DOSSA INTERNATIONAL LIMITED

BUSINESS PLAN

DENATURED TECHNICAL ALCOHOL PLANT
PLOT NO 6 BLOCK E KISERIANI, ARUSHA

SEPTEMBER 2024

Confidentiality Agreement

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Upon request, this document is to be immediately returned to Mr. Hudson Mzava.

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CHAPTER ONE

1.0 INTRODUCTION

Tanzania faces several significant challenges regarding cooking energy, primarily related to the reliance on traditional biomass fuels such as firewood and charcoal. These challenges impact health, environmental sustainability, and socio-economic development.

Approximately 80% of households in Tanzania rely on firewood and charcoal for cooking, contributing to severe environmental degradation and deforestation. This reliance accounts for about 80-85% of the country's total energy demand. The overuse of biomass fuels leads to the loss of around 466,000 hectares of forest annually, exacerbating climate change and biodiversity loss.

Indoor air pollution from burning biomass fuels poses significant health risks. Over 80% of households are exposed to high levels of smoke, leading to respiratory issues and resulting in over 33,000 premature deaths each year due to air pollution-related illnesses. Women and children are particularly vulnerable as they are often the primary users of these cooking methods. Economic factors significantly influence energy choices; lower-income households are less likely to invest in cleaner cooking technologies due to upfront costs and ongoing expenses associated with modern fuels.

While there are government initiatives aimed at promoting clean cooking solutions, such as the National Clean Cooking Energy Strategy, implementation remains a challenge due to inadequate infrastructure and funding. In ensuring accessibility to affordable clean cooking energy solutions in Tanzania the private sector plays a significant role in attaining the government target for **80% clean cooking energy usage by 2032**. This involvement encompasses various initiatives, partnerships, and investments aimed at addressing the challenges associated with traditional biomass fuels. It is in light of this background that Dossa International Ltd is planning to contribute to the governments towards attaining 80% clean cooking energy usage by 2032 through producing and marketing bioethanol-based fuel.

1.1 Background information of Dossa International Ltd

Dossa International Ltd is a Tanzania-based company focused on producing and marketing **Denatured Technical Alcohol** for domestic and commercial use. With the growing demand for affordable, environmentally friendly, and sustainable energy alternatives, Dossa International Ltd aims to position itself as a leading provider of **Denatured Technical Alcohol** and associated products such **stoves which uses denatured technical alcohol**. The company's strategy is driven by Tanzania's efforts to shift towards clean energy, as well as the providing cost friendly energy solution particularly cooking energy.

1.2 Vision Statement

Dossa International Ltd envisions becoming a top provider of clean energy solutions by ensuring access to environmentally friendly and affordable biofuel alternatives for domestic and commercial users.

1.3 Mission Statement

Dossa International Ltd aims to establish a prominent presence in Tanzania by contributing to national, regional, and global energy objectives. The company is committed to becoming the leading producer of bioethanol-based fuel for both domestic and commercial purposes, with a specific focus on the Tanzanian market and beyond. Additionally, Dossa International Ltd aspires to become a market leader in the distribution of biofuel-powered stoves by forming strategic partnerships with reputable manufacturers.

The broad mission includes the following objectives:

a) Establish a low-cost ethanol by-product plant as an alternative source of cooking fuel for domestic and commercial use.
b) Promote a cleaner, safer, and healthier environment by reducing deforestation, pollution, and contributing to the fight against global warming.

1.4 Core Values

Dossa International Ltd will operate on the principles of Integrity, Determination, Innovation, Excellence, and Impact, striving to make a

meaningful contribution to environmental protection.

1.5 Objective of the company

The financial and marketing objectives of the Dossa International Ltd are as follows.

Financial Objectives

a) Achieve initial sales exceeding TZS 1.2 billion, with a target to grow to over TZS 3 billion by 2028.
b) Maintain a high gross margin percentage of sales revenue, and generate a sustainable internal rate of return (IRR) after four years of operation, creating diverse employment opportunities within local communities.
c) Secure a net income of more than 10% of sales by the fifth year.

1.6 Proposed project

The proposed project follows the owner's vision and ambition to contribute towards government efforts towards ensuring accessibility to affordable clean cooking energy to the public. The company is set to offer good quality and cost-effective service with the delivery of high-quality bioethanol-based goods and services which are environmental friendly.

The company is currently establishing a denatured technical alcohol plant on Plot No. 6 Block E Kiseriani, Arusha, Tanzania. By building strong relationships with key stakeholders and focusing on customer satisfaction, Dossa International Ltd is poised to play a critical role in **promoting clean cooking energy** in Tanzania and the broader East African region.

1.7 Problem statement

Tanzania faces a significant challenge regarding cooking energy, where over 80% of households rely on traditional biomass fuels such as firewood and charcoal. This reliance on biomass not only contributes to severe health risks but also exacerbates environmental degradation.

The use of firewood and charcoal is linked to over 33,000 deaths annually due to indoor air pollution caused by smoke inhalation6. The health risks are particularly acute for women and children, who are most affected by the

respiratory illnesses associated with burning these fuels. Furthermore, the reliance on unsafe cooking methods leads to a cycle of poverty, as households that continue using traditional fuels are often trapped in low-income situations due to the high costs associated with health care and fuel procurement.

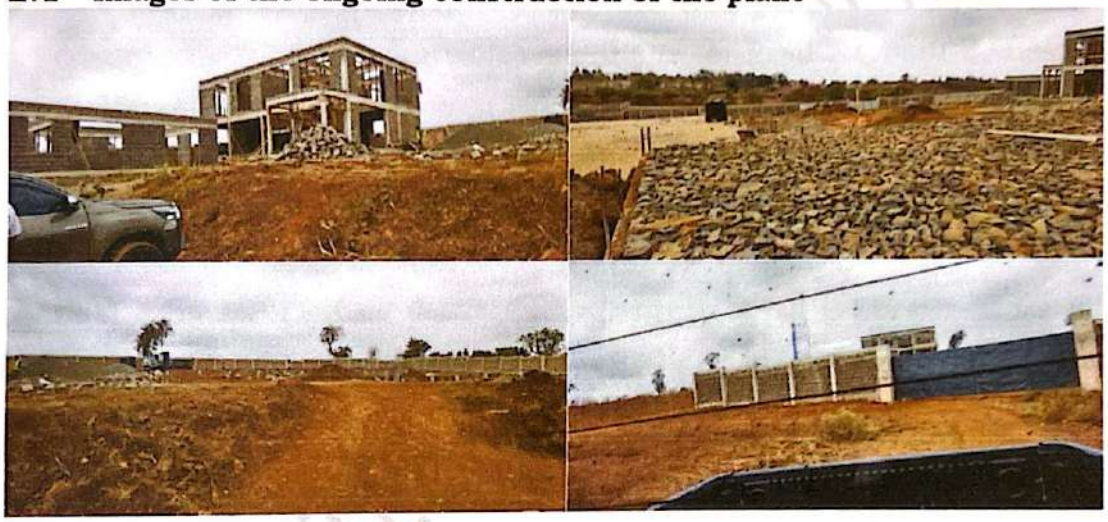
The environmental impact is equally alarming. The burning of biomass contributes significantly to deforestation, with an estimated 466,000 hectares of woodland lost each year for firewood. This deforestation not only threatens biodiversity but also contributes to climate change, further endangering the livelihoods of those dependent on these ecosystems.

CHAPTER TWO

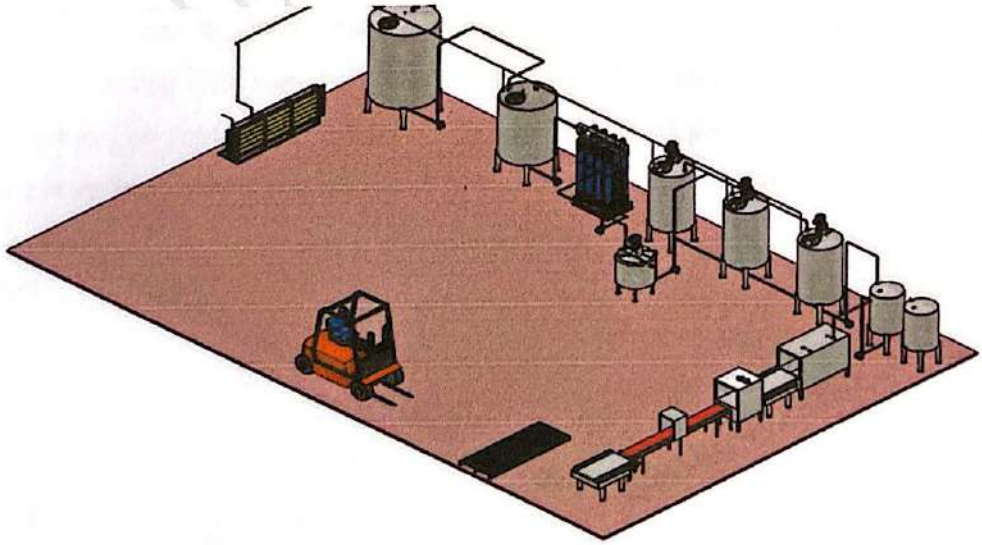
2.0 DESCRIPTION OF THE PROPOSED PROJECT

The proposed project will entail construction of a denatured technical alcohol plant on Plot No. 6 Block E in Kiseriani Arusha. The plant will include processing/assembling area, warehouse, and service area for the distribution vehicles, administration block and a cafeteria. Currently construction of the facility is ongoing. The plant is being constructed on a piece of land measuring approximately 7,827 square meters.

2.1 Images of the ongoing construction of the plant



2.2 Layout of the processing plant



2.3 Products and Services

Dossa International Ltd is dedicated to providing high-quality, cost-effective denatured alcohol products and associated equipment to meet the needs of both domestic and commercial users. The company's denatured technical alcohol plant will offer **denatured technical alcohol fuel** in a variety of packaging options, ranging from **0.5-litre to 20-litre containers**. Additionally, the company will market a range of complementary products designed to enhance the user experience with biofuel, including:

- **Low-cost, high-efficiency stoves**: Specially designed stoves that are energy-efficient and affordable, making them ideal for both domestic and commercial cooking purposes.
- **Denatured technical alcohol fuel**: fuel, packaged for easy use in domestic settings, particularly suited for portable cooking or heating solutions. The packages will range from 0.5ltr to 20ltr.
- **Fuel cans for chafing dishes**: Cans of bioethanol gel designed for use in **chafing dishes**, widely used in the hospitality industry for warming food at buffets and events.

2.3.1 Stoves

Alcohol burning stoves based on denatured technical alcohol can be used for cooking, water heating and heating of buildings. The technology can be applied in households, institutions (*e.g.* schools) and industries where it is used for boiler heating. Dossa International Ltd will import parts from china and assemble the stoves in Tanzania. Importation of parts instead of complete sets will lower importation costs and maximize the use of space in a container.

Image of the Denatured technical alcohol Stove and canister

2.3.2 Denatured technical alcohol canisters

The project will also involve manufacturing and distribution of refillable bioethanol canisters of different sizes ranging from 0.5 to 20 litters. The different sizes aims at accommodating different income groups enabling even the low income groups to purchase our products.

2.3.3 Denatured technical alcohol ATMs

The company will install a few denatured technical alcohol ATMs which will be dispensing the fuel. The ATMs will simplify refilling of the fuel to the customers.

2.4 Production process

Denatured alcohol is typically produced by adding specific substances, known as denaturants, to ethanol. These substances can impart unpleasant tastes or odors, making the alcohol unsuitable for drinking. The denaturing process can be complete or partial, depending on the intended use of the alcohol and regulatory requirements. In this project, **a Completely Denatured Alcohol (CDA) type will be used.** This type is treated to be utterly unfit for consumption. The denaturants used are difficult to separate from the alcohol, which minimizes the risk of it being diverted for beverage use.

The production process typically involves several key steps which include the following:-

a) Selection of Alcohol: Ethanol is commonly used, often at concentrations around 95% by volume.

b) Addition of Denaturants: Denaturants such as diethyl phthalate or Bitrex are added in precise proportions to ensure compliance with legal standards.

c) Mixing and Approval: The mixture must be prepared according to approved formulations, both local and international standards.

Denatured alcohol for fuel purposes is typically produced by adding denaturants to ethanol or methanol to make it unfit for human consumption. This process allows the alcohol to be used in various applications, including as a fuel additive or alternative fuel source. Dossa International Ltd will use locally produced raw materials and import others when the need arises. The purchased ethanol will then be processed at Arusha Plant ready to be packaged for use by the clients.

2.5 Operational Plan

The main distribution center will be in Arusha where the plant is located. Initially the products will be distributed in major cities such as Dar es Salaam, Dodoma, Mwanza and Mbeya. Other areas will include neighbor regions including Kilimanjaro, Manyara and Tanga. In these regions, there will be main agents who will be responsible for selling the products to retail sellers and individuals. Dossa International Ltd will have vehicles (electric vehicles and electric motorcycles) which will be use for distributing the products from the plant to the main agents. The use of electric vehicles and motorcycles amplifies the international and local efforts in protecting the environment. The transportation sector is a significant source of greenhouse gas emissions. By replacing gasoline-powered vehicles with electric alternatives, cities can significantly reduce the amount of smog and particulate matter in the air,

leading to healthier living conditions for residents. Further, electric vehicles are generally more energy-efficient than traditional gasoline engines. They convert a higher percentage of electrical energy from the grid to power at the wheels, making them a more efficient choice for transportation

Further, considering the advancement in technology, Dossa International Ltd is currently developing three mobile applications (Consumer, Sales, and Agent) with a dashboard for monitoring the sale and distribution of denatured technical alcohol stoves and fuel. The system will feature USSD integration, banks and mobile payment support (All Banks, Tigo-Pesa, M-Pesa, Airtel Money), Google Maps tracking for sales agents, installment payment processing, and recurring purchases of the fuel through the ATMs.

2.6 Anticipated benefits of the products

a) **Renewability**: Denatured alcohol, particularly ethanol, is derived from renewable resources such as corn, sugarcane, and other biomass. This contrasts with fossil fuels, which are finite and take millions of years to form.

b) **Reduced Emissions:** Bioethanol combustion produces significantly lower greenhouse gas emissions compared to traditional fuels like charcoal and firewood. The carbon dioxide emitted during burning is offset by the CO2 absorbed by the plants during their growth, making bioethanol a carbon-neutral energy source.

c) **Minimal Air Pollution**: Denatured technical alcohol stoves burn cleanly, producing negligible emissions and no soot, which helps improve indoor air quality and reduces health risks associated with indoor air pollution.

d) **Cost-Effectiveness:** While initial costs may be higher, denatured technical alcohol can lead to long-term savings due to its efficiency and lower health-related expenses from reduced pollution exposure. Additionally, local production can stimulate job creation in agriculture and biofuel processing sectors.

e) **Support for Local Economies**: The demand for denatured technical alcohol can enhance agricultural productivity and provide income opportunities for farmers involved in the cultivation of feeds-tocks used for ethanol production.

f) Denatured technical alcohol for fuel aligns with multiple SDGs by promoting sustainable energy access (SDG 7), improving health and well-being (SDG 3), supporting economic growth (SDG 8), and fostering responsible consumption (SDG 12) through sustainable agricultural practices.

CHAPTER THREE

3.0 DENATURED TECHNICAL ALCOHOL MARKET ANALYSIS

In Tanzania, cooking energy primarily comes from biomass sources, with a significant reliance on firewood and charcoal. These fuels are used extensively in both urban and rural areas due to their availability and low cost. However, this reliance has environmental implications, including deforestation and greenhouse gas emissions.

In urban areas, charcoal is particularly popular due to its portability and ease of use, while rural households often use firewood, collected from surrounding forests. Other cooking energy sources include:

a) Biogas: Some households, especially in rural areas, are beginning to adopt biogas systems, which convert organic waste into gas for cooking.
b) LPG (Liquefied Petroleum Gas): This is gaining popularity, especially in urban settings, as a cleaner alternative to charcoal and firewood. However, access can be limited due to cost and availability.
c) Electricity: While not widespread for cooking, electricity is used in some urban homes, especially those with access to reliable power.
d) Solar Cookers: These are being promoted in some areas as a sustainable option, although adoption remains low.

The government and various organizations are working to promote cleaner cooking technologies to reduce health risks associated with indoor air pollution and to mitigate environmental impact.

3.1 Current Energy Landscape

Biomass Dominance: Approximately 80% of Tanzanian households rely on biomass for cooking, primarily firewood (65%) and charcoal (26.2%) 12. This reliance has severe health and environmental impacts, including high indoor air pollution levels that contribute to over 33,000 premature deaths annually due to related illnesses.

Electricity Usage: Although 80% of Tanzanians have access to electricity, only 9% use it for cooking, largely due to misconceptions about costs and taste preferences

Table No. 1: Sources of energy for cooking

Indicator	Tanzania		Tanzania Mainland		Tanzania Zanzibar	
	Number	Percentage	Number	Percentage	Number	Percentage
Main Source of Energy for Lighting						
Electricity (TANESCO/ZECO)	5,295,412	37.4	5,043,801	36.6	251,611	66.9
Solar	4,592,359	32.4	4,573,584	33.2	18,775	5.0
Kerosene	559,550	4.0	482,194	3.5	77,356.0	20.6
Others	3,705,482	26.2	3,677,396	26.7	28,086	7.5
Main Source of Energy for Cooking	14,152,803					
Firewood	7,885,115	55.7	7,709,031	56.0	176,084	46.9
Charcoal	3,667,039	25.9	3,558,380	25.8	108,659	28.9
Kerosene	71,288	0.5	65,095	0.5	6,193	1.6
Electricity	604,051	4.3	575,982	4.2	28,069	7.5
Gas	1,315,037	9.3	1,266,844	9.2	48,193	12.8
Others	610,273	4.3	601,643	4.4	8,630	2.3

Source: NBS 2024

3.2 Demand for clean cooking energy in Tanzania

The demand for clean cooking energy in Tanzania is rapidly increasing as the government and various stakeholders work towards a significant transition from traditional biomass fuels to cleaner alternatives. This shift is driven by health concerns, environmental sustainability, and economic opportunities. The demand and supply of clean cooking energy in Tanzania are influenced by several factors, including economic conditions, urbanization, and health considerations.

The demand for clean cooking energy is influenced by the following factors:-

a) Health Awareness: There is a growing awareness of the health risks associated with traditional biomass fuels, such as respiratory diseases from indoor air

pollution. This has increased interest in cleaner cooking options.

b) Urbanization: As more people move to urban areas, the demand for cleaner and more efficient cooking solutions, like LPG and electric stoves, is rising.

c) Economic Factors: The cost of traditional fuels (like firewood and charcoal) can fluctuate, influencing households to seek alternatives that may offer long-term savings, such as solar cookers or biogas systems.

d) Government and NGO Initiatives: Various programs aimed at promoting clean cooking solutions, including subsidies and awareness campaigns, have helped increase demand for cleaner options.

e) Rising Energy Needs: As Tanzania continues to develop, there is an increasing demand for alternative fuels to meet the growing energy needs of its population and industries. Denatured alcohol, particularly ethanol, is seen as a viable option due to its renewable nature.

f) Market Growth: The global market for denatured alcohol is projected to grow significantly, which may influence local demand in Tanzania as businesses and consumers become more aware of its benefits

The demand and supply dynamics of denatured technical alcohol for fuel purposes in Tanzania are influenced by several factors, including regulatory developments, market trends, and the growing interest in renewable energy sources.

3.3 Government Initiatives

The Tanzanian government is actively working to improve the cooking energy landscape through several key initiatives:

a) Clean Cooking Strategy: Following a Clean Cooking Conference in late 2022, the government announced plans to form a national clean cooking taskforce responsible for developing a comprehensive 10-year strategy. This strategy will address affordability, accessibility, and sustainability of clean cooking solutions.

b) Clean Cooking Fund: The government has allocated 500 million Tanzanian

Shillings (approximately $214,000 USD) to promote clean cooking technologies and attract private sector investment.

c) Energy Efficiency Projects: Initiatives such as the Energy Efficiency Project aim to integrate energy efficiency into the clean cooking agenda and provide capacity-building support.

3.4 Private Sector Involvement

The private sector plays a crucial role in the transition to cleaner cooking solutions:

a) Tanzania Clean Cooking Project (TCCP): This $3.75 million project aims to catalyze private sector participation in clean cooking through grants and technical assistance for small businesses. It focuses on enhancing the availability of affordable and quality clean cooking solutions.

b) Improved Cook stoves Initiative: Programs like the Tanzania Improved Cook stoves (TICS) Programme have successfully engaged local artisans and reached over 226,000 households, promoting the use of improved cook stoves that are more efficient than traditional methods.

3.5 Supply of Clean Cooking Energy

a) **LPG**: The supply of LPG has been growing, with increased infrastructure for distribution. However, access can still be limited in rural areas due to high costs and the need for cylinders.

b) **Biogas**: Supply is often localized, with many biogas systems being installed at the household level. Challenges include the initial investment cost and maintenance.

c) **Electricity**: Although there is an ongoing effort to expand electricity access, supply is still inconsistent in many areas, limiting its viability as a cooking option.

d) **Solar Solutions**: Solar cookers and stoves are being introduced, but supply chains and consumer awareness are still developing.

3.6 Prevailing prices for clean energy in Tanzania

The prevailing prices for clean cooking energy in Tanzania can vary based on

location, type of energy source, and market conditions.

a) **LPG (Liquefied Petroleum Gas)**

- **Price Range**: Typically, a 6 kg cylinder of LPG costs around TZS 25,000 to TZS 40,000, depending on the region and supplier.
- **Usage Cost**: The cost per meal can vary, but many households find it more economical than charcoal over time.

b) **Biogas**

- **Initial Investment:** Setting up a biogas system can cost anywhere from TZS 1 million to TZS 2 million or more, depending on the size and materials used.
- **Operating Cost:** Once established, the fuel is essentially free as it uses organic waste, but maintenance costs may apply.

c) **Electricity**

- **Price per kWh:** The average cost of electricity in Tanzania is around TZS 200 to TZS 400 per kWh, though this can vary based on consumption and location.
- **Cooking Cost**: The cost of using electricity for cooking can be higher than LPG, especially in areas with unreliable supply.

d) **Solar Cookers**

- Price Range: Solar cookers can cost from TZS 50,000 to TZS 200,000, depending on the type and quality.
- Operating Cost: Solar energy is free, making it a cost-effective long-term option, but initial investment can be a barrier.

e) **Charcoal and Firewood**

- Charcoal: Prices typically range from TZS 30,000 to TZS 60,000 for a 50 kg bag, though this fluctuates with market conditions.

- Firewood: Prices can vary widely, often around TZS 10,000 to TZS 30,000 per bundle, depending on availability.

3.7 Comparative advantage of using bioethanol cooking energy

Using bioethanol as a cooking energy source offers several comparative advantages over traditional fuels like firewood, charcoal, LPG, and electricity. Some of the key benefits include:-

a) **Environmental Benefits**

- Clean Combustion: Denatured alcohol, especially ethanol, burns cleanly with negligible emissions of soot and pollutants. This results in improved indoor air quality and reduced environmental impact compared to traditional biomass fuels, which often produce harmful smoke and particulate matter

- Renewable Resource: Ethanol can be produced from various biomass feedstocks, making it a renewable energy source. This aligns with global efforts to promote sustainable energy solutions and reduce reliance on fossil fuels.

b) **Health Advantages**

- Cooking with denatured alcohol eliminates many of the health risks associated with traditional cooking methods that rely on solid biomass or kerosene, which can release harmful pollutants. This is particularly beneficial for women and children who are often exposed to smoke in poorly ventilated cooking environments.

- Safety: Alcohol stoves designed for denatured alcohol use are typically safer than those using pressurized fuels like LPG. They can be used indoors without the same risks of explosion or toxic gas emissions,

provided safety precautions are observed.

c) **Efficiency**

- High Energy Content: Bioethanol has a high energy density, providing efficient cooking performance.
- Quick Heating: Bioethanol stoves often heat up quickly, reducing cooking time.

d) **Economic Aspects**

- Cost-Effectiveness: Denatured alcohol can be produced locally from agricultural by-products, potentially lowering fuel costs for consumers. This local production can stimulate rural economies and provide farmers with an additional income stream.
- Energy Efficiency: Ethanol stoves generally offer higher efficiency compared to traditional biomass stoves. They provide instant heat upon ignition, which can lead to faster cooking times and reduced fuel consumption overall.

e) **Compatibility and Versatility**

- Denatured alcohol is easy to ignite and manage, making it user-friendly for households. The availability of gel forms of ethanol also enhances its usability, reducing the risk of spills and making it safer to handle.
- Alcohol stoves can be used for various applications beyond cooking, including heating water and space heating in homes, which adds to their utility in diverse settings.

CHAPTER FOUR

4.0 FINANCIAL ANALYSIS

This chapter provides a detailed analysis of the financial assessment of the proposed project. A range of factors including capital costs, operational expenses, revenue projections, and profitability have been analyzed.

4.1 Assumptions

a) Land size: 7,827 square meters
b) Land value: TZS 250,000,000
c) Construction Cost: TSh. 1,413,726,513.00
d) Equipment and machinery: TSh. 657,648,119.55
e) Development of application: TSh. 40,500,000.00
f) Installation of security cameras: TSh. 23,790,000.00
g) Financing Plan: Equity
h) Direct operating cost per annum: TSh. 784,800,000
i) Escalation of operation cost: 10% per year
j) Indirect operating cost per annum: Tsh.104,554,500.00
k) Escalation of indirect cost: 10% per year
l) Products price
    - 0.5 Ltr – TSh. 1,250.00
    - 1 Ltr- TSh. 2,500.00
    - 5 Ltr- TSh. 12,500.00
    - 15 Ltr- TSh. 37,000.00
    - 20 Ltr- TSh. 45,000.00
    - Chafing Burner Can- TSh. 10,000.00
    - Stove + Ltr Bottle- TSh 30,000.00
m) Price escalation:5% every year
n) Depreciation
    - Building -5%
    - Machinery and Equipment-12.5%
o) Exchange rate (USD)- TSh. 2,700

4.2 Investment Cost

The initial investment cost for the proposed project is estimated at TSh. 2,385,664,632.55. This is inclusive of land, construction and machinery and equipment as itemized in Table No. 1 below.

Table No. 1: Investment Cost

Particular	Amount
Land	
Land acquisition	**250,000,000.00**
Land Development	
Buildings(Warehouses, Service bay & administration block)	1,383,726,513.00
Borehole Drill (100 m depth)	30,000,000.00
Solar Installation	
Sub-Total	**1,413,726,513.00**
Machinery and Equipment	
Service bay equipment	50,253,840.00
Processing Plant(Stainless Steel Tanks, Buffer Tank, Labelling Machine, Pipping, Filling line & Packing Tables)	112,590,000.00
Installation of security cameras	23,790,000.00
Development of Motomoto application	40,500,000.00
Denatured Alcohol ATMs	212,058,976.95
Stoves	282,745,302.60
Sub-Total	**721,938,119.55**
TOTAL INITIAL INVESTMENT	**2,385,664,632.55**

4.3 Operational Costs

The operational expenses are divided into direct and indirect costs. The direct costs are estimated at TSh. 784,800,000 while the indirect costs are estimated at Tsh. 104,554,500.00 per annum. Both direct and indirect costs are assumed to escalate by 10% annually. Table No. 2 below shows the 5 years operational costs.

Table No. 2: Five years Operational costs

	Quantity	Unit/Pc		Year 1	Year 2	Year 3	Year 4	Year 5
Direct Costs								
Production Cost								
Ethanol	5000	Ltr	168,000,000.00	168,000,000	168,000,000	168,000,000	168,000,000	168,000,000
Other chemicals	0	0	84,000,000.00	84,000,000	84,000,000	84,000,000	84,000,000	84,000,000
Sub Total				**252,000,000**	**252,000,000**	**252,000,000**	**252,000,000**	**252,000,000**
Labour Cost	**Qty**	**Salary/month**	**Salary/annual**					
Managing Director	1	5,000,000.00	60,000,000.00	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000
Director of Human Resources	1	4,000,000.00	48,000,000.00	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000
Director of Business Development	1	4,000,000.00	48,000,000.00	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000
Director of Finannce and Administ	1	4,000,000.00	48,000,000.00	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000
Business Development Manager	1	2,500,000.00	30,000,000.00	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000
Sales & Marketing Manager	1	2,500,000.00	30,000,000.00	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000
Finance Manager	1	2,500,000.00	30,000,000.00	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000
Administration & Human Resource	1	2,500,000.00	30,000,000.00	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000
Sales & Marketing Officers	2	1,500,000.00	36,000,000.00	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000
Human Resources Officers	1	1,500,000.00	18,000,000.00	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Legal Officers	1	1,500,000.00	18,000,000.00	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Logistics officers	1	1,500,000.00	18,000,000.00	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Accountant	1	1,500,000.00	18,000,000.00	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Drivers	2	800,000.00	19,200,000.00	19,200,000	19,200,000	19,200,000	19,200,000	19,200,000
Machines operators	2	1,000,000.00	24,000,000.00	24,000,000	24,000,000	24,000,000	24,000,000	24,000,000
Quality assurance officer	2	1,500,000.00	36,000,000.00	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000
Cleaners	4	450,000.00	21,600,000.00	21,600,000	21,600,000	21,600,000	21,600,000	21,600,000
Sub Total				**532,800,000**	**532,800,000**	**532,800,000**	**532,800,000**	**532,800,000**
Total Direct Costs				**784,800,000**	**784,800,000**	**784,800,000**	**784,800,000**	**784,800,000**
Escalation					**10%**	**10%**	**10%**	**10%**
Total direct Costs with escalation				**784,800,000**	**863,280,000.00**	**949,608,000.00**	**1,044,568,800.00**	**1,149,025,680.00**
Indirect Costs								
Fixed Cost								
Office supply (Stationaries)		250,000.00	3,000,000.00	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Repair & Service		500,000.00	6,000,000.00	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
Application related cost			21,154,500.00	21,154,500	21,154,500	21,154,500	21,154,500	21,154,500
Insurance		-	2,400,000.00	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000
Telephone and Internet		300,000.00	3,600,000.00	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000
Electricity		-	18,000,000.00	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Service Vehicle		1,000,000.00	12,000,000.00	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000
Bank & Other Charges - approximation at / month		1,000,000.00	12,000,000.00	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000
Audit and Legal Fees		1,000,000.00	12,000,000.00	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000
Miscellenous Expenses		1,200,000.00	14,400,000.00	14,400,000	14,400,000	14,400,000	14,400,000	14,400,000
Sub Total				**104,554,500**	**104,554,500**	**104,554,500**	**104,554,500**	**104,554,500**
Indirect Operating Costs		TZS/Year		**104,554,500.00**	**104,554,500.00**	**104,554,500.00**	**104,554,500.00**	**104,554,500.00**
Escalation					**10%**	**10%**	**10%**	**10%**
Indirect Operating costs with escalations				**104,554,500**	**115,009,950**	**126,510,945**	**139,162,040**	**153,078,243**
Total Operating Costs				**889,354,500.00**	**978,289,950.00**	**1,076,118,945.00**	**1,183,730,839.50**	**1,302,103,923.45**

4.4 Revenue Projections

The proposed project is expected to generate a total of TSh. 1,923,000,000.00 and the same will escalate to TSh. 2,337,418,518.75 assuming price escalation of 5% annually. Table No. 4 below shows the revenue projections for the first five years.

Table No. 5: Five Years Revenue Projections

Unit Description	Units	Price	Year-1	Year-2	Year-3	Year-4	Year-5
0.5 Ltr	1,500.00	1,250	22,500,000.00	22,500,000.00	22,500,000.00	22,500,000.00	22,500,000.00
1 Ltr	3,000.00	2,500	90,000,000.00	90,000,000.00	90,000,000.00	90,000,000.00	90,000,000.00
5 Ltr	3,500.00	12,500	525,000,000.00	525,000,000.00	525,000,000.00	525,000,000.00	525,000,000.00
15 Ltr	2,000.00	37,000	888,000,000.00	888,000,000.00	888,000,000.00	888,000,000.00	888,000,000.00
20 Ltr	500.00	45,000	270,000,000.00	270,000,000.00	270,000,000.00	270,000,000.00	270,000,000.00
Chafing Burner Can	2,000.00	10,000	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00
Stove + Ltr Bottle	8,000.00	30,000	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00
Total Expected Revenues		**TZS/Year**	**2,275,500,000.00**	**2,275,500,000.00**	**2,275,500,000.00**	**2,275,500,000.00**	**2,275,500,000.00**
Price Escalation				5%	5%	5%	5%
Total Revenue with Escalation			**2,275,500,000.00**	**2,389,275,000.00**	**2,508,738,750.00**	**2,634,175,687.50**	**2,765,884,471.88**

4.5 Project Performance indicators

The financial analysis conducted indicates that the proposed project is a viable undertaking to Dossa International Ltd. The viability analysis indicates a positive NPV of TSh. 2,384,937,962, Internal Rate of Return of 27% and a payback period of 3.5 years.

Table No. 6: Project performance indicators.

Net Present Value (NPV)	TSh. 2,384,937,962
Internal Rate of Return	27%
Payback Period	3.5 years

4.6 Economic and Social Viability

4.6.1 Economic Benefits

a) **Job Creation**

- Production and Distribution: The establishment of denatured technical alcohol production facility can create jobs in production, logistics, and distribution. This is particularly beneficial in rural areas where employment opportunities may be limited.
- Agricultural Opportunities: Tanzania has abundant agricultural resources that can be utilized for producing ethanol, such as sugarcane and cassava. Utilizing local feedstocks can reduce transportation costs and enhance the economic feasibility of the project.

b) Energy Independence

- Reduced Reliance on Imports: Producing denatured technical alcohol locally can decrease dependence on imported fossil fuels, improving national energy security and stability.

- Stable Energy Prices: By utilizing local resources, the project can help stabilize energy prices and reduce vulnerability to global market fluctuations.
- As a renewable energy source, denatured alcohol contributes to environmental sustainability efforts in Tanzania, aligning with global goals to reduce greenhouse gas emissions.

c) Increased Economic Resilience

- Diversification: The introduction of denatured technical alcohol diversifies the energy mix, making the economy more resilient to energy supply shocks and price volatility.
- Initial capital investment for setting up a denatured alcohol plant can be substantial but may yield favourable returns due to low operational costs associated with local production and potential tax benefits from using renewable resources.

4.6.2 Social Benefits

a) **Health Improvements**:

- Reduced Indoor Air Pollution: Transitioning from traditional biomass fuels to bioethanol can significantly reduce smoke and harmful emissions, leading to better respiratory health and overall well-being.
- Safer Cooking Conditions: Bioethanol poses lower risks of accidents compared to LPG, contributing to safer household environments.

b) **Social Equity**

- Access to Clean Energy: Bioethanol can provide an affordable and accessible cooking solution for low-income households, helping to bridge energy access gaps.
- Gender Equality: Women, who are often the primary cooks in households, can benefit from reduced health risks and time savings associated with cleaner cooking technologies.

CHAPTER FIVE

5.0 SALES AND MARKETING STATEGIES

To meet the financial goals outlined earlier, Dossa International Ltd will focus on boosting customer awareness and actively seeking financing opportunities and partnerships. The specific marketing objectives are as follows:

- **Sales growth**: Aim to generate over **TZS 3 billion** in revenue from the sale of various bioethanol-based products and services by 2028.
- **Increase brand awareness**: Enhance customer awareness throughout the planning period by implementing targeted marketing strategies.
- **Strategic partnerships**: Minimize competition, reduce risks, and offer competitive pricing by forming a joint venture with reputable local companies experienced in the bioethanol industry and financially capable of partnering with Dossa International Ltd.
- **Regional expansion**: Use the joint venture company as the primary vehicle for Dossa International Ltd's operations in the **East African Community (EAC)** region.

5.1 Marketing Strategies

In order to ensure the products have a competitive advantage in the market, Dossa International Ltd will focus on the following:-

- **Strong marketing power**: Position Dossa International Ltd's products as reliable, high-quality, and cost-effective, with robust marketing efforts to capture and sustain a significant market share in bioethanol-based fuel gels and liquid products.
- **Commitment to excellence**: Deliver on the company's promises by consistently meeting customer expectations with excellent products and services.
- **Value creation for clients**: Provide innovative solutions that increase client benefits by offering competitive pricing and superior value.
- **Customer satisfaction and service quality**: Guarantee the quality of all products and services to ensure long-term customer satisfaction, which is vital for business sustainability.

- **Assembling the Right Team**: Build a team with expertise in marketing, management, finance, and service delivery to drive the company's success.

5.2 Market Segmentation

The potential clients/customers during the five-year implementation of this plan for power generation EPC services are composed of five groups:

a) Households
b) Caterers
c) Hotels
d) Institutions such as schools, hospitals and
e) Manufacturers of pharmaceuticals, cosmetics and beverages

5.3 Target Market Segment Strategy

Dossa International Ltd will prioritize serving Tanzanian consumers who are highly sensitive to the cost of cooking energy. Currently, charcoal and firewood dominate as the primary energy sources for cooking and heating in both urban and rural areas. These fuels are viewed as more affordable and accessible than alternatives like kerosene or electricity, especially given the low purchasing power of the majority of Tanzanians. This heavy reliance on charcoal and firewood is expected to continue unless more accessible alternatives, such as denatured technical alcohol, become widely available.

In the short term, Dossa International Ltd plans to adopt a flexible and creative pricing strategy. Recognizing that the Tanzanian market values accessibility and affordability, the company will offer lenient payment terms and explore innovative ways to reduce the cost of bioethanol supplies and services. By focusing on affordability, user-friendliness, and environmental impact, the company aims to position bioethanol as a viable alternative to traditional fuels, helping to reduce the dependence on charcoal and firewood.

Through these proactive measures, Dossa International Ltd will work to make bioethanol a widely accessible and attractive energy solution for cooking and heating in Tanzania.

5.4 Sales Strategies

Dossa International Ltd will employ the following strategies in selling the denatured technical alcohol products.

a) The use of main agents with ongoing business activities in their areas. A commission will be agreed between Dossa and agents based on the sales volume created.

b) Dossa International Ltd will engage the President's Office, Regional Administration and Local Government (President's Office – TAMISEMI) in order to sell to the primary and secondary school teachers the denatured technical alcohol products (cooking stove and its supporting facilities) through interest free loan.

c) Creative Payment and Financing Terms: Offer flexible payment options and innovative financing models to meet the diverse financial needs of customers, making denatured technical alcohol products accessible to a wider audience.

d) Direct Negotiation with Distributors: Utilize a hands-on approach to directly negotiate with distributors and suppliers, allowing for more efficient partnerships and greater control over market reach.

e) Strategic Alliances: Form alliances with local, regional, and international companies that have significant experience in biofuel production and the marketing of energy-saving technologies. These partnerships will help Dossa International Ltd expand its expertise and market presence.

f) Competitive Pricing Mechanisms: Maintain competitive pricing that attracts customers and ensures affordability for denatured technical alcohol-based products and energy solutions.

5.5 SWOT Analysis

The following SWOT analysis captures the key strengths and weaknesses within the company and describes the opportunities and threats facing Interior Views.

Strengths

- Strong relationships with the suppliers that offer credit arrangements, flexibility, and response to special product requirements such as stoves and packaging of gel and liquid biofuel products.
- Ability to recruit excellent and stable staff, offering personalized customer service.
- Existing network of distributors and vendors.
- Strong merchandising and product presentation.
- Good referral relationships with complementary vendors and financial service providers
- Anticipated high customer loyalty among repeat bulk purchase customers.

Weaknesses

- Limited access to investment capital for start-up businesses.

Opportunities

- Growing market with a significant percentage of our target market still unable to access denatured technical alcohol products at competitive prices.
- Strategic alliances offering sources of joint marketing activities to extend our reach.

Threats

- Rapidly falling cost of energy efficient stoves. The cost of access to an alternative source of source of energy for cooking is decreasing coupled with an increasing development in energy-saving technology.
- Emerging local competitors. Currently, there is only limited competition, however, we anticipate an increase of players in this space soon due to the global drive to see to it that the SDGs goals in particular goals number 7 (affordable and clean energy), number 12 (responsible consumption and production) and goal number 1(end poverty in all its forms). Our products and services will be designed to build customer loyalty, and we hope that our quality service won't be easily duplicated.

CHAPTER SIX

6.0 ENVIRONMENTAL AND SOCIAL ASSESMENT

The establishment of a bioethanol plant in Arusha, Tanzania, necessitates a comprehensive environmental assessment to evaluate its potential impacts. This assessment has considered various factors including land use, emissions, resource consumption, and socio-economic effects. Dossa International Ltd has taken numerous measures to support government and international efforts to preserve the environment. These measures include the following: -

6.1 Environmental and Social Impact Assessment

In any project development, Environment and Social Impact Assessment (ESIA) is a crucial planning tool as it leads to assurance of decision making in the aspect of any environmental and social consequence that may be identified and thus pave a way for a more environmental sound and sustainable development of the project at hand. This is due to the fact that an ESIA provides a baseline before projects comes into effect for future monitoring purpose and disclosure of mitigation measures to potential identified impacts with the aim to minimize the negative impacts and enhance the positive ones during the implementation.

In ensuring that the construction of the building and installation of the machinery and associated infrastructure are achieved, an Environmental Impact Assessment (EIA) will be carried out at the proposed project location. Detailed EIA will be carried out by Environmental expert and a report will guide implementation of the project.

6.2 Establishment of a greenhouse for tree nursery

In efforts to combat deforestation, and environmental degradation, Dossa International Ltd will establish greenhouses in all regions of its operations. The greenhouses will have nurseries for trees which are in compatible with the particular local environment.

6.3 Tree seedlings distribution

Dossa International Ltd will freely distribute seedlings to all buyers of their products and the community surrounding the bioethanol plant and other distribution points. As a motivation for caring for the trees, Dossa International Ltd will offer a special discount to clients who have been well taken care.

6.4 Use of solar energy

The bioethanol plant and all other associated services within the plant will use solar energy.

6.5 Community services

As part of the CSR and to ensure sustainability of the project, Dossa International Ltd will drill a well within the project site for internal and external use. Water infrastructure will be installed outside the plant for the neighboring community to have access to the service.

6.6 Positive Environmental Impacts

The nature of the proposed project is to develop a bioethanol plant for processing and distributing bioethanol cooking gas. The following are considered to be the positive Environmental Impacts:

(a) Employment opportunities for construction workers

Labour force comprising skilled and unskilled labourers will be needed for construction of the proposed project. It is anticipated that all unskilled labourers will be recruited locally. Recruitment of skilled labour will also consider first locals in their absence will consider recruiting from the other part of the Kiseriani and Arusha at large but mostly people of the contractor's choice. Main potential impact of the employment opportunities during construction work will increase the income, skills and knowledge to local labour force. Mostly men will benefit in this respect. Food vendors who are mostly women will benefit through supply of food to the workforce. This Impact is predicted to be positive, short- term and of moderate significance.

(b) Benefit to local producers and suppliers of construction materials

Procurement of materials from local sources will be a positive aspect of the project, as it will reduce the cost of the project and benefit local producers and suppliers. The part of the operating cost of the project will be in Tanzania shillings, particularly on freight and transportation of equipment and machinery from the Port to site, goods and services, consumables and labour. This impact is predicted to be positive, short- long term and moderately significance.

6.7 Negative Environmental Impact

The following have been established as the negative environmental impacts as per the categorized phases:

(a) Site Preparation/Mobilization Phase

Mobilization will include clearance of the project site; transportation of construction equipment's, materials and labour; and setting up and operation of construction spaces; delivering of fuel, water; arranging and connecting tanks, pumps, generators etc.

(i) Destruction of existing vegetation and habitats

Site preparation will involve clearing of vegetation cover especially where the foundations of the structure will be constructed. Removal of secondary growth and sparsely vegetated grass in core project areas will result in a minor loss of vegetation. Clearance in this regard will not result in the loss of vegetation/biodiversity of significance value. Therefore, this impact is predicted to be negative, short term and of low significance.

(ii) Environmental degradation from extraction of construction materials

Materials for construction (stones, and aggregates) and suitable bedrock for ballast (gravel and sand) or suitable sand (free of humus and salt) will be obtained from authorized stone quarries in area or outside the area. Conscious or unwitting purchase of these materials from unlicensed

operations indirectly supports, encourages and promotes environmental degradation at the illegal quarry sites. Besides deforming the landscape, the burrows produced, as a result of these activities cannot be utilized for any useful purpose. Such areas are prone to serious landslides and soil erosion, especially in built-up areas. However, based on the scope of the project, materials required will be relatively in small scale. Thus, impacts associated with resource extraction from off-site locations are considered of low significant. This impact is predicted to be negative, cumulative, short term and of medium significance.

(iii) Noise pollution from mobilization equipment and tools at site

During the mobilization stage of the proposed project, the use of various noise-emitting heavy power equipment and tools and engines including compressors, generator and mixing machinery during site clearance and construction works generates above normal noise levels. Also noise will be generated from vehicles and trucks transporting construction equipment and crew. However, the size of the construction to be made shows that relatively few equipment's and trucks will be involved in transporting the construction materials. Albeit annoying, this negative impact is only short-term (limited to the duration of the project construction works), however if have become high to excessive levels is considered to be a significant threat to the health or well-being of humans. This impact is predicted to be negative, short- term duration and of medium significance.

(b) Construction Phase

(i) Dust emissions

During construction work, concrete batching plant will be used and such plant has the potential to emit dust, in the form of cement, sand and aggregates dust. Dust pollution is mostly likely to occur during the delivery of raw materials in trucks. Any quantity of dust emissions will have the potential impact on the air environment and affect sensitive receptors in the proximity areas, such as the site workers, users of the nearby road and

nearby residents. Fine dust particles (PM10) from concrete batching operations can enter neighbouring premises and adversely affect amenity as well as adverse health impacts. Dust also has the potential to settle on nearby structures and landscaped grounds. Given the relative large scale of the project area and its location, the level of pollution is very unlikely to be above the normal tolerable level. The impact of dust pollution is therefore

Appendix 1: Investment Costs

Particular	Amount
Land	
Land acquisition	**250,000,000.00**
Land Development	
Buildings(Warehouses, Service bay & administration block)	1,383,726,513.00
Borehole Drill (100 m depth)	30,000,000.00
Solar Installation	
Sub-Total	**1,413,726,513.00**
Machinery and Equipment	
Service bay equipment	50,253,840.00
Processing Plant(Stainless Steel Tanks, Buffer Tank, Labelling Machine, Pipping, Filling line & Packing Tables)	112,590,000.00
Installation of security cameras	23,790,000.00
Development of Motomoto application	40,500,000.00
Denatured Alcohol ATMs	212,058,976.95
Stoves	282,745,302.60
Sub-Total	**721,938,119.55**
TOTAL INITIAL INVESTMENT	**2,385,664,632.55**

Appendix 2: Revenue Projections

Unit Description	Units	Price	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9	Year-10
0.5 Ltr	1,500.00	1,250	22,500,000.00	22,500,000.00	22,500,000.00	22,500,000.00	22,500,000.00	22,500,000.00	22,500,000.00	22,500,000.00	22,500,000.00	22,500,000.00
1 Ltr	3,000.00	2,500	90,000,000.00	90,000,000.00	90,000,000.00	90,000,000.00	90,000,000.00	90,000,000.00	90,000,000.00	90,000,000.00	90,000,000.00	90,000,000.00
5 Ltr	3,500.00	12,500	525,000,000.00	525,000,000.00	525,000,000.00	525,000,000.00	525,000,000.00	525,000,000.00	525,000,000.00	525,000,000.00	525,000,000.00	525,000,000.00
15 Ltr	2,000.00	37,000	888,000,000.00	888,000,000.00	888,000,000.00	888,000,000.00	888,000,000.00	888,000,000.00	888,000,000.00	888,000,000.00	888,000,000.00	888,000,000.00
20 Ltr	500.00	45,000	270,000,000.00	270,000,000.00	270,000,000.00	270,000,000.00	270,000,000.00	270,000,000.00	270,000,000.00	270,000,000.00	270,000,000.00	270,000,000.00
Chafing Burner Can	2,000.00	10,000	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00
Stove + Ltr Bottle	8,000.00	30,000	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00	240,000,000.00
Total Expected Revenues		TZS/Year	2,275,500,000.00	2,275,500,000.00	2,275,500,000.00	2,275,500,000.00	2,275,500,000.00	2,275,500,000.00	2,275,500,000.00	2,275,500,000.00	2,275,500,000.00	2,275,500,000.00
Price Escalation				5%	5%	5%	5%	5%	5%	5%	5%	5%
Total Revenue with Escalation			2,275,500,000.00	2,389,275,000.00	2,508,738,750.00	2,634,175,687.50	2,765,884,471.88	2,904,178,695.47	3,049,387,630.24	3,201,857,011.75	3,361,949,862.34	3,530,047,355.46

Appendix 3: Operation Costs

				Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year
Direct Costs	**Quantity**	**Unit/Pc**											
Production Cost													
Ethanol	5000	Ltr	168,000,000.00	168,000,000	168,000,000	168,000,000	168,000,000	168,000,000	168,000,000	168,000,000	168,000,000	168,000,000	168,000,000
Other chemicals	0		84,000,000.00	84,000,000	84,000,000	84,000,000	84,000,000	84,000,000	84,000,000	84,000,000	84,000,000	84,000,000	84,000,000
Sub Total				**252,000,000**	**252,000,000**	**252,000,000**	**252,000,000**	**252,000,000**	**252,000,000**	**252,000,000**	**252,000,000**	**252,000,000**	**252,000,000**
Labour Cost	**Qty**	**Salary/month**	**Salary/annual**										
Managing Director	1	5,000,000.00	60,000,000.00	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000
Director of Human Resources	1	4,000,000.00	48,000,000.00	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000
Director of Business Development	1	4,000,000.00	48,000,000.00	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000
Director of Finannce and Administ	1	4,000,000.00	48,000,000.00	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000	48,000,000
Business Development Manager	1	2,500,000.00	30,000,000.00	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000
Sales & Marketing Manager	1	2,500,000.00	30,000,000.00	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000
Finance Manager	1	2,500,000.00	30,000,000.00	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000
Administration & Human Resource	1	2,500,000.00	30,000,000.00	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000
Sales & Marketing Officers	2	1,500,000.00	36,000,000.00	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000
Human Resources Officers	1	1,500,000.00	18,000,000.00	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Legal Officers	1	1,500,000.00	18,000,000.00	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Logistics officers	1	1,500,000.00	18,000,000.00	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Accountant	1	1,500,000.00	18,000,000.00	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Drivers	2	800,000.00	19,200,000.00	19,200,000	19,200,000	19,200,000	19,200,000	19,200,000	19,200,000	19,200,000	19,200,000	19,200,000	19,200,000
Machines operators	2	1,000,000.00	24,000,000.00	24,000,000	24,000,000	24,000,000	24,000,000	24,000,000	24,000,000	24,000,000	24,000,000	24,000,000	24,000,000
Quality assurance officer	2	1,500,000.00	36,000,000.00	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000	36,000,000
Cleaners	4	450,000.00	21,600,000.00	21,600,000	21,600,000	21,600,000	21,600,000	21,600,000	21,600,000	21,600,000	21,600,000	21,600,000	21,600,000
Sub Total				**532,800,000**	**532,800,000**	**532,800,000**	**532,800,000**	**532,800,000**	**532,800,000**	**532,800,000**	**532,800,000**	**532,800,000**	**532,800,000**
Total Direct Costs				**784,800,000**	**784,800,000**	**784,800,000**	**784,800,000**	**784,800,000**	**784,800,000**	**784,800,000**	**784,800,000**	**784,800,000**	**784,800,000**
Escalation					**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**
Total direct Costs with escalation				**784,800,000**	**863,280,000.00**	**949,608,000.00**	**1,044,568,800.00**	**1,149,025,680.00**	**1,263,928,248.00**	**1,390,321,072.80**	**1,529,353,180.08**	**1,682,288,498.09**	**1,850,517,347.90**
Indirect Costs													
Fixed Cost													
Office supply (Stationaries)		250,000.00	3,000,000.00	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Repair & Service		500,000.00	6,000,000.00	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
Application related cost			21,154,500.00	21,154,500	21,154,500	21,154,500	21,154,500	21,154,500	21,154,500	21,154,500	21,154,500	21,154,500	21,154,500
Insurance		-	2,400,000.00	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000
Telephone and Internet		300,000.00	3,600,000.00	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000
Electricity		-	18,000,000.00	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Service Vehicle		1,000,000.00	12,000,000.00	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000
Bank & Other Charges - approximation at / month		1,000,000.00	12,000,000.00	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000
Audit and Legal Fees		1,000,000.00	12,000,000.00	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000
Miscellenous Expenses		1,200,000.00	14,400,000.00	14,400,000	14,400,000	14,400,000	14,400,000	14,400,000	14,400,000	14,400,000	14,400,000	14,400,000	14,400,000
Sub Total				**104,554,500**	**104,554,500**	**104,554,500**	**104,554,500**	**104,554,500**	**104,554,500**	**104,554,500**	**104,554,500**	**104,554,500**	**104,554,500**
Indirect Operating Costs		**725/Year**		**104,554,500.00**	**104,554,500.00**	**104,554,500.00**	**104,554,500.00**	**104,554,500.00**	**104,554,500.00**	**104,554,500.00**	**104,554,500.00**	**104,554,500.00**	**104,554,500.00**
Escalation					**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**	**10%**
Indirect Operating costs with escalations				**104,554,500**	**115,009,950**	**126,510,945**	**139,162,040**	**153,078,243**	**168,386,068**	**185,224,675**	**203,747,142**	**224,121,856**	**246,534,042**
Total Operating Costs				**889,354,500.00**	**978,289,950.00**	**1,076,118,945.00**	**1,183,730,839.50**	**1,302,103,923.45**	**1,432,314,315.80**	**1,575,545,747.37**	**1,733,100,322.11**	**1,906,410,354.32**	**2,097,051,389.78**

Appendix 1: Profit and Loss Statements

	Year	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9	Year-10
Revenues											
Total sales revenue		2,275,500,000	2,275,500,000	2,275,500,000	2,275,500,000	2,275,500,000	2,275,500,000	2,275,500,000	2,275,500,000	2,275,500,000	2,275,500,000
Total Revenue		**2,275,500,000**	**2,389,275,000**	**2,508,738,750**	**2,634,175,688**	**2,765,884,472**	**2,904,178,695**	**3,049,387,630**	**3,201,857,012**	**3,361,949,862**	**3,530,047,355**
Direct Operating Costs											
Direct operating expenses		784,800,000	863,280,000	949,608,000	1,044,568,800	1,149,025,680	1,263,928,248	1,390,321,073	1,529,353,180	1,682,288,498	1,850,517,348
Indirec Operating Costs											
Indirect Operating expenses		104,554,500	115,009,950	126,510,945	139,162,040	153,078,243	168,386,068	185,224,675	203,747,142	224,121,856	246,534,042
Total Operating Costs		**889,354,500**	**978,289,950**	**1,076,118,945**	**1,183,730,840**	**1,302,103,923**	**1,432,314,316**	**1,575,545,747**	**1,733,100,322**	**1,906,410,354**	**2,097,051,390**
EBITDA		**1,386,145,500**	**1,410,985,050**	**1,432,619,805**	**1,450,444,848**	**1,463,780,548**	**1,471,864,380**	**1,473,841,883**	**1,468,756,690**	**1,455,539,508**	**1,432,995,966**
EBITDA Margins		61%	59%	57%	55%	53%	51%	48%	46%	43%	41%
Depreciation		160,928,591	146,113,991	136,243,743	124,249,676	113,335,167	103,533,152	94,725,554	86,800,661	79,659,678	73,215,527
Profit Before I & T		**1,225,216,909**	**1,264,871,059**	**1,296,376,062**	**1,326,195,172**	**1,350,445,381**	**1,368,331,228**	**1,379,116,329**	**1,381,956,029**	**1,375,879,830**	**1,359,780,439**
Profit Before Tax		**1,225,216,909**	**1,264,871,059**	**1,296,376,062**	**1,326,195,172**	**1,350,445,381**	**1,368,331,228**	**1,379,116,329**	**1,381,956,029**	**1,375,879,830**	**1,359,780,439**
Taxable Incomes		**1,225,216,909**	**2,490,087,968**	**1,296,376,062**	1,326,195,172	1,350,445,381	1,368,331,228	1,379,116,329	1,381,956,029	1,375,879,830	1,359,780,439
Provision for Taxation	30%	367,565,073	747,026,390	388,912,818	397,858,552	405,133,614	410,499,368	413,734,899	414,586,809	412,763,949	407,934,132
Profit After Tax		**857,651,837**	**517,844,668**	**907,463,243**	**928,336,620**	**945,311,767**	**957,831,859**	**965,381,430**	**967,369,220**	**963,115,881**	**951,846,307**
Dividends	0%	-	-	-	-	-	-	-	-	-	-
Retained Income		**857,651,837**	**517,844,668**	**907,463,243**	**928,336,620**	**945,311,767**	**957,831,859**	**965,381,430**	**967,369,220**	**963,115,881**	**951,846,307**
Cumulative retained income	0	857,651,837	1,375,496,505	2,282,959,748	3,211,296,368	4,156,608,135	5,114,439,994	6,079,821,425	7,047,190,645	8,010,306,526	8,962,152,833
Net margins		**38%**	**22%**	**36%**	**35%**	**34%**	**33%**	**32%**	**30%**	**29%**	**27%**

Appendix 5: Cash flow statements

	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9	Year-10
Cash Inflows										
Project Revenues										
Total sales revenue	2,275,500,000	2,389,275,000	2,508,738,750	2,634,175,688	2,765,884,472	2,904,178,695	3,049,387,630	3,201,857,012	3,361,949,862	3,530,047,355
Total Cash Inflows	**2,275,500,000**	**2,389,275,000**	**2,508,738,750**	**2,634,175,688**	**2,765,884,472**	**2,904,178,695**	**3,049,387,630**	**3,201,857,012**	**3,361,949,862**	**3,530,047,355**
Capital expenditure:										
Land acquisition	250,000,000	-	-	-	-	-	-	-	-	-
Land Development	1,413,726,513	-	-	-	-	-	-	-	-	-
Machinery and Equipment	721,938,120	-	-	-	-	-	-	-	-	-
Capital Expenditure	**2,385,664,633**	-	-	-	-	-	-	-	-	-
Direct Operating costs	784,800,000	863,280,000	949,608,000	1,044,568,800	1,149,025,680	1,263,928,248	1,390,321,073	1,529,353,180	1,682,288,498	1,850,517,348
Indirect Operating costs	104,554,500	115,009,950	126,510,945	139,162,040	153,078,243	168,386,068	185,224,675	203,747,142	224,121,856	246,534,042
Corporate Tax	367,565,073	747,026,390	388,912,818	397,858,552	405,133,614	410,499,368	413,734,899	414,586,809	412,763,949	407,934,132
Dividends	-	-	-	-	-	-	-	-	-	-
Extra-ordinary Costs	-	-	-	-	-	-	-	-	-	-
Total Applications	**3,642,584,205**	**1,725,316,340**	**1,465,031,763**	**1,581,589,391**	**1,707,237,538**	**1,842,813,684**	**1,989,280,646**	**2,147,687,131**	**2,319,174,303**	**2,504,985,521**
Surplus (Deficit)	**-1,367,084,205**	**663,958,660**	**1,043,706,987**	**1,052,586,296**	**1,058,646,934**	**1,061,365,011**	**1,060,106,984**	**1,054,169,881**	**1,042,775,559**	**1,025,061,834**
Opening Balance	-	-1,367,084,205	-703,125,546	340,581,441	1,393,167,737	2,451,814,671	3,513,179,683	4,573,286,667	5,627,456,548	6,670,232,107
Closing Balance	**-1,367,084,205**	**-703,125,546**	**340,581,441**	**1,393,167,737**	**2,451,814,671**	**3,513,179,683**	**4,573,286,667**	**5,627,456,548**	**6,670,232,107**	**7,695,293,941**

Appendix 6: Project Appraisal Indicators

Year:	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9	Year-10
Cash InFlows:										
Profit B.I.T	857,651,837	517,844,668	907,463,243	928,336,620	945,311,767	957,831,859	965,381,430	967,369,220	963,115,881	951,846,307
Depreciation	160,928,591	146,113,991	136,243,743	124,249,676	113,335,167	103,533,152	94,725,554	86,800,661	79,659,678	73,215,527
Salvage Value										1,266,858,892
Total InFlow	**1,018,580,427**	**663,958,660**	**1,043,706,987**	**1,052,586,296**	**1,058,646,934**	**1,061,365,011**	**1,060,106,984**	**1,054,169,881**	**1,042,775,559**	**2,291,920,727**
Cash OutFlows:										
Capital Costs	3,275,019,133	-	-	-	-	-	-	-	-	-
Total OutFlow	**3,275,019,133**	-	-	-	-	-	-	-	-	-
Net InFlow/(OutFlow)	**(3,275,019,133)**	**663,958,660**	**1,043,706,987**	**1,052,586,296**	**1,058,646,934**	**1,061,365,011**	**1,060,106,984**	**1,054,169,881**	**1,042,775,559**	**2,291,920,727**

Discount rate	**11.15%**
Net Present Value (NPV)	**2,384,937,962**
Internal Rate of Return (IRR)	**27%**
Payback Period	**3.5**

	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9	Year-10
Capital Investments	-3,275,019,133	-	-	-	-	-	-	-	-	-
Undiscounted Net Flow	-3,275,019,133	663,958,660	1,043,706,987	1,052,586,296	1,058,646,934	1,061,365,011	1,060,106,984	1,054,169,881	1,042,775,559	2,291,920,727
Cumulative Undiscounted Net Flow	-3,275,019,133	-2,611,060,473	-1,567,353,486	-514,767,190	543,879,744	1,605,244,755	2,665,351,740	3,719,521,621	4,762,297,180	7,054,217,906

Certified as True Copy of the Original
Charles Adiel Abraham
Advocate, Notary Public & Commissioner for Oaths
Sign:
Date: