



SIMIYU GRAINS LIMITED

We Feed East Africa

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Business Plan

Project: *Installation of Rice Mill and Edible Oil Production Plants*

Introduction

The project, namely "***Installation of Rice Mill and Edible Oil Production Plants***", is located at Malita Village in Maswa District, Simiyu region. The project site occupies a total land surface area of 9.4 Acres (38,040.5 sqm).

Profile of the Investor *information regarding the investor (profile)*

The investor (major shareholder and Company CEO, Dr Shigalla Bassanda Mahongo) is a Tanzanian citizen by birth, and a member of the Tanzanian diaspora. The Investor is currently working in the Republic of Uganda as Executive Secretary for one of the East African Community (EAC) Institutions, the Lake Victoria Fisheries Organization (LVFO), representing the United Republic of Tanzania. The government policy has always encouraged the diaspora to invest back home.

Statement of Project Objective, Sector and products

The objective of the project is the milling of rice and production of edible oil from sunflower seeds. The Project is within the Sector of Agriculture, under Agro-processing Sub-sector.

Details of investment costs

The costs of capital investment entails construction of buildings (about 80% complete) and installation of medium size agro-processing plants:



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WAREHOUSING & STORAGE, AGRO-PROCESSING, TRADE, IMPORT & EXPORT

Construction:

All construction materials are purchased locally

- ❖ 3 warehouse structures: 518 sqm, 518 sqm and 456 sqm, respectively
- ❖ 1 Administration Block – 260 sqm
- ❖ 1 Showroom 169 sqm,
- ❖ 1 Canteen 307 sqm
- ❖ 1 Business Centre - 54 sqm
- ❖ 1 Changing room – 36 sqm
- ❖ 1 Generator House - 27 sqm
- ❖ 1 Gate House – 27 sqm
- ❖ 1 Power House – 27 sqm
- ❖ 1 Water pump house – 27 sqm
- ❖ 1 Fence wall covering the entire project site, to be fitted with solar lights
- ❖ 1 fence wall encircling the entire project area of 38,040.5 sqm

Machinery and Equipment

The machinery and equipment are to be imported from the Republic of China or Turkey

- ❖ Oil Pressing Plant (10TPD) and oil filling and packing workshop (5-25L): US\$ 102,985 (CIF)
- ❖ Rice mill (1TPH) with electronic weighing scales and hand packing machines: US\$ 28,765 (CIF, PAID)
- ❖ Solar street lights for security around the fence: US\$ 14,366 CIF (PAID)

Project Financing

The project, whose construction is almost ready, is financed from own sources of the CEO, whose annual income is in the tune of \$ 100,000. The second source of funding is loan from Housing and Finance Bank in Uganda, amounting to US\$ 95,000 as per attached Bank Statement. The monthly repayments using personal emoluments for the loan amount to US\$6,615, lasting for a period of 15 months with effect from May 2022. Once production has started, the company will apply for a loan from local banks to finance operations and maintenance costs.

Sources of Technology

The Rice Mill and Oil Pressing machineries will be imported from the Republic of China. Local expertise is available in the country to install and operate the rice mill, which is a medium scale plant. However, technology transfer is required for the Oil Pressing plant. A Contractual agreement will be made between the company and the manufacturer from where the machineries will be imported to provide the necessary skills to the local

workforce at the project site. This will be done through the visit of an engineer from China to assist in the installation, testing, commissioning and trial processing of the machinery at the site for a period of one month. During this visit, local workers will be trained in the operation of the plant.

Project Financial Projection

The financial viability of the project is very promising. However, the analysis presented here is only indicative as the project is not yet operational. The total project cost and projected revenues is as follows:

i) Capital or investment cost:

- Land acquisition and development costs US\$ 10,000 (DONE)
- Construction US\$ 591,700 (DONE)
- Purchase of plant and equipment etc. US\$ 146,116 (US\$ 43,131 PAID)
- **Total costs US\$ 747,816**

ii) Operating and maintenance cost in US\$ (5 year projections):

Items	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Raw materials and consumables	200,000	250,000	300,000	350,000	400,000	1,500,000
Staff costs (permanent, temporary/casual workers)	12,500	15,625	18,750	21,875	25,000	93,750
Utilities (water, electricity etc.)	40,000	50,000	60,000	70,000	80,000	300,000
Management costs	8,500	10,625	12,750	14,875	17,000	63,750
Insurance (medical, buildings & machinery)	4,000	5,000	6,000	7,000	8,000	30,000
Fire equipment	2,000	2,500	3,000	3,500	4,000	15,000
Maintenance of assets (services, repairs, upkeep)	8,000	10,000	12,000	14,000	16,000	60,000
Total projections	275,000	343,750	412,500	481,250	550,000	2,062,500

iii) Estimated project revenues in US\$ (5 year projections)

Items	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Sale and/or export of processed rice	118,500	148,125	177,750	207,375	237,000	888,750
Sale and/or export of rice bran	10,500	13,125	15,750	18,375	21,000	78,750
Sale of rice husks	1,000	1,250	1,500	1,750	2,000	7,500
Sale/export of edible oil	408,500	510,625	612,750	714,875	817,000	3,063,750
Sale and/or export of sunflower cake	11,500	14,375	17,250	20,125	23,000	86,250
Total projections	550,000	687,500	825,000	962,500	1,100,000	4,125,000

The key assumptions in estimating the revenue include availability of bank loan during the first year of operation of the project.

Market study

Sunflower oil production

Many studies have been undertaken on the potential of the booming sunflower sector in Tanzania. These include, among many others:

- A report by the World Bank (2011) titled "*The Sunflower Sector in Tanzania – A Great Potential for Industrial Competitiveness*", which is based on an in-depth market assessment of the entire sunflower sector in the country.
- A Working Paper by the Bank of Tanzania (2017) titled "*Potentiality of Sunflower Sub-sector in Tanzania*".
- A journal article by C.P. Mgeni & Z.T. Mpenda (2021) titled "*Can Sub-Saharan Africa become food self-sufficient? Analyzing the market demand for sunflower edible oil in Tanzania*". The article acknowledges that the sunflower sub-sector in Tanzania is deemed as key to industrialization, thus a potential contributor to economic growth and development, especially for smallholder farmers and small-to medium-size processors.

Although the sunflower seeds oil sector in the country has great potential, and Simiyu region being among the top three sunflower producers in the country (see e.g. IPP Media, 26th April 2017 – *Simiyu yaongozauzalishajializeti*), one of the challenges facing this sector is the unavailability of technology/machinery to process the crop.

Simiyu region has also been identified by the Tanzania Agriculture Research Institute (TARI) as suitable for growing sunflower, along with Singida and Dodoma regions (IPP Media, 6th July 2021). TARI made this identification to enable institutions, traders and larger investors to be able to inject their funds and initiate large scale sunflower projects. Currently, the country spends billions of shillings to import edible oil to meet the huge market demand. Future expansion of the project will enable the company to export oil to neighbouring countries in East Africa.

Globally, sunflower oil consumption ranks third in all vegetable oils, hence our company Simiyu Grains Ltd has the potential to also export outside the East African Community (EAC) region. Generally, therefore, the great potential of the Tanzanian sunflower oil seeds sector can be scaled-up as one of the country's key sectors for industrial development, and Simiyu Grains Limited intends to be one of the players in this endeavour.

Edible oil demand in Tanzania is 600,000 Tonnes/year (GOT 2021), while local production is only 240,000 Tonnes. Hence the deficit of 360,000 Tonnes is an opportunity for investment. Thus, edible oil production is a viable project.

Rice milling

Tanzania is the largest producer and consumer of rice in the EAC region. Simiyu region is also one of the leading regions in rice production in the country. The source of paddy for processing is expected to come from small holder farmers mainly in Simiyu, and neighbouring Mwanza and Shinyanga regions. The market for rice is readily available in Tanzania and East Africa in general, the product being the second most important staple food in the EAC, after maize.

Tanzania is currently the largest producer and consumer of rice in the EAC, with annual consumption standing at approximately 1.18 million MT, nearly 65% of EAC production (Source: *Kilimo Trust: Expanding rice markets in the East African Community*). Our company will process rice into various grades, depending on the profitability of the readily available market at the time. Factories for milling and packaging of rice is also one of the major strategic investment opportunities in Simiyu region proposed in the *Simiyu Region Investment Guide, 2017*.

Project capacity

Sunflower oil:

The sunflower plant has the capacity of pressing 10 tonnes per day. The projected annual capacity is to process 3,000 tonnes of sunflower seeds, based on 300 working days per year. Assuming a minimum oil yield of 32L per 100kg (maximum being 48L for the *Record* variety), therefore oil production/day will be 3,200L, which equals 960,000L in 300 working days/year, equivalent to about 883Tonnes/year at full capacity.

Assuming 1L of oil equals production of 0.92kg of oil extracted, then the daily production from 10Tonnes of sunflower seeds will result to approx. 29.44kg of oil based on 0.92kg/L (roughly 30kg). Therefore, the equivalent seed cake amount will be approx. 70kg for 30L of oil. Therefore, the daily cake production will be 7Tonnes, equivalent to 2,100 Tonnes annual production at full capacity (based on 300 working days per year).

Rice:

The rice mill machinery has the capacity of processing and grading 1 tonne per hour (equivalent to 8 tonnes per day based on an 8-hour cycle of working hours per day). The projected annual capacity is to process 2,400 tonnes of rice, based on 300 working days per year.

Sources of Supply Inputs

The supply inputs will be purchased from local farmers in and around Simiyu and Shinyangaregions, where production for both sunflower and rice is high as explained

above. As the company grows, consideration will be made to cultivate paddy and sunflower in order to supplement supply from farmers.

For sunflower, if farmers use improved seeds, the yield will range from 800-1,000 kg/acre. Therefore, to meet the production capacity of 3,000 Tonnes of seeds, farmers will require a minimum of 3,750 acres. If one farmer cultivates 10 acres, then the number of farmers will be 375. If 2 regions (Simiyu and Shinyanga) are involved and five districts are selected, the number of farmers per district will then be 75, which is feasible.

Production process

Sunflower:

- i) Cleaning process: Involves soil seeds preparation through removal of large and small impurities, including stone, dust and iron filings through cleaning and demagnetization.
- ii) Weighting process: This is where the weight of the feed is precisely calculated and controlled by a computer.
- iii) Crushing process is where the sunflower seeds are pressed into thin slices to increase the specific area, the purpose of which is to facilitate the frying to absorb heat and increase the oil yield.
- iv) Cooking process: The function of cooking is to adjust the moisture and temperature of the oilseeds after cleaning, to make them have certain plasticity, and create favourable conditions for material pressing. By cooking, the properties of the materials are changed to improve the oil output from pressing process, and improve the quality of oil and cake
- v) Pressing oil process: This involves extraction of oil through pressing, while the residue is pressed into crumbs. A lifting conveyor is used to transport the pressed cake into cake warehouse for temporary storage.
- vi) The Oil & Residue Separation Process is where the crude oil from the press is separated from the residue and filtered by the filter, the oil containing $\leq 0.5\%$ impurities.
- vii) Transport of oil and finished cake: The filtered net oil can either be pumped into the filtered oil tank for temporary storage, or taken to the refining and dewaxing section for further processing; the cake from the oil press goes the cake transport hoist for temporary storage

A refinery may be installed in future, the refinery plant will use the filtered oil and the refinery process will entail degumming, neutralization, water washing, vacuum drying, bleaching, de-waxing and deodorization.

Rice:

The production process will involve cleaning, destoning, husking, separation, whitening, grading and polishing.

Expected employment generation

Construction phase

The construction which has been ongoing since 2018 employs about 36 labourers from the surrounding villages in Zanzui and Itilima Wards on a casual basis. About 20 skilled workers (masons, metalworkers, electricians, a plumber, craftsmen, carpenters, roofing technicians, engineers, a driver and a site manager) are also employed on a temporary or seasonal basis, depending on the need. Food vendors (*mama nitilie*) have also been providing their services

Production phase

During production phase which is yet to commence, skilled workers will include office staff that will be employed on a permanent basis (manager, accountant, store-keeper, driver, messengers, cooks etc.). Others will include machine operators, security personnel and casual labourers. Food vendors, mobile money agents and others will also benefit indirectly.

Proposed implementation schedule

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| • Construction and Finishing phase: | Apr 2018 to Dec 2024 |
| • Importation and Installation of Rice Mill: | June to July 2022 |
| • Importation of oil pressing plant: | April 2022 |
| • Installation, testing, commissioning and trial production of oil pressing plant: | June to July 2022 |
| • Production of sunflower oil: | April 2023 onwards |