She has experiences in customer care from First National Bank where she worked as a Senior Bank officer in the front desk customer care services. She also worked as a Bank Officer at Akiba Commercial Bank with the same responsibilities of customer care services. Ms. Noella will be taking the position of Sales and Marketing Manager of ARBITER Tanzania Limited. Her experiences in customer care, sales and marketing will be useful in promoting products and services under this project.

4. Ally Kiyogomo – Finance & Administration Manager

Mr. Ally Kiyogomo is a Finance & Administration Manager. He is a holder of BCOM, Accounting from the University of Dar es Salaam. He has experiences in finances and Administration acquired from ARBITER Tanzania Limited as a Finance and Administration Manager since 2021. Prior to joining ARBITER, Mr. Kiyogomo was an accountant at Tanga Municipal Council. His areas of experiences include preparation of accounts documents such as revenue and expenditure journals, payment vouchers, bills and receipts. Similarly, experiences has been gained in bank reconciliation as well as preparation of various financial reports including cash flows, income statements and trial balances. Apart from his technical experiences in financial resources, he also possess experiences in the management of human resources.

The above management structure and team for implementing the project can at different stages be modified to meet the manpower requirements of the project. At this early stages of the implementation of the project, the internal audit and legal services will be on short term bases. The rest of the manpower requirements are seasonal which will be engaged on a need bases.

3.0 RELATIONSHIP WITH OTHER BANKERS

ARBITER Tanzania Limited maintains a current account No. 266902 with CRDB Bank. Similarly, the company have a bank account no. 011011175491270001 with Azania Bank Limited. Currently, ARBITER Tanzania has no loan with any bank.

4.0 REQUEST FROM THE BANK

ARBITER Tanzania is requesting the loan from TIB Development Bank for the purpose of supporting the capital investment in the construction of a warehouse and procurement and installation of a modern rice processing plant. The project will also need a working capital to build up the capacity of the company at the initial stages. The total cost of the project is estimated to be TZS 1.8 billion of which TZS 0.18 billion is the existing equity, TZS 0.40 is the additional equity to be injected by the borrower and TZS 1.22 billion is the amount of money requested from the bank as a loan (Table 2).

Table 2: Summary of the total cost of the project

ITEM	Existing Equity (TZS '000)	Additional Equity (TZS,000)	Loan (TZS, 000)	Total Cost (TZS,000)
Land and Buildings				
Land acquisition	183,000.00	0.00	0.00	183,000.00
Building Cost;				
Warehouse building	0.00	0.00	656,845.90	656,845.90
Sub – Total				
Add: 18% for Value Added Tax			118,232.26	118,232.26
Total - Land and Buildings	183,000.00	0.00	775,078.16	958,078.16
Plant, Machinery and Equipment				
Set of processing machines	0.00	0.00	230,000.00	230,000.00
Fabrication & Processing plant installation		15,000.00	57,670.00	72,670.00
				0.00
Sub Total - Plant, Machinery and Equipment	0.00	15,000.00	287,670.00	302,670.00
Furniture and Fittings				
Office furniture & fixtures		15,000.00		15,000.00
Sub Total - Furniture and Fittings	0.00	15,000.00	0.00	15,000.00
Pre-operational expenses:				
Project Feasibility & Business Plan	0.00	7,500.00		7,500.00
Architectural Designs & Q.S. Engineer's B.O.Q Report	0.00	10,500.00		10,500.00
Supervising fee	0.00	15,000.00		15,000.00
Sub Total - Pre-operational Expenses	0.00	33,000.00	0.00	33,000.00
TOTAL CAPITAL INVESTMENT COST	183,000.00	63,000.00	1,062,748.16	1,308,748.16
Initial Working Capital				
Procurement of paddy rice 6000 bags	0.00	320,000.00	160,000.00	480,000.00
Storage bags (6,000 pcs)	0.00	4,200.00		4,200.00
Tarpaulin for rice drying (100 pieces)	0.00	5,500.00		5,500.00
Sisal Ropes (150 rolls)	0.00	1,100.00		1,100.00
Transportation of paddy rice (4000 bags)	0.00	4,000.00		4,000.00
Sub Total - Working Capital	0.00	334,800.00	160,000.00	494,800.00
GRAND TOTAL	183,000.00	397,800.00	1,222,748.16	1,803,548.16

4.1 Grace period

The loan is expected to be paid in a period of five years. The scope of the activities of the project will be implemented in two stages. The first stage will involve the construction of the warehouse, followed by the second stage of the installation, testing and commissioning of the processing plant. The construction stage is expected to take about 18 months and the installation, testing and commissioning is expected to take about six months. It is therefore going to take about 24 months from the date of receiving the loan to the completion of the construction and commissioning of the processing plant. It is therefore proposed to have a grace period of 24 months. It is further proposed that the interest served during the grace period will be capitalized at the end of the grace period.

5.0 PROPOSED FINANCING PLAN

The project financing is proposed under 68:32 Debt to Equity Ratio. The equity proportion will include the existing and the additional equity to be injected by the borrower (Table 3). The bank support will be required in the form of a long term loan of TZS 1.2 billion to finance the infrastructure and a short term loan of TZS 0.16 billion as a working capital for procurement of the raw materials.

Table 3: Project financing plan

S/N	ACTIVITY/ITEM	AMOUNT (TZS)			
		Existing Equity	Additional Equity	Loan	Total
1	Land and Buildings	183,000.00	0.00	775,078.16	958,078.16
2	Plant, Machinery and Equipment	0.00	15,000.00	287,670.00	302,670.00
3	Furniture and Fittings	0.00	15,000.00	0.00	15,000.00
5	Pre-Operational Expenses	0.00	33,000.00	0.00	33,000.00
	TOTAL FINANCING	183,000.00	63,000.00	1,062,748.16	1,308,748.16
6	Initial Working Capital	0.00	334,800.00	160,000.00	494,800.00
	GRAND TOTAL	183,000.00	397,800.00	1,222,748.16	1,803,548.16

The combined loan facility of TZS 1.22 billion is equivalent to 68% of the project cost. ARBITER Tanzania Limited will contribute an equity of TZS 0.58 billion to finance part of the land and buildings costs, working capital as well as pre-operational expenses. The proposed equity contribution is equivalent to 32% of the total project investment cost.

6.0 PROJECT DESCRIPTION

The Food demand in the local, regional and international markets keeps on increasing and it is expected to continue to increase in the coming years. Such trends of food demand and attractive food prices will always attract any potential investor to consider putting money in the agricultural sector. ARBITER Tanzania Limited is one of the investors saw this opportunity and is planning to invest in food processing and marketing.

6.1 Rationale of the project

Availability of reliable and competitive market is one of the main drivers of increasing production and productivity. Rice farmers in most parts of the United Republic of Tanzania are increasingly experiencing market constraints for their crop produce. The unreliable and uncompetitive market contribute substantially to the underdevelopment of the rice sub sector as farmers, processors and traders will always hesitate to invest in modern rice production, processing and marketing technologies. ARBITER Tanzania Limited has decided to support farmers in accessing competitive and reliable market of their paddy by investing in value addition for processing high quality rice for marketing in the local, regional and international markets.

The approach in addressing farmers' market problems is to invest in a warehouse and a modern rice processing plant. This will allow ARBITER to timely and at a competitive price, purchase the paddy rice from farmers for processing and branding. ARBITER will develop reliable and competitive market channels for the milled rice in the local, regional and international markets. This approach will enable farmers to access reliable market for their paddy rice and encourage them to increase rice production and productivity. On the other hand, ARBITER will also be able to expand the milled market as farmers increase production.

6.2 Project objective

The overall objective of the project is to increase the availability of high quality rice in the local, regional and international markets. The specific objectives of the project are:

1. To construct a warehouse for processing and storage of rice;
2. To procure, install and commission a modern rice processing plant;
3. To process, brand and market high quality rice for local, regional and international markets.

6.3 Scope

The scope of the work will include designing and construction of a warehouse, procurement and installation of a modern rice processing plant as well as processing, branding and marketing of high quality rice. The company will make contract growing arrangements with farmers for the production of high quality paddy rice. Farmer training sessions will be provided to facilitate them to increased rice production and productivity.

6.4 Project location

The project will be implemented at the light industry plot number 12, Block E, located at Kihonda, Morogoro municipal. The site is about 2 km from Morogoro main bus terminal and is only 1 km from the main Morogoro to Dodoma road. The selection of the site took into consideration both accessibility, availability of power and water as well as availability of raw materials. Morogoro is one of top three rice production regions in Tanzania. This will substantially reduce transportation of raw materials as well as will simply access to the market as Morogoro is linked to all the important transport networks to the local, regional and international markets.

6.5 Infrastructure

The site has all the necessary infrastructure required for the project. The site is very accessible as it is only about 1 km from main Morogoro to Dodoma tarmac road. Access road from the main road to the site is good and all the necessary utilities such as electricity and water are available at the site.

6.6 Status of implementation

Table 4 summarizes the current status of implementation of the project. ARBITER Tanzania Limited has already acquired an industrial plot for the project. The company has already designed a warehouse and prepared the Bill of Quantities (BOQ).

Table 4: Status of project implementation

S/N	Scope of Works	Remark
1	Acquisition of an industrial plot in Morogoro municipal	Done
2	Electricity service line to the site	Done
3	Water supply to the site	Done
4	Engineering design & Bill of Quantities	Done
5	Procurement of Contractor	Not yet
7	Construction of warehouse	Not yet
8	Procurement and installation of the rice processing plant	Not yet
10	Procurement of paddy rice from farmers	Not yet
11	Development of sustainable market for the milled rice	Initial arrangement have been done

6.7 Construction of a warehouse

Currently, ARBITER Tanzania Limited owns a small warehouse capable of accommodating only 2000 bags of paddy rice. This warehouse is too small to accommodate the planned paddy rice to be procured from farmers under the project. With the additional plan of processing rice, it is necessary to have a modern warehouse with adequate storage and processing spaces. A new warehouse with the surface area of 1000 m² has been designed and appropriate engineering drawings and BOQ have been prepared. The general summary of the BOQ is presented in Appendix 15.1. The detailed engineering drawings and BOQ are presented in Volume II of the project proposal). The total cost of the proposed warehouse is estimated to be TZS 775.08 million. The warehouse designs took in consideration of the requirements for the proposed processing plant including the rice dryer as well as adequate space for the storage of the paddy and milled rice.

6.8 Rice processing

The quality of the milled rice depends on rice processing technology used and the quality of paddy rice purchased from farmers. The company will train and use experienced staff during production and procurement of paddy rice with proper post harvesting handling so that high quality paddy rice will be delivered to the factory. The company will also select the most appropriate rice processing technology to ensure that ARBITER produces and market high quality rice.

The rice processing technologies are principally consist of 9 major sections as illustrated in Figure 3 which shows the rice processing flow chart. The rice processing starts with a drying section where the paddy rice is dried to the appropriate moisture content using a dryer. The use of the dryer is option depending on the weather condition, field drying of the paddy and

the quality of the rice to be processed. After drying, the paddy rice is then sent to the pre cleaning section where dust and other unwanted materials are removed followed by a destoner section where all the stones and clumps of soils are removed from the paddy rice.

The paddy rice is then sent to the husker machine where the husks are removed, followed by rice separation section where the rice is separated with the husks using a rice separator machine. The rice is then sent to the grader for grading the rice to different grades.

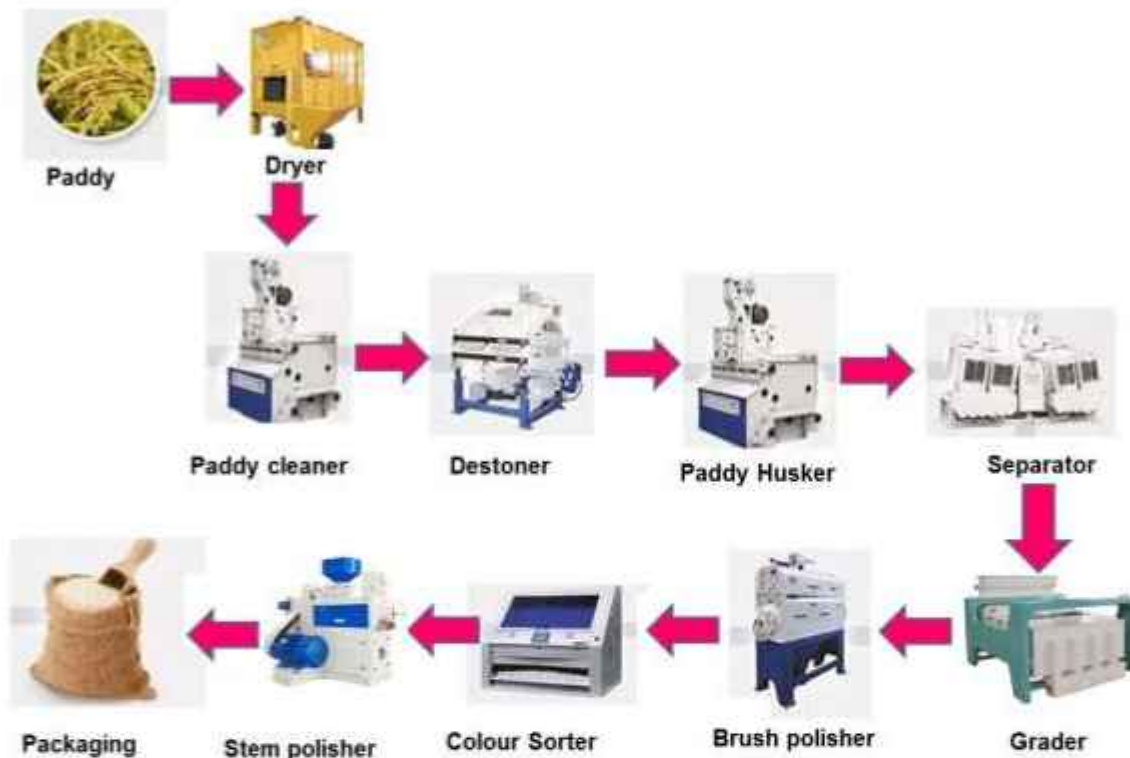


Figure 3: Proposed rice processing flow chart

After grading the rice is transferred to the polisher for polishing where fine dusts are removed from rice grains. The polished rice is then subjected to color sorter to remove all rice grains with different colors from the normal white rice grains. For the purpose of producing high quality rice to meet the local, regional and international markets, the rice is finally sent to a steam polisher where all fine dusts and unwanted material are removed. After this final stem polishing, the rice is ready for packaging into different sizes based on the market demands. It is also important to note that the above processing machines are the most important in the rice processing line. Depending on the quality and type of rice needed additional machines can be added in the processing line to meet the required final standards of the milled rice.

6.8.1 Selection of the rice processing plant

The rice processing plant will be procured from China. The plant will be supplied by Zhejiang Zhancheng Machinery Co. Ltd. The selected rice processing technology is common in Tanzania as there are already existing plants and are working well without major technical problems. This means that the technician and skilled labour for operating, repair and maintaining are available. Based on the processing requirements and future market expansion, the plant size selected will be with the processing capacity of 40 MT per day.



Plate 1: Typical final outlook of the processing plant

The total CIF cost of the various machines with all the necessary components described above is estimated to be TZS 230 million. The additional accessories needed to fulfill the installation will be fabricated locally. The total cost of fabrication of the additional accessories and installation is estimated to be TZS 57.7 million. The detailed specifications and the cost of the various components as well as the installation cost of the processing plant are summarized in the invoices in Appendices 15.2 & 15.3).

6.9 Sourcing raw materials

The main final product to be produced in this project is high quality, well graded and polished milled rice. The raw material required to produce rice is paddy rice which is expected to be purchased from farmers during harvesting. The company will put strategies to ensure enough paddy rice is purchased during harvesting when the farm gate prices are low. To avoid competition from other buyers, ARBITER Tanzania Limited will also make arrangements to enter into agreement with selected farmers to ensure the company meets its production targets. The location of the project is strategic in the sense that the transport network will facilitate sourcing raw materials from Morogoro and other regions such as Mbeya, Rukwa, Iringa, Shinyanga and Mwanza. The selected location of the project will reduce not only the raw material transport cost, but also will facilitate a constant, adequate and sustainable supply of high quality raw materials to meet the installed capacity of the plant processing.

The farm gate price of the paddy rice depends on the demand and supply. Generally, the prices are low during harvesting simply because the supply is high and become high at the beginning of the next crop season when the supply is low. Experiences from the last five crop seasons show that the average paddy rice prices ranged from TZS 50,000.00 to 95,000.00 per bag. ARBITER Tanzania Limited will arrange to procure most of the paddy rice during harvesting in order to benefit with the low farm gate prices. An average farm gate price of TZS 80,000.0 per bag will be used for calculating the cost of the raw materials. The target under the project is to purchase a total of 6,500 bags of paddy rice in year 1, 12,695 in year 5 and 19,836 by year 7.

6.10 Project cost

The project cost is made up of the capital cost and the initial working capital. Land and buildings, plant, machinery and equipment as well as pre-operation expenses are among the major cost categories of the capital cost. The total cost of the project will be TZS 1.80 billion. This amount include the capital cost of TZS 1.31 billion and a working capital of TZS 494.8 million (Table 5).

Table 5: Summary of the Total project cost

S/N	ACTIVITY/ITEM	Total (TZS, 000)
1	Land and Buildings	958,078.16
2	Plant, Machinery and Equipment	302,670.00
3	Furniture and Fittings	15,000.00
5	Pre-Operational Expenses	33,000.00
	Total capital cost	1,308,748.16
6	Initial Working Capital	494,800.00
	Grand total	1,803,548.16

6.11 Availability of manpower

The scope of the work requires mostly unskilled labour to be recruited on temporary bases during the crop seasons. The management staff and limited number of skilled labour will be recruited on permanent basis especially for field and factory operations. The skilled and unskilled labour are easily and adequately available in Tanzania. The rice processing technology to be used is not new in Tanzania. The skilled labour for operating the processing plant as well as for repair and maintenance is locally available. Arrangement will be made to provide adequate training to the factory staff on the operating and maintaining the various processing machines.

6.12 Economic importance of the project

The importance of rice in the economy and livelihood of Tanzanians cannot be over emphasized. Rice is one of the important crops that contribute immensely to Tanzania's food and nutrition security, socio-economic development and the country's foreign exchange earnings. It is considered to be the second most important food grain crop after maize, produced in over 64 districts, making Tanzania the largest rice producer in the region. Tanzania intends to be rice self-sufficiency and contribute to regional rice self-sufficiency by 2030.

The rice sub-sector has long been identified by the Government of Tanzania as a strategic priority for agricultural development. The potential of rice for improving food security and income for large numbers of rural households, availability of land suitable for rice production and suitable rice growing conditions with available water for irrigation are among the major reasons for the government to consider rice as a strategic crop (NRDS, 2019). Similarly, although currently, Tanzania imports rice, the country is expected to become a big rice exporter to the regional and international markets which will increase its contribution in foreign earnings.

There is also a growing interest and potential of the private sector to participate in value addition by processing, branding and marketing high quality rice. Currently, there are a number of small, medium and large scale rice processing plants operating in various regions which provide market opportunities for rice growers. On the other hand, the rate of increase in demand for rice in Tanzania and Africa in large is expected to be high due to population growth and the current shift in consumer preferences in favor of rice over other crops. For example, the rice consumption in Africa has increased to over 34% since 2002, compared with only 8% in Asia and 10% as the world average (NRDS, 2019). All the above descriptions provide insight of the position and potential of the rice sub sector in the Tanzania's food and nutrition security and socio-economic development.

6.13 Market availability

The local annual rice production is lower than the annual local consumption. According to the National Rice Development Strategy (NRDS, 2019), Tanzania imported rice worth US \$ 130 million between 2001 and 2005 to meet the local demands. By comparison, the export was only worth US \$ 7.83 million in the same period. The trend remained the same in the last ten years which suggest that there is adequate local market of rice in Tanzania. This is confirmed by the increased number of small, medium and large scale rice processors in Tanzania in the last 15 years. Despite of such increased in the number of rice processors, still each year there is deficit of rice in the local and regional markets which indicates that the rice market is readily available locally as well as in the regional markets.

6.13.1 Future potential markets

ARBITER Tanzania Limited will initially focus on the local markets. The future plan of the company will be to focus in the regional and international markets. The plan will be to establish regional distribution network of ARBITER rice. The potential rice markets will be identified in the neighboring countries of Democratic Republic of Congo and Comoro. Initial discussions with potential buyers has been held. This potential markets will be promoted for sustainable supply of ARBITER rice. Efforts will also be made to look for international rice markets.

6.13.2 Sales Strategies

Milled rice will be the main product produced and marketed by ARBITER Tanzania Limited. The company will also have fine husks for animal feed as a by-product from processing paddy rice. Similarly, the company will provide renting processing services to other processors. The targeted customers for the milled rice are rice traders, supermarkets as well as various Governmental and None Governmental institutions. The sales strategy of the company will be to ensure high quality rice is produced to meet the quality demand of the various customers. On the other hand, the consumers for the fine husks are the livestock

keepers of which the company will establish a sustainable fine husks market network with small, medium and large scale livestock keepers.

The company will also provide processing services for other processors, traders and farmers. Based on the installed capacity of the plant, this services are expected to take over 50% of the installed capacity. The company will promote the facility to all potential customers. ARBITER Tanzania Limited will ensure high quality processing services will be provided including improved customer care, timely delivering of the services and high quality milled rice to meet their customer demands.

6.13.3 Pricing Strategy

The cost of production is a key driver in the pricing of the products and services. Any strategies in setting competitive prices must therefore focus primarily in reducing the cost of production. The pricing strategies of our products and services will focus on reducing the cost of production by:-

- i. Purchasing the paddy rice during peak harvest season when farm gate prices are usually low;
- ii. Reducing transportation costs by sourcing the paddy rice in the nearby farms;
- iii. Reduce marketing cost by introducing ICT;
- iv. Mechanizing the processing in order to reduce the milled rice and fine husks processing cost;
- v. Sourcing high quality aromatic paddy rice which is more preferred by most consumers.

The above strategies of reducing the cost of production for our product and services will allow the company to set competitive prices for ARBTERRs' products and services. Customer care and timely delivery of the products and services will also contribute

7 PROPOSED SECURITY

Table 6 summarizes the details of the properties to be used as security for the loan. The proposed properties include residential houses, restaurant and bar buildings. It is also proposed to use the project plot with the warehouse to be constructed as well as processing plant to be installed as part of the security of the loan.

Table 6: Summary of the proposed properties for the security of the loan

S/N	PLOT NO	LOCATION	ESTIMATED VALUE (TZS)	REMARKS
1	KND/mbr/mwz19/16	Korogwe road, Ubungo external	600,000,000	It is a two storey building
2	362 Block B	Kimara, Msewe	200,000,000	Residential house
3	12, block E	Morogoro municipal.	183,000,000	The current value of the proposed site

8 FINANCIAL ANALYSIS

The project investment requirement will involve resources for the construction of a warehouse as well as procurement and installation of a modern rice processing plant. Similarly, pre-operations expenses for facilitating the initial activities and a working capital are also part of the investment costs of the project. The details of the total cost of the project are summarized in Table 2.

8.1 Considerations and assumptions

- i. The Bank will approve a long-term loan of TZS 1.31 billion and a short term working capital loan of TZS 0.495 billion;
- ii. The purchase price of paddy rice during harvesting is estimated at TZS. 80,000/= per bags;
- iii. Each bag of paddy rice will produce 64 kg of milled rice and 16 kg of fine husks which will be sold as animal feed
- iv. Sales price of the milled rice will be TZS 2,900.00 per kg in year 1 and will increase to TZS 3,200 in year 7;
- v. Fine husks will be sold as animal fed at a price of TZS 300 per kg in year 1 and will increase to TZS 340 per kg in year 7;
- vi. The loan repayment period of five years for the long term and two years for the short-term loan (working capital).

8.2 Financial Projections

The decisions to invest in any project is guided by the financial projections to assess and ascertain its viability. The proposed project is subjected to various financial projections for the various key parameters. Revenue, income statement, cash flow and financial position of the project for a period of seven years are among the key areas assessed in the financial projections.

8.2.1 Revenue Projection

The major sources of revenue in the proposed project are the sales of milled rice and fine husks for animal feed as well as short term renting of the processing facility. The installed capacity of the processing plant will be enough to processing ARBITER's paddy rice and also rent the facility to farmers, processors and traders to process their paddy rice. Table 7 Summarizes the quality of paddy rice to be processing and the corresponding volumes of rice and fine husk to be produced.

Table 7: The quantity of paddy rice to be processed and the corresponding quantities of milled rice and fine husks to be produced.

Particulars	Year (Bags or Kg)							TOTAL (Bags or kg)
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	
Procurement of paddy rice from farmers (bags)	6,500	6,500	8,125	10,156	12,695	15,869	19,836	79,682
Milled rice (kg)	416,000	416,000	520,000	650,000	812,500	1,015,625	1,269,531	5,099,656
Fine husks (kg)	104,000	104,000	130,000	162,500	203,125	253,906	317,383	1,274,914
Renting the processing (bags)	15,000	15,000	18,750	23,438	29,297	36,621	45,776	183,882
Milled rice (kg)	640,000	640,000	640,000	640,000	640,000	640,000	640,000	4,480,000
Fine husks (kg)	240,000	240,000	300,000	375,000	468,750	585,938	732,422	2,942,109

The projected revenue from sales of milled rice is estimated to be TZS 1.21 billion in year 1 and will increase to TZS 2.45 and 4.02 billion in year 5 and 7 respectively. The renting of the processing facility will generate TZS 38.4 million in year 1 which will increase to 41.95 million by year 7 (Table 8).

Table 8: Projected revenue from the sale of milled rice, fine husks and renting of the processing facility (Year 1 to year 7).

SOURCE /ITEM	Price (TZS, 000/kg)	Revenue TZS, 000)							TOTAL (TZS, 000)
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	
Milled rice	2.9		2% up		2% up		5% up		
		2.9	3.0	3.0	3.0	3.0	3.2	3.2	
Revenue from milled rice		1,206,400	1,230,528	1,538,160	1,961,154	2,451,443	3,217,518	4,021,898	15,627,101
Out-sourcing processing activities	0.06		2% up		2% up		5% up		
		0.06	0.06	0.06	0.06	0.06	0.07	0.07	
Revenue from renting the processing facility		38,400	39,168	39,168	39,951	39,951	41,949	41,949	280,537
Fine husks	0.3		2% up		2% up		5% up		
		0.30	0.31	0.31	0.32	0.32	0.33	0.34	
Revenue from fine husks		103,200	105,264	134,212	171,120	218,178	278,177	354,675	1,364,825
TOTAL		1,348,000	1,374,960	1,711,540	2,172,225	2,709,572	3,537,644	4,418,522	17,272,462

The projected revenue from sales of fine husks will be 103.2 million in year 1 year and is expected to increase to 218.18 million in year 5 and 354.68 million by year 7. The overall revenue projections from the three sources of income is expected to be 1.35 billion in year 1, 2.71 billion in year 5 and 4.42 billion by the end of year 7. The project is expected to generate a total of TZS 17.27 billion within the seven years of implementation.

8.2.2 Projected income statement

The profit and loss projections result into positive right from the first year of the operations. The sale of milled rice, fine husks and renting the processing facility bring impact to the pre-tax profits of between TZS 495.80 million in the first year, TZS 1.29 billion in year 5 and TZS 2.33 billion by year 7 (Table 9). The net profit generated from the project is expected to be

TZS 406.53 million in year 1 which increased to TZS 1.06 billion in year 5. By year 7, the net profit from the project will be 1.91 billion.

Table 9: Projected income statement from year 1 to year 7

Source of revenue	Projected income (TZS, 000)							TOTAL
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	
Sales of milled rice	1,206,400	1,230,528	1,538,160	1,961,154	2,451,443	3,217,518	4,021,898	15,627,101
Renting processing facility	38,400	39,168	39,168	39,951	39,951	41,949	41,949	280,537
Sale of fine husks	103,200	105,264	134,212	171,120	218,178	278,177	354,675	1,364,825
TOTAL REVENUE	1,348,000	1,374,960	1,711,540	2,172,225	2,709,572	3,537,644	4,418,522	17,272,462
Less cost of goods sold	607,360	607,360	759,200	949,000	1,186,250	1,482,813	1,853,516	7,445,498
Gross profit	740,640	767,600	952,340	1,223,225	1,523,322	2,054,831	2,565,006	9,826,964
Less operation/overhead costs	107,074	109,155	127,356	132,141	138,111	145,313	156,810	915,961
Profit before depreciation	633,566	658,445	824,984	1,091,084	1,385,210	1,909,518	2,408,196	8,911,003
Less depreciation	84,632	84,632	84,632	84,632	84,632	78,032	78,032	579,223
Less loan interest	53,137	42,510	31,882	21,255	10,627	0	0	159,412
Profit before tax	495,797	531,303	708,469	985,197	1,289,951	1,831,486	2,330,164	8,172,367
Corporate Tax 18%	89,243	95,634	127,524	177,335	232,191	329,668	419,430	1,471,026
Net Profit	406,553	435,668	580,945	807,862	1,057,760	1,501,819	1,910,735	6,701,341
Retained Earnings	406,553	842,222	1,423,166	2,231,028	3,288,788	4,790,606	6,701,341	13,402,682
Net Margin (%)	30	32	34	37	39	42	43	

The net profit margin realised is equivalent to 30% in year 1 which will increase to 39% in year 5 and 43% by year 7 of the project implementation. The corresponding net retained earnings is expected to be TZS 406.55 million during year 1, increased to 3.29 billion in year 5 and 6.70 billion by year 7.

8.2.3 Projected statement of financial position

The proposed project will increase the company's net worth from TZS. 1.64 billion before the commencement of operation to TZS 3.87 billion in year 5. The net worth of the company will reach TZS 7.28 billion by the end of year 7 (Table 10).

Table 10: Projected statement of financial position

Category	Year (TZS, 000)							
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7 (TZS, 000)
Gross Fixed Assets	1,275,748	1,275,748	1,275,748	1,275,748	1,275,748	1,275,748	1,275,748	1,275,748
Less: Accumulated Depreciation	-	78,032	156,064	234,096	312,128	390,159	468,191	546,223
Net Fixed Assets	1,275,748	1,197,716	1,119,684	1,041,653	963,621	885,589	807,557	729,525
Current Assets:								
Cash		-721,788	-423,024	-219,069	136,258	673,213	1,709,875	3,071,112
Other Current Assets	-	1,061,159	1,070,146	1,334,403	1,677,999	2,094,610	2,667,456	3,332,056
Total Current Assets	-	339,372	647,122	1,115,333	1,814,257	2,767,824	4,377,331	6,403,168
Current Liabilities:								
Sundry Creditors	-	60,736	60,736	75,920	94,900	118,625	148,281	185,352
Net Current Assets	0	278,636	586,386	1,039,413	1,719,357	2,649,199	4,229,050	6,217,816
Net Assets	1,275,748	1,476,352	1,706,070	2,081,066	2,682,977	3,534,788	5,036,606	6,947,341
Add: Amortised Exp	33,000	26,400	19,800	13,200	6,600	-	-	-
Total Assets	1,308,748	1,502,752	1,725,870	2,094,266	2,689,577	3,534,788	5,036,606	6,947,341
Equity Capital	580,800	580,800	580,800	580,800	580,800	580,800	580,800	580,800
Long Term Loan	1,062,748	850,199	637,649	425,099	212,550	-	-	-
Revenue Reserves	-	406,553	842,222	1,423,166	2,231,028	3,288,788	4,790,606	6,701,341
Total Capitalisation	1,643,548	1,837,552	2,060,670	2,429,066	3,024,377	3,869,588	5,371,406	7,282,141

8.2.4 Cash flow projection and liquidity

The cash flow projection provides an idea of company's ability to meet its financial obligation. The company would initially require a short term loan to pay for the working capital. By the end of the third year, the company cash will improve and will be able to meet all its financial obligations including the capacity to service the loan (Table 11). The cash flow projection suggests that by the end of the loan facility, the company will have enough cash to continue with its business which provides confidence that the project is viable.

Table 10: Projected cash flow from year 0 to year 7

Cash inflows	Cashflow (TZS,000)							
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Profit before tax	0	495,797	531,303	708,469	985,197	1,289,951	1,831,486	2,330,164
Equity	246,000		0	0	0	0	0	0
Loan	1,062,748							
Depreciation	0	84,632	84,632	84,632	84,632	84,632	78,032	78,032
Total Cash Inflows	1,308,748	580,429	615,935	793,101	1,069,829	1,374,583	1,909,518	2,408,196
Cash Outflow s								
investment & re-investment	1,308,748							
Change in W,C		1,000,423	8,987	249,073	324,616	392,887	543,189	627,530
Corporate Tax		89,243	95,634	127,524	177,335	232,191	329,668	419,430
Principal Loan Repayment of term loan		212,550	212,550	212,550	212,550	212,550	0	0
Total Cash Outflow	1,308,748	1,302,216	317,171	589,147	714,501	837,627	872,856	1,046,960
Net Cash flow	0	-721,788	298,764	203,955	355,327	536,955	1,036,662	1,361,236
Commulative cash flow	0	-721,788	-423,024	-219,069	136,258	673,213	1,709,875	3,071,112

10.0 RISK ANALYSIS

This project, like any other projects, is likely to have a number of risks, some of which are beyond the control of the promoters. Many of these of risks, whether business or financial risks both affect the returns on the investment. In order to mitigate the risks and improve the overall sustainability of the project it is important that all possible risks are identified and the necessary control measures are put in place. Table 11 presents the details of the possible risks during the implementation of the project, together with the proposed control measures.

Table 11: Possible risks the project is likely to encounter and the proposed control measures

S/N	Risk	Probability of Occurrence	Action to be taken
1	Management of Funds	Very low	<ul style="list-style-type: none"> The company will recruits qualified staff Provide training to the management team on financial management.
2	Drought affect rice production	High	<ul style="list-style-type: none"> Diversification of the supply chain by sourcing rice from various regions and districts; Focus on sourcing paddy rice from the irrigation schemes.
3	Inadequate availability of raw material due to increased competitions with other buyers of paddy rice	Medium	<ul style="list-style-type: none"> ARBITER Tanzania Limited will establish a number of sources of paddy rice from the main rice producing regions; Arrangement will be made to enter into contract with farmers especially in the irrigation schemes.
4	Market failure due to imported rice	High	<ul style="list-style-type: none"> Hold meetings with the government officials to negotiate not to allow imported cheap and poor quality rice; ARBITER Tanzania Limited will focus in the regional markets.
5	Low market prices of milled rice	Medium	<ul style="list-style-type: none"> Diversify the markets both local regional and international; Negotiate annual milled rice supply contracts.
6	Stiff competition with other rice processors and importers	Medium	<ul style="list-style-type: none"> Effective and efficient marketing of ARBITERs' products and services; Development of distribution networks in the local, regional and international markets.

The above listed risks are few among the possible risks during the implementation of the project. ARBITER Tanzania Limited will ensure appropriate and dynamic strategies and measures are put in place to mitigate any of the risks that are likely to affect the implementation of the project.

11.0 ENVIRONMENTAL AND SOCIAL IMPACT OF THE PROJECT

The project is expected to have social and economic impacts to farmers and the community in the project area. Value addition of agricultural products is one of the focus of the government of the United Republic of Tanzania in increasing the contribution of the agricultural sector in the economic development. ARBITER Tanzania Limited is planning to process high quality rice for local and export markets. It is expected that the project will increase the export volumes of Tanzanian goods and therefore contribute in the foreign exchange earnings. The project is therefore expected to have developmental values not only to the country and ARBITER Tanzania Limited, but also to the communities especially small scale farmers around the project areas.

11.1 Social impact of the project

Farmers and the communities in the project area are expected to have direct and indirect social benefits from the project. Jobs created through rice farming, processing and trading, availability of high quality rice in the local markets and assured market of the paddy rice produced by farmers are among the direct positive impacts of the project. The target is to procure a total of 6,500 bags of paddy rice in year 1 which will increase to 19,836 bags by year 7. Similarly, the project will facilitate other processors to buy paddy rice from farmers. The target is to allow other processors to process a total of 15,000 bags in year 1 and 45,776 bags by year 7. This makes the total target of paddy rice to be processed under the project to be 21,500 bags in year 1 which will increase to 65,612 bags by year 7. Assuming the land holding for rice production per farmer is approximately 2 acres. The project will provide assured paddy rice market for 10,750 farmers in year 1 and will increase to 32,806 farmers by year 7.

Similarly, the project will increase the availability of high quality locally produced rice which will reduce the importation of rice and therefore reduce the foreign currency spending that Tanzania would have been used to import rice. In fact, the country will also benefit from the foreign exchange earnings from exporting rice produced under the project.

11.2 Environmental impact

The site selected for the project is surveyed and is classified as a light industrial. The town planning and design of the plots for project took into consideration of the environmental matters especially noise and dust as the plot is isolated with the residential area. The warehouse will be designed and built in the required standards in order to minimize any health and environmental effects.

11.2.1 Solid waste

The main solid waste the project will produce are coarse and fine rice husks. The fine husks are actually one of the by-products which will be sold as animal feed. The demand for such product is very high and no doubt all will be safely collected and marketed. A system of safe collection of solid waste and dust will be designed to ensure all wastes are collected, stored and disposed safely. The coarse husks are used for burning bricks of which the bricks makers collect from the factory and therefore will not pollute at the factory to the level of causing environmental risks. Arrangements will be made with the bricks makers to ensure the wastes are collected regularly.

Generally, based on the site selected for the proposed project, the design of the warehouse and the processing technology selected, the project will have no or minimal effects to the health and the environments. Training and awareness creation to workers and communities on the environmental matters as well as proper management of the various activities during project implementation will further ensure no negative effects of the project to the health of the workers, communities and the environments.

12.0 PROPOSED PROJECT IMPLEMENTATION SCHEDULE

The construction of the warehouse and installation of the processing plant is expected to take about 21 months. Table 12 presents the details work plan for the implementation of the project. The project is expected to be implemented for a period of a maximum 24 months starting from June 2023.

Table 12: Project Implementation Work plan.

ACTIVITY	2023												2024											
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
	Fund mobilization	■	■	■																				
Procurement of the contractor			■																					
Procurement of the processing plant			■																					
Warehouse construction work				■	■	■	■	■	■	■	■	■	■											
Warehouse handing over													■											
Installation of the processing plant													■	■	■	■								
Testing and commissioning of the processing plant																■	■							
Purchase of paddy rice from farmers														■	■	■	■	■	■	■				
Commercial Processing, branding and marketing																			■	■				

13.0 CONCLUSIONS

- » The agricultural sector in Tanzania has been and will be the key sector in the social economic development of the country. The sector generates the income and provides the much needed food for the Tanzanian communities. Currently, the food demand in the local, regional and international markets has increased, causing increase in food prices. The trend is likely to be the same or even increase in the coming years. It is therefore strategically correct for ARBITER Tanzania Limited to consider investing in food agro processing and trading.
- » The company developed this proposal to request a loan from TIB Development Bank) for financing the construction of a warehouse, procurement and installation of a modern rice processing plant. The company intends to process, brand and market high quality rice for the local, regional and international markets. The total cost of the project is estimated to be TZS. 1.80 billion. The bank is expected to finance a total of 1.22 billion and ARBITER Tanzania Limited will contribute TZS 0.58 billion which makes the loan to equity ratio of 68:32.
- » The loan requested from the bank consists of two components, a long term loan of 1.06 billion for civil works, procurement and installation of a processing plant. The other component is a short term working capital of 0.16 billion for procurement of paddy rice from farmers.
- » A detailed financial analysis of the investment shows that the project is viable and will generate enough revenue to timely service the loan. By the end of the project, the company will have enough cash to continue with its business which provides confidence that the project is viable. The projected net profit is expected to be TZS 0.41 and TZS 1.06 billion in year 1 and year 5 respectively. By year 7, the net profit

from the project is estimated to be 1.91 billion. On the other hand, the company's net worth will increase from TZS 1.64 billion before the commencement of operation to TZS 3.87 billion in year 5 and TZS 7.28 billion by the end of year 7.

- » In view of the conclusions presented above and the detailed analysis of the project under consideration, it is safe to state that the project is technically, socially, economically and financially viable. TIB Development Bank is therefore requested and encouraged to consider funding the project.

REFERENCES

UBOS – Uganda Bureau of Statistics (2022). Annual Agricultural Survey 2019 Report. Uganda Bureau of Statistics (UBOS).Kampala, Uganda. https://www.ubos.org/wp-content/uploads/publications/04_2022AAS2019_Report.pdf

NRDS - National Rice Development strategy Phase II 2019-2030 (2019). Ministry of Agriculture, Tanzania.

TNBS – Tanzania Bureau of Statistics (2021). National Sample Census of Agriculture 2019/2020: Key findings report, August 2021.

NISR - National Institute of Statistics of Rwanda (2020). Agricultural Household Survey 2020. <https://www.statistics.gov.rw/search/google/NISR%20%282020%29.%20>

NAP (2018). National Agriculture Policy (2018). Ministry of Agriculture and Animal Resources, Rwanda. <http://faolex.fao.org/docs/pdf/rwa174291.pdf>.


KNBS – Kenya National Bureau of Statistics (2017). Report on the 2017 Kenya Census of Establishments

15.0 APPENDICES

Appendix 15.1 General summary of warehouse Bill of Quantities (BOQ)
 (Detail BOQ & Engineering drawings are presented in Volume I)

S/N	Description	Amount
	BILL NO. 1 – PRELIMINARIES	25,000,000.00
	BILL NO. 2 – PREAMBLES	NIL
	BILL NO. 3 - MEASURED WORKS	415,326,855.40
	BILL NO. 4 - ELECTRICAL & ICT INSTALLATIONS	85,544,000.00
	BILL NO. 5 - PC AND PROVISIONAL SUMS	130,975,000.00
	SUB-TOTAL	656,845,855.40
	1000	
	ADD: VAT 18%	118,232,253.97
	TOTAL CONSTRUCTION COST	775,078,109.37

Appendix 15.2. Invoice for the processing plant
(Exchange rate used US\$:TZS was 1:2,443)

 Zhejiang Zhancheng Machinery Co.,Ltd. ADD: No.1 Jiangong Road, zhuji City, Zhejiang Province , China Tel: 0086-13906857775 Email:tonyhan@188.com					
The Buyer : ARBITER Tanzania Limited					
Address: P O Box 71313,Dar es Salaam, Tanzania		PI No. : 20230416			
phone number: +255 754 282 587		Date: 04/16/20232			
		Port: Dar es Salaam			
Item No.	Description & Specification	Quantity		Unit Price (CIF)	Price (CIF)
1	Grain Dryer - Paddy 5H-20 with 30KFCL husk burner(20tons for paddy rice per batch)	1	set	US\$26,000.00	US\$26,000.00
2	TQLZ125 Paddy cleaner	1	set	US\$2,900.00	US\$2,900.00
3	7.5kw Blower for TQLZ125 Paddy cleaner	1	set	US\$700.00	US\$700.00
4	TQSX125 Rice destoner	1	set	US\$2,100.00	US\$2,100.00
5	MLGQ36C Husker with blower	1	set	US\$4,200.00	US\$4,200.00
6	MGCZ100X12 Paddy Separator	1	set	US\$2,550.00	US\$2,550.00
7	MMJP 112X4 Rice grader	2	sets	US\$2,300.00	US\$4,600.00
8	SB50 JINGU ORIGINAL Rice polisher	4	sets	US\$2,000.00	US\$8,000.00
9	M256 Color sorter with 22kw air compressor	1	set	US\$20,500.00	US\$20,500.00
10	MPGT60 Rice polisher with 55kw motor and 15kw air blower,electrical controal panel	1	set	US\$8,700.00	US\$8,700.00
11	DCS100A Packaging Machine (Complete with weighing scales)	1	set	US\$4,800.00	US\$4,800.00
12	30HP Three phase Motor	4	units	US\$650.00	US\$2,600.00
13	Motor 2HP Low speed (Rpm 910)	11	units	US\$130.00	US\$1,430.00
14	Motor 3HP High speed	2	units	US\$170.00	US\$340.00
15	Motor 5.5 KW High speed	2	units	US\$260.00	US\$520.00
16	Blower 7.5HP(5.5KW)	3	units	US\$650.00	US\$1,950.00
17	Plastic Bucket 6"	1200	pcs	US\$0.50	US\$600.00
18	Bucket Bolt M8x35mm	2500	M	US\$0.25	US\$625.00
19	Flat belts stronger 7"	210	M	US\$5.00	US\$1,050.00
TOTAL					US\$94,165.00

Appendix 15.3 Invoice for the accessories and installation

PROFOMA INVOICE HEMELE YONO FABRICATION P.O.BOX 237, RUJEW A-MBEYA MOB: 0755213402 Dealers in welding & machinery fabrication				
Date: 18/4/2023				
No: 2023418				
TIN: 131-979-606				
M/S ARBITER Tanzania Limited, P O Box 71313, Dar Es Salaam				
S/N	Items	Qty	@	Amount
1	Bucket elevators	8pc's	2,870,000	22,960,000
2	MLGT 36 rice huller seat	1 pc	450,000	450,000
3	SB 50 Polisher Complete	2 pc's	2,000,000	4,000,000
4	Paddy separator seat	1 pc	580,000	580,000
5	DE stoner seat	1 pc	450,000	300,000
6	Reserve tank	2 pc's	800,000	1,600,000
7	Underground Hooper	1 pc	1,200,000	1,200,000
8	Husking pipe & Air pipes	13 pc's	160,000	2,080,000
9	Plat form	2 Parts	8,500,000	8,500,000
10	Installation		16,000,000	16,000,000
			Total	57,670,000
Payment details				
Names: MICHAEL DANIEL MCHIVALA				
Bank: NMB USONGWE				
Account NO: 62510012548				
Bank: CRDB RUJEW A				
Account NO: 0150663093500				