SOLID ENTERPRISES CO LTD

Manufacturing of Edible Oil

BUSINESS PLAN

JULY, 2021

Dar es salaam, Tanzania

CONTENTS

1 Executive Summary

Production Program	Capacity (%)	kg vegetable oil/annum
	Year 1 (60%)	17,280,000
	Year 2 (80%)	23,040,000
	Year 3 (100%)	28,800,000
Initial Investment Capital	The total investment capital of SOLID ENTERPRISES CO.,LTD including initial working capital is estimated at USD **14,983,710.00** Source of finance will be 30% own equity, 70% Bank Loan.	
Land Requirement.	The total land requirement including provision for open Spaces is 45,000m^2.	
Utilities Requirement	Electricity, water and communication are the three major utilities required by the plant. Accordingly, the requirements are as follows: Electricity: 504 Kw Water: 347,550 m^3 / year Internet Connectivity : 20Mb/s	
Employment Opportunity	SOLID ENTERPRISES CO., LTD will create job Opportunity for 195 permanent employees.	
Economic and Social Benefits	The project will: • Create additional employment for 195 permanent employees of which at least 35% will be Women. • Generate an average of USD 23.04 million in terms of tax revenue in the first three years of operation. • Generates foreign currency for the country by exporting 30% of its product	
Target Market	The target market for SOLID ENTERPRISES CO., LTD will be **70%** Local and **30%** Export.	
Financial Analysis	The project will have a yearly average profit of more than 11.45million (eleven million) USD in the first three year's period of time. All financial evaluations show that the project is financially viable.	
Environmental Impact	Edible oil manufacturing activities do not involve hazardous chemicals and hence considered as environmentally friendly projects. However, SOLID ENTERPRISES CO.,LTD will undertake a separate and detail Environmental Impact assessment to assess the impacts and design mitigation measure if any adverse impacts are there.	
Implementation Period	According to the tentative action plan, the Project will commence production in **NOV, 2022.**	

2 Introduction

Tanzania imports nearly 50 percent of its edible oil. Demand for edible oil in Tanzania stands at between 200,000 and 300,000 tones per year, portraying a wide domestic market and an apparent potential development of the cooking oil industry from groundnuts, sunflowers, palm oil, sesame, coconut, and cotton.

Despite the large potential for edible oils production created by Tanzania's ample arable land, at present there is a supply gap of 320,000 tones. This is set to worsen as demand for edible oils is forecast to grow from around 500,000 tons to 700,000 tons by 2030, according to the Tanzania Investment Centre (TIC). The deficit in production means imports are needed to bridge the supply gap.

In 2019 the import bill for animal or vegetable fats and oils and their byproducts was $126 million, according to International Trade Centre (ITC) trade map data. Over 90% was imported from Malaysia (92.8%) and Turkey (3.1%). Palm is the key source of Tanzania's imported edible oil making up 95.2% of the import bill. The country's edible oil export is minimal at $6.7 million meaning Tanzania had a negative trade balance of $119 million in 2019. Vegetable oil made up the greatest proportion of exports in this category, bringing in $4 million.

Overall the secondary and primary research conducted to undertake this project showed that an establishment of such a company will have a foreign exchange saving effect to the country by substituting the current imports, create huge employment opportunities, play a key role in the booming consumer sector and bring about positive financial and social impact returns to the investors.

2.1 Objective of the Project

The main objective of the project is to establish a modern oilseed production firm in Kibaha Region that will produce edible oil. Specific objectives include:

- **Produce quality edible oil.**
- **Derive cash profit for the promoter of the project**
- **Derive cash in the form of tax for the government**
- **Create employment opportunity for Tazania nationals**
- **Produce import substitute products and supply to consumers in the local market at cheaper price than the imported one and export parts of the product to the international market.**

2.2 Tips for success

The following tips were provided by successful oil processors.

Think about who our consumers will be and select sales outlets that they will use.

Get to know the market and your competitors.

Remember it is our final consumer not the shopkeeper who decides whether to buy our product.

Target different types of market to spread the risk.

Calculate the amount that we can sell per month and only supply quantities that will sell within the shelf life.

Use promotions to help retailers sell our products. They want to make a profit too.

Advertise using media that our customers will see and hear.

Build a business image and keep it. Use the label to display the business logo and pay as much as we can afford for the label.

Aim to please: customer satisfaction is very important for the growth of the business. Make sure that everyone in our business is focused on your customers.

Handle complaints promptly to maintain our reputation.

Keep a close watch on sales and be in regular contact with our key customers.

We Don't compromise on quality.

Protect our brand. Unpredictable quality is a sure way to ruin your business.

Consider having two brands: premium and budget if raw material quality is variable. It is better to have consistent second quality than top quality that is variable.

Attend any local courses in order to improve your business.

3 Market Study and Plant Capacity

3.1 Market Study

Market study is the process of identifying the most suitable market segments for a cooking oil business, and these may be within a local community or further afield. Many oil seed processors can identify local Customers' needs by talking to them informally, but they find it more difficult to identify the needs of customers who are outside their community. To do this, processors need to gather information, both on the needs of the different types of customers and also on Competitors. Getting this information involves conducting a market survey and also getting information from written Sources, such as newspapers or trade report. There are market research companies in Tanzania that are able to do this type of work, but it is better for producers to do it themselves. This is because they will then properly understand their customers' needs, who are the competitors, and how the markets for oil actually operate. If necessary, processors can get assistance from advisers or university marketing staff on how to conduct a market survey A market survey is used to get information about who will buy the oil, when, where from, how much and for what price. Surveys can also be used to get detailed information on the quality that customers expect from the oil they buy. A

convenient way of doing it is to use simple questionnaires (Tables 2.2 and 2.3) to ask a selection of people for their views on:

1) The product and its quality, and
2) Market size and value

Product quality: Questions can focus on what are the things that customers like or dislike about existing products (either those of competitors or a producer's own products) or samples of a new product that a producer has made

Question					
1 Which type(s) of cooking oil do you buy most often?	Write types of oil(s)				
	1 Very good	2 Good	3 Average	4 Bad	5 Very bad
	Tick the appropriate box				
1 What do you think about the color of the oil you buy?					
2 What do you think about the taste?					
3 Is it clears enough for you?					
4 Do you think that the quality is good for the price you pay?					
8 Is there anything else that you think is good about the oil that you buy?	Write answers				
9 Is there anything else about the oil that you would like to see improved?	Write answers				

Table 1 Example of a consumer survey questionnaire on the quality of competitors' cooking oils

Question	Results from 60 customers					
	1 Very good	2 Good	3 Average	4 Bad	5 Very bad	Total
What do you think about the color of the oil?	17	22	21	0	0	60
What do you think about the taste?	7	8	19	24	2	60
Is it clear enough for you?	7	10	22	21	0	60
Do you think that the quality is good for the price you pay?	2	8	20	21	9	60

Table 1.1. Analysis of a survey on the quality of competitors' oil

The results of this type of survey can be analyzed by adding together the numbers of answers such as 'very good', 'bad' etc. In the example in Table 1, the answers show that 65% of people (17 plus 22 out of 60) found the color of the oil to be good or very good, 43% (24 plus 2 people out of 60) did not like the taste of the oil, with some commenting that it tasted rancid (see Annex A) and 35% (21 out of 60) thought that the oil was too cloudy. Half of the people interviewed did not think the quality of the oil was good value for money. Results like these show that a potential market exists for a product having a better quality, or a similar quality that has a lower price.

4 Plant Capacity & Production Program

The project will operate twenty hours a day, 240 days a year and at its full capacity, will have a capacity to produce 27,072,000 liters of oil. However to penetrate both in the local and international market the project will follow the production program shown in following production capacity.

Capacity (%)	vegetable oil kg /annum
Year 1 (60%)	17,280,000
Year 2 (80%)	23,040,000
Year 3 (100%)	28,800,000

5 Target Market

The idea behind the envisaged project is to establish a business venture for producing edible oil in Kibaha, Ocean Region, Tanzania which is aimed primarily for both export and local market. The products are highly demanded by the middle and higher income earners of the population. The market share of the products will be **70%** Local and **30%** Export market.

5.1 Materials and Input

5.1.1 Raw Materials

The need to secure a supply of raw materials, often for a full year's Production, can be a significant problem, and is always a large investment by an oil processor. Ideally, there should be strong, trusting relationships between suppliers and oil processors, which bring a number of benefits to each:

- There is reduced uncertainty in both the costs to the processor and income for the farmers.
- Better production planning and cash flow management because of guaranteed raw material supplies, which may sometimes be paid for in installments
- Due to financial constraints, it is quite burdensome to keep a stock of Crude Oil. Therefore, the effect of fluctuating prices during the year could sometimes increase production costs substantially.
- All efforts should be made to have some degree of control over the supply of raw materials, by agreeing a supply contract so that Crude Oil can be

purchased monthly. then a larger loan will be needed which may make the business unprofitable.

- An accessible supply throughout the year is preferable. But it is essential to obtain an agreement to secure regular supplies before starting the enterprise.

5.2 Utilities

Electricity, water and communication are the three major utilities required by the plant.

5.2.1 Electric power

The envisaged plant has a significant power consumption to run the machineries. Hence availability of electric power supply needs to be secured to actualize the operation of the plant. The consumption the factory is estimated to be 504Kw. considering the electric from government is shortage in sometimes, we have to spend another money to get electric power from electric generator.

5.2.2 Water

The envisaged plant requires water during the production of the machineries and other general operations. Hence it is important for the plant to be located in an area where there is sufficient and continuous water supply. The annual water consumption of the factory is estimated to be 347,550 m^3.

5.2.3 Internet

The envisaged plant requires at least 20Mb/s leased internet connectivity and direct telephone lines.

5.3 Location and Land

The location of the investment located in Kibaha, Ocean Region, Tanzania. The total area of the project site is about 45,000 m^2 out of which 1,000 m^2 is a built-up area covered by production center, office, cafeteria and other buildings. Out of the total built up area, about 4000m^2 will be used for production facility, 9000$m^2$for store and 1000$m^2$for office building.

6 Production Process and Machineries

6.1 Production Process

Oil Refining. Refining produces an edible oil with characteristics that consumers desire such as bland flavor and odor, clear appearance, light color, stability to oxidation and suitability for frying. Two main refining routes are alkaline refining and physical refining (steam stripping, distillative neutralization) which are used for removing the free fatty acids. The classical alkaline refining method usually comprises the following steps:

Step 1.

Degumming with water to remove the easily hydra table phospholipids and metals.

Step 2.

Addition of a small amount of phosphoric or citric acid to convert the remaining non-hydra able phospholipids (Ca, Mg salts) into hydra table phospholipids.

Step 3.

Neutralizing of the free fatty acids with a slight excess of sodium hydroxide solution, followed by the washing out of soaps and hydrated phospholipids.

Step 4.

Bleaching with natural or acid-activated clay minerals to adsorb coloring components and to decompose hydro peroxides.

Step 5.

Deodorizing to remove volatile components, mainly aldehydes and ketones, with low threshold values for detection by taste or smell. Deodorization is essentially a steam distillation process carried out at low pressures (2-6 mbar) and elevated temperatures (180-220°C).

6.2 Packaging

Plastic bottles may contain splinters, cracks, or bubbles in the bottle, or strings across the interior. They therefore need checking more carefully than other types of packaging to prevent these defects causing serious harm to consumers. Staff who checks bottles should be fully trained to look for faults and they should only work at inspection for 30-60 minutes at a time to maintain their concentration. The dimensions of bottles are also more variable than other types of packaging and it is important to check that containers have the correct capacity and that the neck is properly formed to allow the cap to fit. It is also necessary to find the heaviest empty container to use in check-weighing. If bottles are re-used, they should be thoroughly washed and completely dried, and inspected by

visually inspecting them and smelling them to ensure that they do not contain any residues, before filling with oil.

6.3 Storage and distribution

Oil may be stored in bulk containers away from light and sources of odors, but it is advisable to pack it in retail containers as soon as possible so that it does not deteriorate before it goes on sale. Bottles of oil will be stored in Light proof cardboard boxes on pallets in a storeroom. The storeroom should be cool and dark with a good ventilation to maintain a flow of air and with protection against insects and rodents. The cardboard boxes also protect bottles of oil from damage during transport, when they are distributed to sales outlets. Checks should be made to ensure that retailers and other customers sell the oil before it's 'best-before' date.

6.4 Machineries

Vegetable Oil Refinery

- High speed crystallizer
- Refrigerating fluid circulation tank
- Refrigerating machine
- Crystallizer tank
- Plate frame filter
- Wax tank
- Roily oil pot
- Clean oil pot
- Wax pot
- High speed crystallizer machine
- Refrigerating fluid circulation pump
- Refrigerating fluid circulation pump
- Filter pump
- Roily oil pump
- Clean oil pump
- Wax paste pump
- Cooling tower
- Clean water circulation water pump
- Air compressor

- Air storage pot

Boiler

- Steam boiler
- Induced draft fan
- Air blower
- De-duster
- Water feeding pump
- Electric cabinet
- Water softener
- Steam distribution cylinder
- Chimney, Chimney flue
- Valves Instrument
- Pressure meter
- Pressure gauge bend
- Three-way cock
- Water level gauge
- Fall lift safety valve
- Main steam valve
- Auxiliary steam valve
- Blow-down valve
- Feed water valve
- Feed check valve
- Water level controller

7 Manpower and Training Requirement

7.1 Manpower Requirement

The manpower requirement of Solid ENTERPRISES Co.,ltd and the estimated annual labor cost including the fringe benefits are given in the following Table. The total number of required manpower is 195 permanent workers and the annual labor cost of the permanent employees is estimated at USD664,128.00. Detail of the manpower requirement is shown in the Table below.

SN	Description	No	Qualification	Monthly Salary in usd.	Annual Salary in Usd.
A	**Permanet Worker**				
1	General Manager	1	BA in managerment	3,000.00	36,000.00
2	Production Manager	1	BSC in Food Technology	1,800.00	21,600.00
3	Quality control	2	BSC in Chemistry	400.00	9,600.00
4	Operator	30	10 completed	300.00	108,000.00
5	Chemist	3	BSC in Chemistry	400.00	14,400.00
6	Helpers	20	Unskilled	100.00	24,000.00
7	Packing &Packaging	60	Unskilled	100.00	72,000.00
8	Marketing head	1	BA in Marketing Management	1,500.00	18,000.00
9	Personnel	1	Diploma in HRM	200.00	2,400.00
10	Sales person	6	Diploma in Marketing	130.00	9,360.00
11	Admin & Finace head	1	BA in accounting/management	2,500.00	30,000.00
12	Accountant	2	BA in accounting	1,500.00	36,000.00
13	Electrician	6	10+2 in General Electricity	250.00	18,000.00
14	Cashier	2	10+2 in Bookkeeping	150.00	3,600.00
15	Purchser	6	Diploma in Purchasing Mgt	130.00	9,360.00
16	Store Keeper	6	10+2 in store Management	120.00	8,640.00
17	Cleaner	12	Unskilled	100.00	14,400.00
18	Office Boy	6	10 completed	100.00	7,200.00
19	Driver	5	10 completed	200.00	12,000.00

20	Guards/Security	18	Basic	130.00	28,080.00
21	Gardner	6	Unskilled	100.00	7,200.00
	Sub Total:	**195**			489,840.00
B	**Temporary Worker**				
1	Auto Mechanic	6	Diploma in Automotive technology	100.00	7,200.00
2	Plumber	2	10+2 in Plumbering	100.00	2,400.00
3	Laborer	50	Unskilled	90.00	54,000.00
	Sub Total:	58			63,600.00
	Total	**253**			553,440.00
	Benefit(20% of Basic salary)				110,688.00
	Grand Total				664,128.00

7.2 Training Requirement

Employees will get an intensive on the job training before the commencement of production and short term trainings for supervisors, and technicians, will be provided. In addition, refresher training will be given from time to time as required.

8 Financial Analysis

8.1 Initial Investment Capital

The total initial investment capital of SOLID ENTERPRISES CO.,LTD will be USD 14,983,710.00. The major breakdown of the total initial investment cost is shown in Table below.

SN	Description	Cost in Usd.
1	Land, Building & Construction	2,735,000.00
2	Machines & Equipment	2,490,000.00
3	Vehicles	150,000.00
4	Office Equipment	15,200.00
	Total Fixed Investment Cost	**5,390,200.00**
5	Pre service Expense	10,000.00
6	Initial Working Capital	8,870,000.00
	Total	**14,270,200.00**
7	Contingency(5%)	713,510.00
	Total Initial Investment Capital	**14,983,710.00**

8.2 Production Cost

The annual production cost at full operation capacity is estimated at USD **786,042.00** (see Table below). This don't includes the cost of raw material which is the major cost of the production cost. The other components of the production cost are Maintenance & repair, direct labor and utility costs.

SN	Description	Annual Cost in Usd.	Assumption Used
1	Property Insurance	26,951.00	0.5% of fixed Investment Cost
2	Audit & Legal Fee	12,000.00	1000 Per Month
3	Uniforms	7,800.00	Usd 40/worker
4	Telephone,fax and postal	6,000.00	500 per month
5	Cleaning Goods supplies	3,000.00	250 per month
6	Repair and Maintenance	134,755.00	2.5% of the fixed investment cost
7	Advertisement	200,000.00	Lumpsum
8	Stationery and other office supplies	2,400.00	Usd.200 per month
9	Electircity	95,040.00	Usd 0.2*1800*24*24/month
10	Water	10,000.00	usd0.2
11	Fuel	207,360.00	usd0.75
12	Oil and Lubricant	20,736.00	10% of oil cost
13	Miscellaneous Expense	60,000.00	USD 5000 per month
	Total	**786,042.00**	

8.3 Financial Evaluation

Profitability

According to the projected income statement, the project will start generating profit in the first year of operation. Important ratios such as profit to total sales, net profit to equity (Return on equity) and net profit plus interest on total investment (return on total investment) show an increasing trend during the life-time of the project. The income statement and the other indicators of profitability show that the project is viable.

Ratios

In financial analysis, financial ratios and efficiency ratios are used as an index or yardstick for evaluating the financial position of a firm. It is also an indicator for the strength and weakness of the firm or a project. Using the year-end balance sheet figures and other relevant data, the most important ratios such as return on sales which is computed by dividing net income by revenue, return on assets. (Operating income divided by assets), return on equity (net profit divided by equity) and return on total investment (net profit plus interest divided by total investment) has been carried out over the period of the project life and all the results are found to be satisfactory.

9 Environmental Impact Assessment

Vegetable oil manufacturing activities do not involve hazardous chemicals and hence considered as environmentally friendly projects. However, Solid Enterprises Company Ltd will undertake a separate and detail Environmental Impact assessment to assess the impacts and design mitigation measure if any adverse impacts are there.

10 Economic and Social Benefits

The project will:

- Create additional employment for 195 permanents employees of which at least 45% will be Women.
- Generate an average of USD 23.04 million in terms of tax revenue in the first three years of operation.
- Generates foreign currency for the country by exporting 30% of its product

11 Tentative Implementation Plan

The following is the tentative implementation plan of SOLID ENTERPRISES COMPANY LIMITED

No	Activity	Completion Time
1	Project Development and Feasibility Study	October, 2020
2	Land Acquisition	December, 2021
3	Land preparation and Civil Work	February, 2022
4	Public Utility Acquisition Electricity, Water and Telecome	March, 2022
5	Procurement of Machinery and Equipment	April, 2022
6	Machinery and Equipment Installation	June, 2022
7	Purchase and Preparation of Raw material	July , 2022
8	Testing of Machineries	August, 2022
9	Project Commissioning	November,2022