

**DELAWARE AGRICULTURE  
(T) LIMITED  
P.O. BOX 1069  
IRINGA.**

Feasibility Study Report

On

**ESTABLISHMENT OF A MODERN  
SUNFLOWER OIL PRODUCTION PLANT  
& COLD STORAGE FACILITY.**

in

**IRINGA, TANZANIA**

Prepared by:  
DELAWARE AGRICULTURE (T) LIMITED  
P.O. Box 1069  
Iringa.

# **DELAWARE AGRICULTURE (T) LIMITED**

P.O. Box 1069 Iringa.

## **Index**

<b>S/No</b>	<b>Subject</b>
1	Case Study
2	Introduction
3	Company Details
4	The Project
5	Project Location & Inputs
6	The Market & Demand
7	Promoters & Management
8	Manufacturing Process & Technology
9	Manpower
10	Cost of the Project & Means of Finance
11	Project Implementation Schedule
12	Project Financials
13	Social & Development Benefits
14	Conclusion & Recommendations

## **List of Appendices: -**

- Cost of the Project & Means of Finance
- Projected Five Years Profit & Loss Account
- Project Five Years Balance Sheet
- Projected Five Years Funds Flow Statement □ Projected  
Taxation Schedule
- Projected Depreciation Statement (Phase I)
- Projected Depreciation Statement (Phase II)
- Chart on Projected Profits for Five Years
- Chart on Cash-Profits for Five Years
- Implementation Schedule (Phase I)
- Implementation Schedule (Phase II)

## **01. CASE STUDY**

Tanzania has great potential in the sunflower oil seeds sector, which can be scaled-up as one of its key sectors for industrial development.

Tanzania is one country among others in the world producing sunflower oilseeds for raw materials in processing cholesterol-free edible cooking oil with a byproduct used as livestock feeds.

Currently sunflower oil makes about 13% of the world edible oil production.

Sunflower was introduced in Tanzania during colonial times and it was found to grow in almost all parts of the country. Interestingly, the crop grows well in the dry weather conditions of the Central Corridor compared to other crops like maize and wheat. Sunflower in the Central Corridor is also interesting from a pro-poor or welfare perspective as most of the sunflower is grown by small farmers.

In Dodoma, for example, about 50% of farmers are engaged in oilseeds production.

With a population of about 43.7 million people, Tanzania's minimum national demand for edible oil is expected to be about 219,000 tons per year, but the actual national demand is probably much higher, although there are no reliable figures available.

Demand for vegetable oil is at least growing with the rate of population growth.

The production of oilseeds in Tanzania mainly focuses on ground nuts (40%), sunflower (36%), sesame (15%), cotton (8%), and palm oil (1%).

The palm tree nuts have the highest oil content (46% – 67%) than its counterpart; however, the palm tree requires specific climatic conditions which are only found in some parts of Tanzania, such as Kigoma.

While there is a large production of other oilseeds such as groundnuts and sesame, there has been no substantial oil production from these seeds, thus making sunflower oil the most important vegetable oil produced in Tanzania.

### **Government Policies and Regulations;**

Seed production and certification in Tanzania is governed by the Seed Production Act 2003, amended in 2007, and administered by the Ministry of Agriculture, Food Security, and Cooperatives.

There are currently 20 registered entities in Tanzania whose work is being monitored by TOSCI (Tanzania Official Seed Multiplication Institute).

The process of seed production goes through three different levels:

- **Breeder Seeds:** They are produced in very small quantities by research centers, like longa Foundation/Basic Seeds.

They are produced by the Agricultural Seed Agency based on the breeder seeds. These farms are Msimba farm in Kilosa and Naliendele farm in Mtwara.

- **Certified Quality Seeds;** They are then produced on the basis of foundation seeds by other registered seed producers.

In the Central Corridor producers licensed for production of certified quality seeds are STRAD, and TANSEED.

As there are only two seed producers in the Central Corridor, the Ministry has encouraged selected small farmers to produce Quality Declared Seeds (QDS) in collaboration with the local District Councils.

The effect of high-quality seeds to triple or quadruple the yield has been widely observed but did not spread due to limited availability of the high-quality seeds and their high price.

Steady joint efforts between pro-poor NGOs, Ministry of Agriculture, Food Security and Cooperatives and local governments expanded quality seeds production to small farmers through contract farming and successfully cleared this barrier realizing mass-production of quantity seeds at lower price.

## **Challenges for Scaling Up;**

Despite of the initial success and great potential of the sunflower seeds oil sector in Tanzania, it also faces many challenges for scaling up. These includes:

- **Unavailability of technology/machines;**

While the small processors in Manyara are organizing themselves to look for possibility of obtaining machine for refining, their colleagues in Singida seem to be reluctant in adopting the new standards at the beginning.

However, both regions are complaining about the high price for technologies and machineries for refining, and inadequate knowledge of appropriate technology for processing and packaging of sunflower oil (both raw and doubled refined).

Currently there is only one operating oil refinery for sunflower seeds oil in Arusha. Sunflower farmers and oil extractors wish to have local refineries to avoid monopoly.

- **Lack of awareness of TBS (Tanzania Bureau of Standards) Standards and Procedures;**

Awareness of the sunflower oil standards is needed to all stakeholders in the whole value chain (supplier of quality seeds, farmers, processors, and traders).

Also, food safety is increasingly a concern, which means a stakeholder training on TBS standards is quite necessary. So far only 8 oil extractors among estimated 500 have acquired TBS certificates.

- **Lack of bulk provisions;** Bulk provision is low due to weak associations and poor marketing systems.
- **Poor infrastructure;** Although the construction of tarmac road in both regions has reached far to attract reasonable investment, the storage facilities and working sites are still in poor conditions.

Majority of the small processors are working at their backyard and not oriented to Good Hygienic Practices (GHP).

- **Lack of business linkages between large and small enterprises;** While linkage between large and small producers could facilitate market access, evidence shows that there is no good linkage between big oil refinery operators and small processors.

### **Possible Solutions;**

The above-mentioned challenges are calling for collaborative measures to build confidence among the sector's different actors by encouraging public-private partnership (PPP) and commitment in formulating and implementing long-term and short-term policies to sustain the sector.

In the short term to medium term, the following measures could be proposed:

- **Improving the oil quality through standards;** This could be achieved through a public campaign through media, associations and TBS seminars to call public awareness for safety food products certified by TBS, and urge oil extractors to apply for TBS certificate.

- **Promoting oil refining;**

It is important to break the monopoly in the sunflower oil refinery sector in Tanzania.

With collaboration of RLDC and JICA, a pilot plant of mini refinery is proposed to be installed in Dodoma to examine the economic and technical viability.

Once it is successful, SIDO and other relevant agencies can help to promote it in other regions.

- **Further rolling out the warehouse receipt system;** While proving to be effective, the warehouse receipt system needs to be implemented in other regions other than Singida.

In collaboration with RLDC, CRDB Bank is developing its own warehouse receipt system for sunflower seeds, in which CRDB provides loans to farmers who have harvested sunflower seeds as collateral.

This will help to scale up the system.

In the long run, efforts need to be made to strengthen the clusters in the making for edible oil industries. Currently the government (especially the MITM and Commission of S&T)

and the private sectors are keen in pushing forward the clusters for edible oil industries, which are still at the early stage.

Clusters will make it possible for mass production and bulk transactions which will help to solve the supply side constraints. They are also sources of sustainable jobs and income for farmers.

## **02. INTRODUCTION**

This feasibility study report is being prepared for **M/S DELAWARE AGRICULTURE (T) LIMITED of P.O. Box 1069 Iringa - Tanzania.**

DATL has undertaken a project to venture into business as dealers in, general suppliers, general merchants, traders and suppliers of all kinds of goods and products, supplier of all kinds of agricultural products, industrial products and food processors and stuff.

The purpose of this study is to assess the commercial viability and operational feasibility of the project being undertaken by DATL.

Most of the data has been compiled by the promoters' own research and study in Tanzania and is first hand information.

The financials have also been worked out on the basis of market and cost information provided by the promoters of the project.

This report has additionally deliberated upon the social and related economic benefits (net) that will accrue to the nation and has given adequate weight age for the same in the conclusion & recommendation paragraph.

### **03. COMPANY DETAILS:**

#### **Registration:**

M/s DATL has been registered with the Registrar of Companies on 8<sup>Th</sup> of January 2024 as a limited liability company. The Authorized share capital of the company is same as the paid-up share capital.

The registration number of the company is 171276950.

#### **Object Clause:**

- a) To carry on the business of manufacturers, producer of and dealers in, Rice milling maize milling and Selling of Selling of sembe flour processing, Dona Processing and Packing, Exporting and Importing of Sunflower oil and all other products relating.
  
- b) Importing and distributing solar cold storage units, which allows storage of all varieties of fruits, vegetables and meat products, thus reducing post-harvest loss and increase shelf life of products
  
- c) To carry on the business of millers of maize, wheat, sorghum, millet, and any other grain and to manufacture, process flour such as starch, wheat flour, millet and any such flour as the company may deem a profitable endeavor.

- d) To carry on the business of producers, refiners, processors buyers, sellers, importers, and exporters of vegetable oils and all other kinds of cooking oils that the company may wish to engage in.
  
- e) To engage in manufacture of vegetable and animal's oils cooking oil and fats.
  
- f) To engage in the manufacture, purchase sale bottling and distribution, either at wholesale at wholesale retail or otherwise of beverages, syrups, flavors and extracts, carbonated and aerated water, soda water mineral water vineyards, soft and drinks, wine alcoholic and non- alcoholic beverages of every kind, and any and other her commodities, substances and products of every kind, nature, and description.
  
- g) To carry on the business of supplying, operating, managing, advising on and dealing in services and facilities for or in relation to milling of all kinds grains and vegetable which incorporate, use or are used in conjunction with in connection with or ancillary to, flour manufacturing or oil processing

- h) To conduct business catering and corporate food, and beverage service management with the perfect combination of culinary knowledge, expertise in hospitality and business acumen to conceptualize, open, and manage any food and beverage service operation that is envisioned. To take over an existing operation to increase the quality and efficiency, or conceptualize, open and manage a new food service operation that partners with envisions.
- i) To carry on the business of growing or harvesting, processing, packaging, distributing, importing, exporting, and selling various crops, such as cereals (maize, rice, wheat, sorghum, millet, cashew nut) fruits (mangoes, pineapples, bananas, oranges) vegetables) vegetable (potatoes, onions, carrots, oregano)
- j) To carry on the business of farming, agriculture and horticulture in all their respective forms and branches and to grow, produce, manufacture, process, prepare, refine, extract, manipulate, hydrolyze, grind, bleach, hydrogenate, buy, sell or otherwise deal in all kinds of agricultural, horticultural, dairy and farm produce and products including food, Sunflower, cereals, seeds, oilseeds, plants, flowers, vegetables and edible oils, meat, fish, eggs and foods and food products and preparation of any nature or description whatsoever.

- k) To carry on the business of farming buying and selling of crops cultivating all kinds of Agriculture faring of all kinds of crops like maize, rice cassava, finger millet, vegetable like cabbages cucumber carrots, spinaches, tomatoes, unions, fruits like banana, lemons, mangoes, lime oranges, paw's papayas, pineapples, tangerine, water lemon, vines and any their variety of fruits, buying and Selling of soya beans groundnuts, cocoa, gum, green mangoes, sunflower, cotton seeds finger milling and all kinds of dealing in irrigations . Selling those crops to schools, Colleges, hospitals all other place which we will be tendered for it.
- l) To buy, sell, import and export, manufacture or otherwise deal in food products of all kinds and description meal, poultry, fish, groceries, fruits vegetables milk, spirit, and carry on either directly or indirectly the business or manufactures or vendor whether wholesale or retail, import or export or all kind food products, sugar confectionary, ice cream, scent and perfumery good medicinal and chemical preparations.
- m) To carry on the business pf producers of and dealers in deity farm garden produce of all kinds and in particular milk, cream, butter, cheese, poultry and eggs and to carryon business as cow keepers, goat-keepers, farmers millers and marker gardeners and manufacture of all kinds of condensed milk, jam, pickles and preserved provisions of all kinds.

- n) To carry on the business of food store, food stuffs, importers, distress, exporters, distributors, sellers, buyer wholesalers, retailers of agriculture products, such as tea, cereals, coffee, sugar, rice, flour, cashew nuts, avocado, peanuts, beans, cowpeas, yellow gram green monks and to be general suppliers in local and export market, and generally to be traders and dealers of the above.
- o) To carry on the business of mixed farming and promote and trade or business of farm and agricultural inputs, implements, tools, packaging materials and deal in the livestock and or the veterinary health care products to farmers and Stockiest, to supply, buy, sell, distribute whether in retail wholesale fernier, insecticides, fungicides, growth, stimulants, Agro seeds, fam implements and tools animals feeds veterinary drugs and any related goods and import and export agriculture and food technology, industries and equipment, manufacture and semi processed products in Tanzania and other parts of the world.
- p) To carry on the business of supplying, operating, managing, advising on and dealing in services and facilities for or in relation to milling of all kids Sunflower and vegetable which incorporate, use of are used in conjunction with, in connection with or ancillary to, flour manufacturing or processing.

- q) To carry on the business of transportation; land air and marine in terms of providing transportation service to various people and organization including government institution, transporting goods and services local and international, provide commuting services, transporting people to various destinations within and outside the country and do all form of form of logistics services.
- r) To carry on the business of establishing and running and shops, shopping malls, provision stores supermarkets, department stores, groceries, food and shops of all kinds and description and general to deal with such activities.
- s) To carry any other trade or business whatever which can in the opinion of the board of Directors be advantageously carried on the Company in connection with the above business or the general business of the company.

**PROMOTERS/SHAREHOLDERS & DIRECTORS:**

The Shareholders of DATL are as under:

<b>Name of the Share Holder</b>	<b>Nationality</b>	<b>% Holding</b>
RISHEN DILIPKUMAR PATEL	AMERICAN	90%
HEERAL RISHEN PATEL	AMERICAN	10%

The first directors of the company are:

**01. RISHEN DILIPKUMAR PATEL**

**02. HEERAL RISHEN PATEL**

**Location of the Proposed Factory:**

The site for the factory shall be in Plot No. 791/II, Ipogolo E - Ruaha – Iringa Region.

Since the project is concerned with Sunflower Oil, It has been estimated that to begin with the operations 200 acres of land will be required.

**Registered Office Address:**

Plot No. 791/II, Ipogolo E - Ruaha – Iringa.

**04. THE PROJECT:**

The basic purpose of the entire project is to add value to the abundantly available inputs, which have hitherto not been adequately exploited.

The project will create more wealth for the nation and shall endeavor to bring in more prosperity and economic independence.

Own study of the promoters has revealed that there are a lot of species of sunflower, which are considered to be of higher quality and therefore DATL is interested in venturing into this area, as they are confident about their latest technology and manufacturing process.

DATL is sure to process high quality sunflower oil.

The project will create nearly 100 employment opportunities directly and more than that indirectly. Apart from adding to the wealth of the nation, it shall also increase the purchasing power of the community thereby leading to an overall increase in demand for other construction products, which shall in turn lead to better economy conditions.

The project shall bring in plant and machinery from outside the country and shall eventually train the local population in the running of the milling project.

The project will thus contribute towards the manufacturing sector of the economy. As per the latest findings of CTI (confederation of Tanzanian Industries), manufacturing contributes less than 10% of contribution towards this sector which is very much welcome by the government.

The manufacturing process being undertaken shall also ensure that value addition is being done within the country, which is added advantage.

## **05. PROJECT LOCATION & INPUTS: -**

Since the project is related to Sunflower, which is an outcome of specialized processes, the project location preferably has to be near to the raw materials region.

A part from the very fact that the project requires lot of agricultural inputs related issues also dictate the location of such projects as being nearer to the source of raw materials.

The promoters reportedly carried out a survey of various regions in Tanzania where such project can be established with minimal obstacles.

Their study led them to the Ipogolo E - Ruaha – Iringa region, it also has advantages in terms of availability of adequate local manpower, power and roads also, Besides it is easily approachable from Ipogolo E - Ruaha – Iringa, which is one of the main agriculture hubs of Tanzania.

Iringa also prove to be one of the most important markets relatively better infrastructure and also being quite near to the main local markets and neighboring countries.

Promoters have identified more than 200 acres of land, which is on Plot No. 791/II, Ipogolo E - Ruaha – Iringa. The plots or areas identified are outside the municipal limits.

Such location has resulted into relatively cheaper land with very easy access to the city infrastructure.

The promoters have made necessary contracts with the District Land Development Office and have received confirmation about availability of the envisaged plot of land.

In other words, availability of adequate land, which is so crucial for the success of such project, has been more or less tied up. Such situation provides the project with an edge as compared to others in similar lines.

The local authorities have assured the promoters about adequate supply of power and water, which is required for the successful running of the business.

Power requirement has been estimated at 1,100 h.p. With 24 hours running.

#### **0.5 THE MARKET DEMAND: -**

Sunflower Oil inputs form the core product line of this project are all sourced from agricultural.

These products are being used in domestic use.

Tanzania as a country has been enjoying a steady economic growth rate of nearly 4.5% to 5% for last more than 5 years and that has resulted into spurt of demand for quality Sunflower Oil.

The demand has been more pronounced in the basic necessity sector. Sunflower Oil sector have also shown impressive growth.

The products of DATL form the basic for domestic use.

From marketing angle, apart from the points noted above, this project enjoyed a distinct advantage.

There are certain international standards in which the dimensions are available for traders, manufacturers, and of Proprietors, promoters, financiers, concessionaries, commercial agents and advisers of and for commercial, however DATL envisaged producing high quality Sunflower Oil in various kinds, which can suit the requirements of local and international populace.

This strategy shall provide the project with an additional marketing edge compared to imports, the first edge being lower prices. DATL believes that creation of non-standard size shall not only make it more viable/profitable but will in long run also ensure maximum utilization of available resources.

DATL promoters firmly believe that they will not encounter any major hurdle in marketing their products.

Sometime will definitely be required as the product boast of being import substitute and the products are not meant for direct consumption (which imply that they are being sold to an intermediary).

However, in long run DATL promoters and management are very much sure about the successful operation of the project.

## **06. PROMOTERS & MANAGEMENT: -**

The importance of well-informed promoters and professional management can never be over estimated for successful implementation of the any project.

It is said that well – informed promoter and professional management can make even a not so viable project otherwise and vice-a-versa.

## **07. Manufacturing Process & Technology: -**

The factory to be put-up for Sunflower Oil for human consumption, shall be a very simple and target oriented.

This will not only ensure that the initial set – up cost of the project will be minimal but will also enable DATL to increase the factory will maintain a very large open space to accommodate the storage of crop productions received in form of finish product waiting for further processing.

In other words, the factory will be consuming a very large area of land.

The project envisages the following:

- Food Production
- Sunflower Oil
- Cold Storage
- To invest and deal with money.
- To sell, lease, mortgage or otherwise dispose of the property;
- To receive money on deposit, with or without allowance.
- Agro-Mechanics training.

**The manufacturing process is briefly described as under:**

Sunflower crops from the earmarked area from the source are brought to the factory and put into the mills form. This is done in order to ensure that there are no end cracks.

This process thus reduces loss of yield.

This process assumes more importance in case of this project due to the fact that the Sunflower envisaged to be utilized here is of very inferior quality.

As per the study of the promoters the species expected to be utilized have never been utilized up till now in the country. There are nearly 15 such varieties and barring for one or two

none of these species have been commercially exploited. In a way this is also one of the edges of this project.

DATL envisages manufacturing of all the varieties of Sunflower and Food Crops.

In addition to these types DATL shall also produce other types as per local market demand beans and maize which is movable in the local market, and therefore the same type will be made available for the entire market.

Then the same is taken to the milling machines and milled. The finished Sunflower and crops further checked piece-by-piece by the final checking authority and an OK Seal and the brand name is affixed & the Sunflower and crops are ready for the market.

## **08. MANPOWER: -**

Although the project of Sunflower Oils and other allied food related for human consumptions will require lot of automatic machines, lot of manpower especially at lower end shall be required to carry out preparatory processes as well as for quick movement of Sunflower within the factory premises.

DATL will hire one expatriate to oversee the operations supported by 100 local workers.

Workers will be guided and trained by the expatriate technical experts to run machines. Organization hierarchy shall be as under: -

**a. Top level**

Chairman cum Managing Director

General Manager

**b. Middle Level**

Production Manager

Chief Engineer

Finance Manager

Marketing Manager

**c. Lower Level**

Production Supervisors

Personnel and Administrative Officer

Accounts Officer.

Sales Officer

DATL shall endeavor to promote local staff as much as possible to ensure better employment opportunities to the local populace. However, it shall always ensure that efficiency of the unit is kept intact.

DATL shall run simultaneously a small in-house training house, where the experts will provide training to the new recruits before they are put on the jobs for on-job training.

DATL believes that a motivated and skilled manpower can for sure bring in immense benefits to the industry and can ensure peaceful co-existence of all concerned.

## **09. COST OF THE PROJECT & MEANS OF FINANCE: -**

### **A. Cost of the Project: -**

<b>Sr. NO.</b>	<b>Details</b>	<b>US \$</b>
1	Land & Building	300,000
2.	Plant & Machinery	500,000
3.	Furniture, Computers & Fixtures	50,000
4.	Vehicles	150,000
5.	Pre-operating Costs	100,000
6.	Others	100,000
7.	Working capital	100,000/=
	<b>Total Cost of the Project</b>	<b>1,300,000</b>

## **B. Means of Finance: -**

<b>Sr. NO.</b>	<b>Details</b>	<b>US \$</b>
1	Equity Funds	1,300,000
2	Promoters' Loan	
	Total Means of finance	1,300,000

The total cost of the project consisting of both the phases has been estimated at **US \$ 1,300,000** As can be seen from the above chart, majority of the expenses involved will be on Plant \$ Machinery.

Besides considerable money will be required in the starting up of the unit which has been grouped under the head preoperating and initial working capital costs.

Phase I will be implemented within a span of three months and the second and the final phase will be completed within a span of nearly 21 months from the date of the completion of the first phase.

Building will be a simple structure based on pillars with sidewalls open to facilitate future expansions. The height of the factory shed will be 15 feet.

A small training house and a rest room for the workers will also be constructed.

**Details of Plant & Machinery to be imported is as under:**

<b>DESCRIPTION</b>
CRANES – TWO NOS.
FORK LIFTS – TWO NOS.
ELECTRICAL HOIST
GRAIN MILLER
FOOD PROCESSORS
7 TONES LORRY
TIPPING TRUCKS 7 TONES
DUMPER
FOOD AND VEGETABLE PROCESSORS.
FRUIT PACKER
CAN PROCESSOR
WATER PUMP
STANDBY GENERATOR
ELEVATOR COMPLETE UNITS WITH 2HP MOTOR AND GEAR BOX, CHAIN DRIVE SYSTEM

SEED CLEANER WITH 2HP MOTOR

SINGLE CHAMBER EXPELLER MIT-S30 COMPLETE WITH ROUND STEAM KETTLE WITH PULLEY SET & V' BELTS, WITH MOTOR 30HP WITH STARTER CAPACITY: EACH EXPELLER – 6 MT CRUSHING PER DAY

CAKE SCREW CONVEYOR 9" WITH 1.5 HP MOTOR AND GEAR BOX SCREW CONVEYOR WITH BOOT, BOOT COVERS AND ANTIFRICTION SUPPORT. BEARING AND SPROCKETS

OIL FILTER WITH PUMP AND MOTOR 18" X18" X 18" PLATES WITH ONE SET OF CLOTH EXTRA

SEMI-AUTOMATIC LOAD CELL BASE E-FILLING MACHINE 3 LITER TO 20 LITER WITH TRANSFER PUMP

MS. OIL STORAGE TANK 3 TONS CAPACITY ALL THE FABRICATION MATERIAL (MS. PLATES, SUPPORT AND WELDING RODS)

DESIGN, FABRICATION AND SUPPLY AND ERECTION OF OIL REFINING PLANT, HAVING CAPACITY OF 2000KG PER BATCH ON TURNKEY BASIS

SOLID FUEL FIRED STEAM BOILER, REQUIRES FOR REFINERY ARE 800KGS STEAM AT PRESSURE OF 10.54 KG/CM2 WITH INCLUDE CHIMNEY 40FT

LABORATORY EQUIPMENT

EDIBLE OIL REFINING PLANT CAPACITY 06 TONES PER DAY (24 HOURS) ON TURNKEY BASIS AND 2 TONS PER BATCH OF 6-8 HOURS

MITSUN NEUTRALIZER CAPACITY OF 22.5 MT PER BATCH

SOAP STOCK TANK CAPACITY 500KG EACH MADE WITH M.S. 3MM THICK AND WITH HEATING ARRANGEMENT"

WASH WATER TANK M.S. 3MM PLATE WITH HEATING ARRANGEMENT, 500KGS CAPACITY"

"CAUSTIC DISSOLVING CUM MEASURING TANK

M.S. 3MM PLATE, 200KGS CAPACITY, RECTANGULAR FOR EASY CALIBRATION AND WATER ADDITION"

"HOT WATER TANK M.S. 3MM PLATE,

RECTANGULAR, 300 LTRS CAPACITY"

"NEUTRALIZED OIL HOLDING TANK FOR

STORAGE OF NEUTRALIZED OIL, RECTANGULAR M.S.3MM PLATE,  
2.0MT/EACH"

"TRANSFER PUMP OIL TRANSFER PUMP WITH

1.0 HP MOTOR TO BLEACHER FROM NEUTRAL OIL TANK"

BLEACHING SECTION

MITSUN BLEACHER CYLINDRICAL DISH END WITH SHAFT AND  
GEAR MOTOR, SIGHT GLASS, SAMPLE POINT, WITH THE BATCH  
CAPACITY OF 2MT PER BATCH

OIL CATCHER CYLINDRICAL WITH 5MM PLATE

CLOUDY OIL TANK MS PLATE 3MM THICK

VACUUM EQUIPMENT VACUUMED PUMP

FILTER PUMP CENTRIFUGAL PUMP WITH 1.0 HP

MOTOR FOR FILTRATION OF OIL

FILTER PRESS PLATE AND FRAME FILTER

20X20X20 PLATES WITH TWO SETS OF FILTER CLOTHES

BLEACHED OIL HOLDING TANK MADE FROM CAPACITY OF  
2MT/EACH

MITSUN DEODORIZER SS CYLINDRICAL WITH DISH END,  
CONNECTION OF VACUUMED - OIL INLET OUTLET - SAMPLING -  
SIGHT GLASSES - SPRAY NOZZLES - OPEN STEAM INJECTION  
CONNECTIONS, WITH TEMPERATURE-VACUUMED GAUGES,  
BATCH CAPACITY 2MT

VACUUM EQUIPMENT VACUUMED PUMP WITH BAROMETRIC  
CONDENSERS

OIL CATCHER CYLINDER WITH DISH END

OIL COOLING SYSTEM (PIPE IN PIPE HEAT EXCHANGER) M.S. PIPE,  
INLET COOLING OIL, CONNECTION FOR - WATER INLET, OUTLET,  
AGITATOR

BAG FILTER FOR DEODORIZED OIL FILTERING SYSTEM WITH  
EXTRA BAGS

REFINED OI HOLDING TANK 2.0 MT PER TANK WITH M.S. 3MM  
THICKNESS. ONE CENTRIFUGAL PUMP TO TRANSFER OIL FROM  
REFINERY TO PACKING

COOLING TOWER FOR ABOVE PLANT

STEEL STRUCTURE BOLTING TYPE STEEL STRUCTURE, COMPRISING OF COLUMNS, BEAMS, BINDERS, LADDERS, RAILINGS, CHECKERED

PLATES, PLATFORMS, TRUSSES ETC. FOR ABOVE ALL EQUIPMENT'S (WITHOUT CEMENT SHEET COVERINGS / FITTINGS.). THAT MEANS SUPPORTING STRUCTURE FOR EQUIPMENT'S ONLY.

PIPING AND ACCESSORIED COMPLETE LOT OF PIPES, FITTINGS, AND ACCESSORIES FOR WATER, VACUUM, OIL ETC. REQUIRED FOR ABOVE PROCESS, COMPRISING OF VALVES, FLANGES, PACKING, NUTS BOLTS

STEAM-TRAPS, STRAINERS ETC. FOR REFINERY BATTERY LIMIT

PAINTING AND HEAT INSULATION NECESSARY PAINTING WITH ONE COAT OF RED OXIDE PRIMER AND ONE COAT OF SYNTHETIC ENAMEL PAINT MATERIALS, WHEREVER REQUIRED AND COMPLETED WITH A COVER OF SUITABLE QUALITY CANVAS CLOTHS.

ELECTRICALS: ONE ELECTRICAL PANEL BOARD INSIDE REFINERY  
COMPLETE LOT OF ELECTRICAL COMPRISING OF STARTER,  
SWITCHES, CABLES ETC.

KJELDAHL DISTILLATION ASSEMBLY. (FOR PROTEIN) MADE FROM  
HEAT RESISTANCE CORNING GLASS, DURASIL ROUND BOTTOM  
FLASK 800ML, B24 MULTIPLE ADAPTER, B24-19-19 DROPPING  
FUNNEL 50 ML, B 19, SPLASH HEAD VERTICAL B 19, S 19 ,LEI BIG  
CONDENSER 300 MM B 19-19, RECEIVER ADAPTER B 19

DISTILLATION ASSEMBLY (CAPACITY-1000 ML) ROUND BOTTOM  
FLASK WITH I /C JOINT, SPLASH HEAD SLOPING RECEIVER BEND  
LON

SOXHLET EXTRACTION APPARATUS CONSIST OF FLASK, FB OR RB  
EXTRACTOR AND CONDENSER. EX.CAPACITY-100 ML , FLASK  
CAPACITY-250 ML

SOXHLET EXTRACTION APPARATUS CONSIST OF FLASK, FB OR RB  
EXTRACTOR AND CONDENSER. EX.CAPACITY-200 M L, FLASK  
CAPACITY-500 ML

FLASK, ROUND BOTTOM CAPACITY-250 ML 85MM O.D.X 150 MM  
HEIGHT

FLASK, ROUND BOTTOM CAPACITY-500 ML, 105MM O.D.X 180 MM  
HEIGHT

FLASK, FLAT BOTTOM CAPACITY-250 ML, 85MM O.D.X 140MM

FLASK, FLAT BOTTOM CAPACITY-500 ML, 105MM O.D.X 170MM  
HEIGHT

SEPARATING FUNNELS PEAR SHAPE(CONICAL) WITH SOLID  
TEFLON KEY STOPCOCK & I/C SOLID STOPPER, CAPACITY-500ML  
INTERCHANGEABLE STOPPER SIZE: B 24

BURETTES SCHELLBACK ROTAFLOW (PTFE KEY) STOPCOCK ,  
CAPACITY-50ML

BURETTES SCHELLBACK ROTAFLOW (PTFE KEY) STOPCOCK ,  
CAPACITY-25ML

PIPETTE ARE GRADUATED FOR DELIVERY FROM 0 MARK TO THE  
GRADUATION MARK CAPACITY-5ML X 0.05ML

PIPETTE ARE GRADUATED FOR DELIVERY FROM 0 MARK TO THE  
GRADUATION MARK CAPACITY-10ML X 0.1ML

PIPETTE ARE GRADUATED FOR DELIVERY FROM 0 MARK TO THE GRADUATION MARK CAPACITY-25ML X 0.2ML

BURETTE STAND WITH ROD, BURETTES CLAMP & BOSS HEAD COMPLETE SET POWER COATED. SIZE:8 INCHX 5 INCH

FUNNELS, LONG STEM AMBER COLOUR DIAMETER-35 TO 50MM STEM LENGTH-50 MM

FUNNELS, LONG STEM AMBER COLOUR DIAMETER-65MM STEM LENGTH-65 MM

BEAKER GLASS CAPACITY-25ML

BEAKER GLASS CAPACITY-50 ML

BEAKER GLASS CAPACITY-100 ML

BEAKER GLASS CAPACITY-250 ML

BEAKER GLASS CAPACITY-500 ML

BEAKER GLASS CAPACITY-1000 ML

PIPETTE BALL, RUBBER RED COLOUR CAPACITY-1 TO 5 ML,CAPACITY-10 ML, CAPACITY-25ML

MEASURING CYLINDERS, WITH HEXAGONAL BASE WITH  
HEXAGONAL STOPPER CAPACITY-25 ML ACCURACY LIMIT-0.25 ML  
GRAD.DIVISION-0.5 ML STOPPER SISE-B 14

MEASURING CYLINDERS, WITH HEXAGONAL BASE WITH  
HEXAGONAL STOPPER CAPACITY-50 ML ACCURACY LIMIT-0.5 ML  
GRAD.DIVISION-1.0 ML STOPPER SISE-B 1

MEASURING CYLINDERS, WITH HEXAGONAL BASE WITH  
HEXAGONAL STOPPER CAPACITY-100 ML ACCURACY LIMIT-0.5 ML  
GRAD.DIVISION-1.0 ML STOPPER SISE-B 19"

MEASURING CYLINDERS, WITH HEXAGONAL BASE WITH  
HEXAGONAL STOPPER

CAPACITY-250 ML

ACCURACY LIMIT-1.0 ML GRAD.DIVISION-2.0 ML STOPPER SISE-B  
24"

DESICCATOR, WITH GROUND COVER, KNOB TOP, ROUGH  
WITHOUT PORCELIN PLATE. 150 ML

THERMOMETER (300 MM LENGTH) RANGE- 110 DEG.C

THERMOMETER (300 MM LENGTH) RANGE- 250 DEG.C

MULTI SIZE HEATING MENTALS (SINGLE SIZE:50 TO 500 ML
MULTI SIZE HEATING MENTALS (SINGLE SIZE; 250 TO 1000 ML"
SOXHLET EXTRACTION MENTAL (FOR OIL %) CPAPACITY 250ML, REGULATOR:3, SWITCHES:3
CENTRIFUGE: CAPACITY - 8 NOS. TUBE (SWING OUT HEAD)
MAINS INPUTS- 220V, 50 HZ/ 110V, 60 HZ MAX. SPEED – 3200 RPM
MAX. R.C.F. –
W X D X H - 315 X 315 X 268 MM WEIGHT - 4.2 KG. NET
MOTOR – NIVERSAL (AC/DC CARBON BRUSH TYPE) TIMER - 0 TO 30 MINUTES.
TEST TUBES, NATURAL GLASS, AUTOCLAVABLE SIZE:15 OD X 125 MM LENGTH
TEST TUBES, NATURAL GLASS, AUTOCLAVABLE SIZE:15 OD X 150 MM LENGTH
BAUME METRE ELECTRONIC BALANCE CAPACITY 100GMS, ACCURACY 0.001 GMS
ELECTRONIC BALANCE CAPACITY 2KGS, ACCURACY:1GMS
HOT AIR OVEN 14 "X 14" X 14", 2 SHELAVES, 1000 WATTS

WATER BATH 14" X 10" X 4" WITH SIX HOLE,1.0KW
MUFFLE FURNACE, 10"X5"X5", 1000'C
FILTER PAPER SIZE 610MM X 610MM
FILTER PAPER WHATMAN 460MM X 570MM
FILTER PAPER ROUND 90MM, 11MM
GLASS REAGENT BOTTLE WITH NARROW MOUTH 125ML 250ML 500 ML 1000 ML
GLASS REAGENT BOTTLE WITH WIDE MOUTH 125ML 250ML 500 ML 1000 ML
BLACK PIPE 1.5*3
BLACK PIPE 1.25*3
BLACK PIPE 1*3
ANGLE IRON 2"*6MM
FLAT BAR 2"*6MM
ELECTRODE CTN
RED OXIDE PAINT BUCKETS (4LTRS)
CUTTING DISC PCS
FOUNDATION BOLT PCS

WALL PLATE PCS
IRON SHEETS PCS (28 GAUGE) ALAF BRAND IG5
TIMBER PCS (2*4)
CEMENT BAGS
BLOCKS PCS
PAINT BUCKETS (20LTRS)
STEEL BAR 12MM
STEEL BAR 16MM
FLAT SHEET 1.5 MM ( PCS)
GATE RAILS PAIRS
ROOFING NAILS BOXES
BINDING WIRE ROLLS
TIMBER PCS (1*4) SCAFFOLDING
CONDUIT PIPES PCS
EARTH ROD PCS
ELECTRICAL WIRE ROLL (1.5MM)
ELECTRICAL WIRE ROLL (2.5MM)
ELECTRICAL WIRE ROLL (6MM)

SOCKETS PCS

Z PILLING 4'\*3MM

SOLAR COLD STORAGE 5MT

NEGATIVE SOLAR COLD ROOM

SOLAR WATER PUMP 10HP DC

SOLAR FREEZER 100 L

TOYOTA LAND CRUISER

RANGE ROVER

TOYOTA HILUX

MAHINDRA SUPRO TRUCK

Three in-house utility vehicles will be needed to transport the finished goods from the factory to the buyers' place and also for moving the crops within the factory premises wherever required.

Office furniture will be bare minimum and so will be computers (may be three sets). Telephone lines; fax line and Internet line will be kept handy at the factory to ensure speedy and cheap communication.

Pre-operating costs will take care of the preliminary expenses, initial survey and travel costs including accommodation charges, professional charges for preparation of reports etc and shall also cover for the initial joining costs of various key personnel till the real operations commence.

Initial working capital shall include the money required to bring in enough quantity of Food crops and other cereals, spend for the revenue expenses for the process carried out on them and the financing of other revenue costs till the time money starts flowing back from the debtors for the goods sold to them on credit.

The promoters of DATL are in possession of required finances and are committed to put in the same as and when required. The initial capital has been created at \$ 1,300,000 and balance amount will be treated as loan from promoters, interest free.

## **10. PROJECT IMPLEMENTATION SCHEDULE: -**

As has been stated in the earlier paragraphs the entire project will be implemented in two phases within a period of 24 months.

The first phase is expected to be completed within a span of nearly two to three months and the next phase is expected to be completed in another 21 months.

The initial capacity shall be 100 cubic meters a day and after completion of the second phase the manufacturing capacity shall be 450 cubic meters a day.

Considering June 2024 as the first month, the first phase is expected to be completed by June 2025 and commercial operations expected from July 2025.

Whereas the increased production from 100 cubic meters a day to 450 cubic meters a day will be achieved gradually, however optimum capacity will be reached within 24 months.

**The project implementation schedule is shown in form of a table hereunder: (PHASE I).**

Sr. No	Activity	Completion Period
01	Company Formation, Registering with statutory authorities, like Income tax, VAT NSSF, etc., securing TIC certificate of incentive Industrial license etc.	January 2024 & April 2024
02	Site identification, purchasing the same, designing of plant layout and commencing of construction of factory shed.	March 2024
03	Order placement for various machineries, recruitment of key personnel.	June 2024
04	Installation of Machines	November 2024
05	Procurement of Sunflower for initial trial runs as also for future.	January 2025
06	Commencement of Trial Runs	February 2025
07	Commencement of commercial Operations.	June 2025

**The project implementation schedule is shown in form of a table hereunder (PHASE II)**

<b>Sr. NO.</b>	<b>Activity</b>	<b>Completion Period</b>
01	Site Mobilization & Factory Construction	June 2024 & November 2024
02	Factory Shed Complete & Plant Layout finalized for implementation.	November 2024 & January 2025
03	Order placement for various machineries, recruitment of key personnel	June 2024 & September 2024.
04	Installation of Plant & Machines	October/November 2024
05	Procurement of Sunflower Seeds for initial trial runs and plant commissioning.	January/February 2025
06	Commencement of Trial Runs	February 2025
07	Commencement of Commercial Operations.	May/June 2025.

The second phase implementation will begin immediately after twelve months and it is expected that within a span of another nine months major expansion as envisaged will be completed. Improvements will be introduced in the next phase based on the experiences of the first phase.

## **11. PROJECT FINANCIALS: -**

### **11.01 Assumptions**

- a) The rate of one US \$ is equal to TShs 2,550/=
- b) Required labor force will be available
- c) Required permits will be granted within the limited time schedule to ensure implementation as per schedule.
- d) The first phase will be operational within a span of three months.
- e) The second phase will taken nearly 21 months to complete after the start of first year and will increase the capacity to 450 cubic tones per day.
- f) Total investment will be US \$ 1,300,000
- g) The project will have own finance
- h) Land will be available on lease in future as and when required.
- i) Import duty exemption and deferment of VAT will be available on import of plant and machinery.

## **11.02 PROJECTED FIVE YEARS PROFITABILITY STATEMENTS**

As can be seen from the enclosed projected profitability statement, the company will not earn profits in the first year where the operations are to run only for six months, however there will be cash- profits.

The company will attain a turnover of US \$ 0.62 million in first six months; will go up to US \$ 0.240 millions in the next years and from third year of operation will remain steady at US \$ 1.580 millions.

The profits will start coming from the 2<sup>nd</sup> year of operations. From the year 4 and onwards the annual profits will be in the range of US \$ 1.0 million and above. The project enjoys a payback period of 5 years.

The company will be earning gross profit @ 6% and net profit of nearly 2.5%. For a very large project, like this a net profit of 2% is quite reasonable. Government will earn lot of revenues due to such high turnover.

Selling costs have been assumed at 2% of the sales and other overheads have been assumed not to cross US \$ 50,000 a month including manpower costs.

Depreciation has been provided as per the prevailing income tax rates. Further full depreciation has been provided on assets purchased during the year. Separate schedules are attached with this report for calculation of depreciation.

### **11.03 PROJECTED FIVE YEARS BALANCE SHEET**

The enclosed balance sheet shows a very sound position of the company. The current assets ration is in excess of 1.2 from the beginning and by the year 5 it reaches 2.

Inventory will be maintained only for a period of one week. The reason being the plant is going to be located in the close proximity of Food crops.

Creditors will be outstanding for a period of 15 days and suppliers of services will be paid at the expiry of one month.

### **11.04 Projected Five Years Funds Flow Statements:-**

As can be seen from the appended projected funds flow statement the company will be financed by the promoter's own funds. In the initial year (2024) the investment will be of US \$ 700,000 and by the year 2025 total investment of US \$ 1,300,000 will be completed.

Operating profits will be ploughed in to the business. Once the operations are steadied form the year 2025, the annual contribution of operational profits shall be turn the tune of US \$ 900,000

Depending on the surplus available, promoters' loan will be re-paid. As can be seen the company shall be in a position to commence repayment or promoters' loan by the year 2026.

As the operations will grow, the net working capital requirement will also grow. As can be seen the increase in net current assets will be from US \$ 900,000 (year 2024 ) to US \$ 1,500,000 (year 2026).

The company assumes to maintain a positive cash balance of US \$ 75,000/= to US \$ 100,000/=.

#### **11.05 Projected Five Years Taxation Schedule: -**

The company will enjoy tax incentives as per the governing laws of the country. It will have taxable profits only from the year 2026 and will then onwards contribute to the exchequer in excess of US \$ 150,000 in the first year and then onwards in excess of US \$ 340,000 The company may reduce its tax burden by investing or expanding its operations and in either case the country benefits.

#### **12. Social & Development Benefits: -**

Generally, it is presumed that a project for packing of food crops will result mills making. Whilst this is true to a very larger extent, it should be noted that this project plans not to acquire more and more land even for manufacturing.

### □ **Employment creation;**

As has been observed earlier this project will provide direct employment opportunities to more than 100 locals inclusive of skilled, semi- skilled and un-skilled class. One expatriate will also be employed as per the requirement of the project.

This direct employment of more than 100 individuals will generate indirect employment for more than 150 individuals. In nutshell it can be concluded that this project will have a very positive impact on the level of employment in the country and will be welcome change.

### □ **Transfer of technology;**

This project being a manufacturing project will usher in the country technology. Although the technology is simple the advantages to the country are quite significant.

The country will get the advantage of value addition due to such incoming technology.

Further the country can reduce its dependence on imports for the finished products manufactured by this project.

Local employees will get on-the-job training from the experts (expatriate) employed and in long run will improve the technical competence of the local population. □

### **Contribution to the exchequer;**

This project will contribute substantially to the society in general and to the exchequer in particular.

As has been observed the total turnover at 100% utilization will be in the range of US \$ 24 million.

Besides the company will be contributing tremendously in terms of PAYE and NSSF.

In addition, the company will also be contributing in terms of corporate taxation from the year 2006 onwards.

**□ Positive cascading impact on the nation's economy;**

This project will have overall positive impact on the society.

It will not only save the precious foreign currency reserves of the country by producing import substitute products, and by exporting the final product, but will also generate direct employment to more than 100 individuals and will provide means of livelihood to more than 150 individuals.

The cascading positive impact on the society will be too great. This project will lead to creation of national wealth. Its contribution to the exchequer will also be quite significant in terms of NSSF, PAYE, VAT and direct taxation apart from skills and development levy.

One more advantage of this project is its location.

Since it is located at Plot No. 791/II, Ipogolo E - Ruaha - Iringa, which is not fully developed, will get more opportunities to commercially expand and develop.

This project will thus result into regional development. This project will thus hold the government to further its own objective of promoting regional development.

### **13. CONCLUSION & RECOMMENDATION: -**

The foregoing write-up indicates following benefits to the country, which in turn pleads for immediate acceptance of this project as a feasible project.

- The country will get a manufacturing unit, which will add to its scarce manufacturing base.

As on date the country's manufacturing base is very low with contribution of 9% to the GDP and thereby making the economy pre-dominantly agriculture oriented.

- The project will bring in latest technology in the relevant field and will ensure training or development of skilled labor force in the country. The labor force will get on -job training and will thus make them more and more competent.
- The project when implemented in full over a period of 24 months will ensure that there will be a direct flow of foreign currency in the country to the tune of US \$ 300,000/= which is considerable by any standard.

- The project will lead to regional development besides Iringa - as it will be located in Plot No. 791/II, Ipogolo E - Ruaha – Iringa Region. This advantage has many other advantages running parallel.

There will be tremendous boost to the economic development in the region.

It will arrest migration of individuals and will also alleviate the problem of congestion and concentration of working force in Iringa region.

It will provide cascading positive impact on the economic situation in Iringa region and other neighboring regions.

There are many other benefits direct and indirect of this project and therefore we conclude that this project is feasible technically as well as economically.