

**BACHUNYA GROUP LIMITED**  
*“Building stronger community with urban lifestyle”*

Strategic Business plan May 2022



Prepared under guidance of:  
TLOG Associates  
Village view, Msasani Beach P. O. Box 10159, Dar es salaam  
Tel: +255 752 120971 Email: [tlogassociate@gmail.com](mailto:tlogassociate@gmail.com)

## Contents

1	Abbreviation.....	4
2	Confidentiality Statement.....	5
3	Objective of SBP.....	5
4	Executive Summary .....	6
4.1	What are we doing? .....	6
4.2	Situational analysis .....	6
4.3	GNC and Founders .....	6
4.4	Summary investment cost and fund source .....	6
4.5	Key financial objective .....	7
	Revenues will be subject to completion of investment which is expected to be completed in YR 0 .....	7
4.6	Sales Projection.....	7
4.7	Contribution to the economy .....	7
5	About the company .....	8
5.1	Vision.....	8
5.3	Mission.....	8
5.4	Organization structure.....	8
5.5	Shareholders.....	9
5.6	Location and address .....	9
6	Industry .....	10
6.1	Source Insights.....	11
6.2	Purity Insights .....	11
6.3	Application Insights .....	12
6.4	Regional Insights .....	12
6.5	Key Companies & Market Share Insights .....	13
6.6	Ethanol in Tanzania .....	13
7	Market .....	14
7.1	Customers and demand analysis .....	14
7.2	Channels.....	14
7.3	Products/Services.....	14
7.4	Marketing tools .....	14
7.5	Competitors.....	14
7.6	SWOT .....	15
7.7	15	
8	PRODUCTION.....	16
8.1	Production targets .....	16
8.2	Machines and technology .....	16
8.3	Machine systems.....	17
8.4	Photo1. Ethanol plant.....	17
8.5	Machines Supplier- evaluation and selection .....	17
8.6	Manufacturing Process flow .....	18
9	Financial Considerations.....	19
9.1	Investment cost and break down.....	19
9.2	Contribution of the capital requirements .....	19
9.3	Terms of the loan .....	20
9.4	Security of the loan.....	20
9.4.1	Chattel and Legal Mortgage .....	20
9.4.2	Corporate guarantee by City Music Sound Limited .....	20
9.5	Key Assumptions.....	20
9.6	Projected Balance sheet.....	21
9.7	Projected income statement (amount in \$) .....	21
9.8	Projected cash flow (amount in \$) .....	21
9.9	Sensitivity analysis .....	22
9.1.1	Net present value .....	22

9.1.2	Pay back.....	22
10	Environmental evaluation .....	23
10.1	Air Emissions.....	23
10.2	Liquid Effluents and Wastes.....	23
10.3	Solid waste.....	24
10.4	Thermal.....	24
10.5	Noise .....	24
10.6	Odor .....	24
10.7	Visibility .....	24
10.8	Safety.....	24
11	Conclusion and recommendation.....	24
11.1	Recommendation .....	24
11.2	Conclusion .....	25
12	References:.....	25
12.1	ASEAN Journal of Science and Engineering .....	26
12.2	Tanzania 2025 Vision: Industrialization with FDI .....	26
12.3	Journal of Applied Biosciences 40: 2677 – 2705 ‘ .....	26
13	Appendix .....	27
13.1	Financial objectives .....	27
13.2	Production and sales .....	27
13.3	Projected Income statement.....	27
13.4	Projected balance sheet.....	27
13.5	Projected cash flow .....	28
13.6	Net present value and pay back .....	28
14	Attachments.....	29
14.1	Business License.....	29
14.2	Certificate of incorporation.....	30

## **1 Abbreviation**

- i. SBP: Strategic Business Plan
- ii. BGL: Bachunya Group Limited
- iii. TZS : Tanzanian Shillings
- iv. BLN: Billion
- v. MLN: Million
- vi. BRELA, : Business Registration and Licensing Agency – responsible for registration of the companies
- vii. TBS, : Tanzania Bureau of Standard- Responsible for setting and controlling the minimum quality standards of goods and services on Tanzania
- viii. NEMC: National Environmental Management Commission
- ix. OSHA: Occupational Safety and Health at work places
- x. TRA : Tanzania Revenue Authority
- xi. CRB : Contractors Registration Board
- xii. PBT : Profit Before Tax
- xiii. CAGR: Compound annual growth rate

## **2 Confidentiality Statement**

This document (the “SBP”) contains confidential material proprietary to BGL hereinafter referred to as the “Company”). This information and related conversations are submitted solely for the purpose of introducing selected parties to the Company’s Business Plan. The Company disclosure of information contained herein and in related conversations does not constitute authorization for the recipient of the SBP to use the information, ideas, concepts and or financial assumptions and projections contained herein for any purpose other than the evaluation of the Company, or to disclose any information to any other parties. The Company retains ownership of this SBP, including any and all concepts and ideas described herein. Each recipient of this document agrees to treat the information in a strictly confidential manner. The recipients may not disclose, directly or indirectly, or permit any agent or affiliate to disclose any information contained herein or reproduce this document in whole or part without the prior written consent of the Company, unless otherwise required by applicable law.

## **3 Objective of SBP**

The purpose of this SBP is primarily for guidance and implementation of all strategic initiatives towards attaining the company objective as well as meeting requirements of Tanzania Investment Center. This will cover industrial investment in production of ethanol spirit at Kibaha, coast region Tanzania.

## 4 Executive Summary

### What are we doing?

BGL is a full registered company intending to invest around \$ 11.799Mln in production of ethanol spirit

### Situational analysis

- ❖ Country capacity to produce ethanol is 4,010 Million Liters.
- ❖ The local annual demand for ethanol is estimated at 568 million (14% of potential capacity)
- ❖ Current production capacity given available local production companies is 250million (out of which 50mln is exported p.a)
- ❖ Only 200 mln Litters is produced and consumed locally which represent 35% of national demand.
- ❖ The 65% deficit (368Million) Litters is being imported to fulfill the local demand, mostly from South Africa, India, Kenya, Malawi, and Swaziland
- ❖ Taking in to account the east and central Africa region the demand is much higher
- ❖ BGL is intending to invest in ethanol plant with capacity of 7.2 Mln Litters p.a which will reduce the deficit by 2%.
- ❖ *Tanzania is encouraging industrialization through industrial initiatives aiming at making the country industrialized by 2025(Reference 11.4)*
- ❖ The COVID-19 situation, and resent Ukrain war has exposed the over-dependency of the region, to other countries especially Asian.

### GNC and Founders

- ❖ BGL has been established to minimize importation and boost supply of ethanol to Tanzania as well as the other parts of East, Central and Southern African Region. This company will focus on manufacturing through use of local (95%) and imported raw materials (5%- chemicals)
- ❖ The founders Mr Evance Bachunya and Evelyne Bachunya have been in business for more than 25 years with full understanding of the business
- ❖ The manufacturing plant will be located in Kibaha, Coast region which is one of the country's strategic industrial zone

### Summary investment cost and fund source

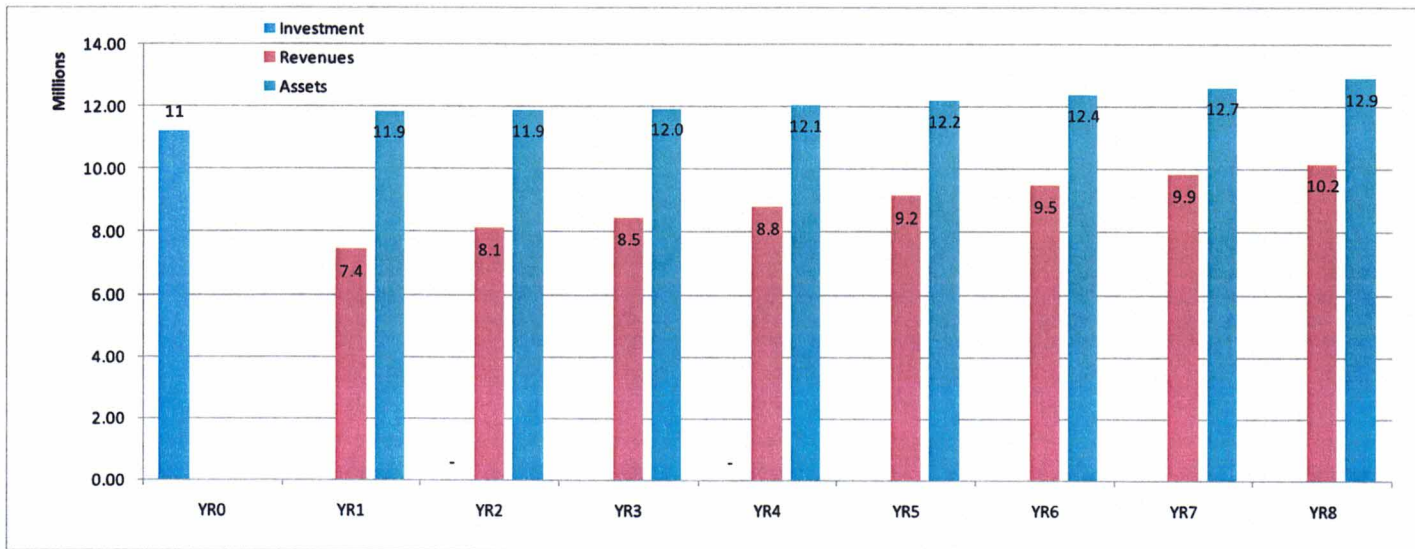
The total investment cost will be \$11.799 Million. 15% of the fund (\$1.8mln) will be promoters Equity contribution and the remaining 85% (\$9.990mln) will be sought from financial institution

Amount in \$



## Key financial objective

The following is the key financial objectives



### Revenues will be subject to completion of investment which is expected to be completed in YR 0

- ❖ The total investment cost of the industry is expected to be \$ 11million inclusive of land, building machines and other establishment expenses.
- ❖ The capital structure will include both equity contribution from founders and external finances.
- ❖ The investment will be done in single phase phases.
- ❖ Production plants capacity per annum will be 20k Litters per day (7.2 Mln Litters p.a).

### Sales Projection

Given the market price, the sales are projected to grow from \$7.4mln in yr1 to \$10.2\$mln in yr8  
Given demand in Tanzania and other regional countries, sales will both be local and export.

### Contribution to the economy

The company will contribute in various ways including:

- ❖ Employment more than 90 staff (expect to impact 720 Tanzanians given dependency ratio of 8 per person) and other small scale traders in neighboring surrounding
- ❖ Tax: Corporate tax, employment tax, VAT
- ❖ Environment preservation via Solar use and electrical mobility initiatives
- ❖ Reduction of importation and increase of export of manufactured goods
- ❖ hence improves both balance of payment and strengthening of currency

## 5 About the company

BGL is a private owned company that is owned and Managed by Evance Chocha Bachunya & Evelyne Chocha and is incorporated under company ordinance (Cap) 212 vides certificate of incorporation number 119349 dated 7th August, 2015, and has tax identification number 138-961-931. The company goal is to transform the industry of ethanol usage in to more accessible affordable means to the livelihood of people within East Africa and sub-Saharan region. This will be made possible through investment in manufacturing of ethanol spirit in Tanzania. Nearly 65% of these products are currently being imported from oversea. The demand of the same is high due to demand from health sector (pharmaceutical industry), as well as hard drink industry. The company's overall strategy is to serve the regional market including Tanzania, DRC, Burundi, Zambia, Malawi, and Uganda, where the overall demand is higher. With principle office located in Kibaha, the company expects to enjoy industrial service attached to the area since it is part of the government strategic industrial zone. The founders, who will lead management team, have each accumulated over 20 years of experience in the business.

### Vision

Ambitious to become a powerful leader in ethanol manufacturing in East and sub-Saharan region.

### Mission

We are more committed to continuously create more concrete values for shareholders, customers, employees as well as the whole society by means of providing quality product and affordable way for the improvement of the livelihood of society in Tanzania and sub-Saharan region

### Organization structure

Board of Directors	→		BOD		
Managing director	→		MD		
IT & Personal secretary role	→	IT		PA	
Director/Head Roles	→	HR	FA	COMM	PRODUCTION MGR
		Recruit	Accounting	Sales	Production
		Train	Cashier	Marketing	Stock control
Functions	→	Performance mgt	Procurement	Customer Experience	Quality review
		Motivation	Reconciliations		Supervision: Machines & labour efficiency
		Manage Exit			
					Internal Audit

The right structure designed is expected to drive the strategy to achieve the organizational goal. Adjustment will be done in line with the growth and complexity.

**Shareholders**

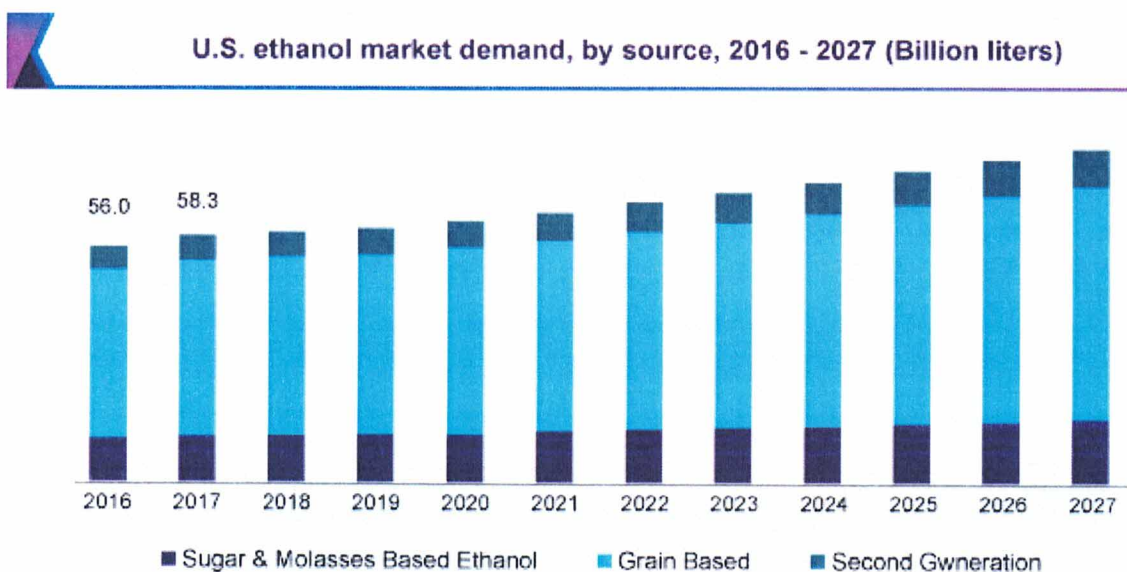
<b>S/n</b>	<b>Shareholders name</b>	<b>%</b>	<b>Profile</b>
1	Ms Evance Chocha	60%	<ul style="list-style-type: none"> <li>• Founder &amp; Director -City Music Sound</li> <li>• Founder and Managing director BGL</li> <li>• Prominent business entrepreneur over 20yrs</li> <li>• Highly networked from mult sectoral partners</li> </ul>
2	Ms Evelyne Chocha	40%	<ul style="list-style-type: none"> <li>• Founder and company secretary City Music Sound</li> <li>• Founder and director BGL</li> <li>• Prominent business entrepreneur over 20yrs</li> </ul>
	<b>Total</b>	<b>100%</b>	

**Location and address**

BGL head office is located at ilala municipal, Addressed P.O.box 40229, Dar es Salaam, and the plant is located at Kibaha district, Coast region.

## 6 Industry

The global ethanol market size was valued at USD 89.1 billion in 2019 and is anticipated to register a compound annual growth rate (CAGR) of 4.8% from 2020 to 2027. The demand for the product is driven by growing usage of the product as a biofuel. The rising consumption of alcoholic beverages is another major factor supporting market growth. Ethanol can be manufactured by both natural as well as petrochemical feedstocks. In the natural process, natural sugars are fermented in the presence of yeast. Ethylene production is increasing owing to the rise in shale gas production. As oil output reduces and new ethylene capacities come online the market is expected to overstock with ethylene, which is expected to bring stagnancy in production of ethanol.



The U.S. is one of the major markets in North America. The robust petrochemical manufacturing base coupled with large areas under cultivation of corn and sugar favors the production of ethanol. The pandemic caused by the unprecedented spread of COVID-19 has brought forth new challenges for manufacturers in the country. Ethanol as a fuel is currently facing problems due to low demand. Consumption in beverages, disinfectant and personal care is at its peak and the trend is expected to continue for the next 2 to 3 years.

The application of ethanol as a biofuel is one of the major market drivers. The automotive industry has grown rapidly over the past years and has faced many problems to control air pollution. Ethanol is blended with gasoline up to concentrations of 10% and 15% to tackle the problem of rising air pollution caused by automobiles. The addition of ethanol provides major advantages in terms of improved fuel economy, increased thermal efficiency and helps in cold starts during the winter season. U.S. and Brazil are the countries that are leading the world, in terms of application of ethanol as biofuel.

Alcoholic beverages containing ethanol, which were earlier considered a premium offering are now slowly becoming an essential product that can be found in the majority of the households globally. The major trend fueling growth is entry of premium products in the marketplace. The rising disposable incomes coupled with increased knowledge about ingredients has fueled the demand for premium offerings. In 2019, the sales of premium alcoholic beverages grew at a rate of 5 to 6%.

Excess consumption of alcoholic beverages can cause a lot of damage to the human body, especially to the liver, which is an important organ as it helps remove toxins from the body. Long-term alcohol consumption increases the risk of chronic liver inflammation, which is commonly referred to as liver cirrhosis. The other adverse effects include loss of memory and lack of comprehension, delayed motor reactions, balance problems and ataxia, blurred vision, and sensation impairment. Rising awareness about these adverse effects may hamper the demand to some extent, thereby limiting market growth

### Source Insights

In terms of volume, the grain-based segment led the global market in 2019 with a share of 67.3%. Easy availability of corn and maize and development of efficient technologies across the globe have boosted the segment growth. Grain-based ethanol is majorly manufactured using the dry milling process and 1 bushel of corn can produce 2.86 gallons of denatured ethanol. Corn production is expected to slow down globally as manufacturers tackle problems associated with yields and saturation in demand.

Sugar mills are now becoming one of the major avenues of ethanol production globally. Ethanol from molasses is being accepted globally and emerging countries are leading the race. The disinfectant and coalescing properties are driving the demand. The adoption of low-carbon fuel standards will propel the adoption of molasses feedstock for the synthesis of ethanol.

The major problem associated with the sugar and molasses feedstock is the limitations concerning production. Sugarcane is a seasonal crop and it cannot be used continuously for the production. Thus, manufacturers will look at this feedstock as a substitute in case the market remains undersupplied.

### Purity Insights

In terms of volume, denatured alcohol will be the fastest-growing segment with a CAGR of 3.7% from 2020 to 2027 owing to rising demand from the fuel and household chemicals industry. It can be combined with other chemicals to achieve the desired characteristics. It is majorly used in formulations used for cleaning and sanitizing indoor and outdoor environments.

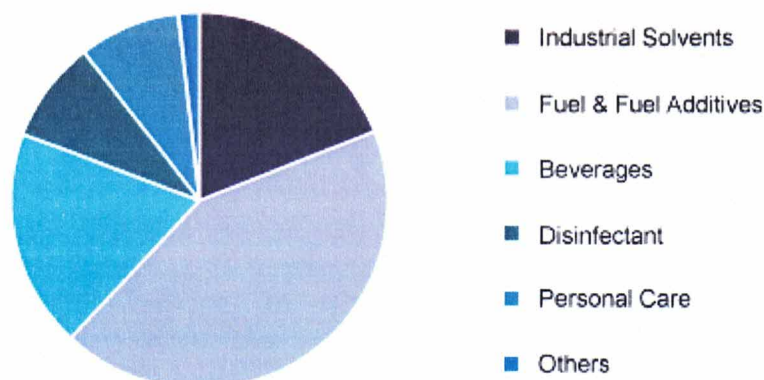
Denatured alcohol is majorly derived from natural sources, such as corn starch and grains, making it suitable for household applications. Other major growth-driving factors include the rising awareness about indoor hygiene and the harmful effects associated with synthetic ingredients.

Undenatured ethanol is a product with a 95% concentration and does not contain any solvents and additives. It is majorly used in fuel blending and other industrial and research related applications. The industrial applications include detergents, adhesives, chemicals, inks, plastics, paints, and thinners.

## Application Insights

Fuel and fuel additives was the largest segment with a market share of 43.2% of 2019. The rising demand for automotive fuel and changing regulations aimed at reducing air pollution are boosting the product demand as it is used in the manufacturing of gasoline additives to improve fuel efficiency.

Global ethanol market share, by application, 2019 (%)



Source: [www.grandviewresearch.com](http://www.grandviewresearch.com)

Industrial solvent is one of the steadily growing applications as it is widely used in major end-use industries. The rising demand from pharmaceuticals and paints and coatings industries is expected to positively impact the overall demand. The future growth in the application segment is largely dependent upon macroeconomic factors, such as government policies and federal bank provisions.

Ethanol is one of the important ingredients used in the personal care industry. It functions as an astringent and is used in product formulations, such as skin lotions and hand sanitizers. Its low boiling point and favorable physical properties have made it an important additive in the personal care industry.

## Regional Insights

North America was the leading regional market in 2019 and held over 43% of the global share. The region is estimated to retain its leading position throughout the forecast years. However, Asia Pacific is estimated to register the fastest CAGR from 2020 to 2027 owing to growing fuel consumption and increased industrial activities. The presence of diverse industries in the region coupled with steadily growing economies is expected to positively impact market growth. The major application segments that are expected to drive the market in the region are fuel and industrial solvents.

Latin America is one of the largest regional markets due to the abundant availability of raw material coupled with rising product demand from the automotive industry. The changes in environmental regulations in the region are expected to have a positive impact on the consumption of ethanol in end-use industries.

Brazil is leading the Latin American market, in terms of product consumption. It was one of the first countries that experimented with the blending of ethanol into gasoline. Many automobile manufacturers in the country introduced modifications to accommodate the change. The country has increased tax on imported ethanol, which is expected to positively influence regional market growth.

### **Key Companies & Market Share Insights**

Increased adoption of eco-friendly products is expected to provide new growth avenues for the market players. The recent developments in the global market have brought about changes in the value chain. Initially, manufacturers relied on 2 to 3 suppliers for the raw materials and there is a risk involved as contingency plans cannot always work out. Manufacturers are now looking at options to reduce the risk by acquiring stakes in raw material companies or by entering into forward agreements. Some of the prominent players in the ethanol market are:

- ❖ United Breweries
- ❖ Aventine Renewable Energy
- ❖ AB Miller
- ❖ Archer Daniels Midland Company
- ❖ Kirin
- ❖ Pure Energy Inc.
- ❖ British Petroleum
- ❖ Cargill Corporation

### **Ethanol in Tanzania**

Ethanol is largely being used in Health, disinfectant, beverage, and other industrial solvents sectors where by the same is prohibited to be used as fuel additives due to policy issues. Out of more than 568million litters demanded, 65% is being imported to serve the local market. Two major companies are Ilovo distillers (Morogoro Region) and Kilimanjaro Biofuel (Kilimanjaro Region)

## 7 Market

### Customers and demand analysis

The local annual demand for ethanol is estimated at 568 million Litters. The current production capacity given available local production companies is 250million (out of which 50mln is exported p.a). Only 200 mln Litters is produced and consumed locally which represent 35% of national demand. The 65% deficit (368Million) Litters is being imported to fulfill the local demand, mostly from South Africa, India, Kenya, Malawi, and Swaziland

### Channels

The company will supply the manufactured products suppliers through the following channels

- ❖ Local suppliers and wholesalers
- ❖ Foreign suppliers
- ❖ Direct sale to high net worth consumers
- ❖ Use of regional agency

### Products/Services

Spirit is the highest by volume product of the yeast- based fermentation of a liquid brewed to have fermentable sugars. Unlike beer or wine, however spirit are the product of a second step called 'DISTILLATION' that further fortifies them. Spirit can be used in surgical, in making alcohol, can be used in lamps and stove, can be used to remove ink from non-porous surfaces, can be used as fuel (methanol), can be used as an industrial feed stock.

Bachunya will be producing non-returnable bottle ranging from small bottles to large packages and this will be distributed to industries and hospitals and there is readily ready market and producing several types of spirit

### Marketing tools

s/n	Tools	Details
1	Advertisement	Media and social media
2	Sales Promotion	Discounts on sales, quantity discounts on bulky purchases
3	Distribution Channels	Penetration via Agency
4	Publicity & CSR	Publicity through helping the disadvantageous with solar power
5	Personal selling	Direct engagements

### Competitors

In Tanzania, this will be the third spirit manufacturing plant to be established focused in Health, disinfectant, beverage, and other industrial solvents sectors. However national wise, there are two companies in Ilovo distilleries Tanzania Limited and Kilimanjaro Biochem Limited which control substantial market share of locally produced spirit.

## SWOT

s/n	Strength	Weakness	Opportunity	Threat
1	Strong shareholders - 20 yrs Experience in business	Capital adequacy	National and Regional demand is high and growing – seven countries surrounding	Bureaucracy – much establishment requirements
2	Land secured in industrial area.		Support from government - Investment initiatives	Development of Nyerere dam, Gas discovery, and Wind for energy source
3			The continue rise in fuel price and Gvt pressure to find alternative energy solution, may trigger more demand of ethanol	Depreciation of local currency –high cost of Raw materials

**Machine systems**

**SYNOPSIS OF SCOPE OF SUPPLY OF DISTILLERY PLANT**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1 Grain Silo Section.</li> <li>2 Grain Handling &amp; Milling</li> <li>3 Liquefaction Section.</li> <li>4 Multi Pressure Distillation.</li> <li>5 Thin Stillage Recycle Systems.</li> <li>6 Decanters &amp; Accessories</li> <li>7 Rotary Tube Bundle Dryer</li> <li>8 Instrumentation, Electrical, DCS &amp; MCC Systems for Scope</li> <li>9 PCC Panel &amp; Onward Electrical.</li> <li>10 Utility - Cooling Towers, Air</li> <li>11 Sealing Water Systems for Scope of sections.</li> <li>12 Ethanol Receiver &amp; Storage</li> </ul> | <ul style="list-style-type: none"> <li>13 Section – Pumps, Electrical,</li> <li>14 Instrumentation, Piping &amp; valves.</li> <li>15 Water Treatment Plant.</li> <li>16 Water piping up to battery limits</li> <li>17 Steam Condensate Tank &amp; Its</li> <li>18 Steam piping up to steam header with all accessories including PRDS.</li> <li>19 Captive Power Plant &amp; Accessories Inside Plant Lighting</li> <li>20 Yard Lighting, High Mask Lamps, cabling</li> <li>21 Plant Lighting for sections</li> <li>22 Lab Equipment, Chemicals &amp; Glassware.</li> <li>23 Fire Fighting &amp; Water Hydrant</li> <li>24 System for Internal Sections of onward Ring Header.</li> </ul> |
|---|---|
- Yard Fire Fighting & Water Hydrant System with Pumps, Motors, Electrical, 25 Instrumentation, Ring Header & Its Accessories for Total Plant.

**Photo1. Ethanol plant**



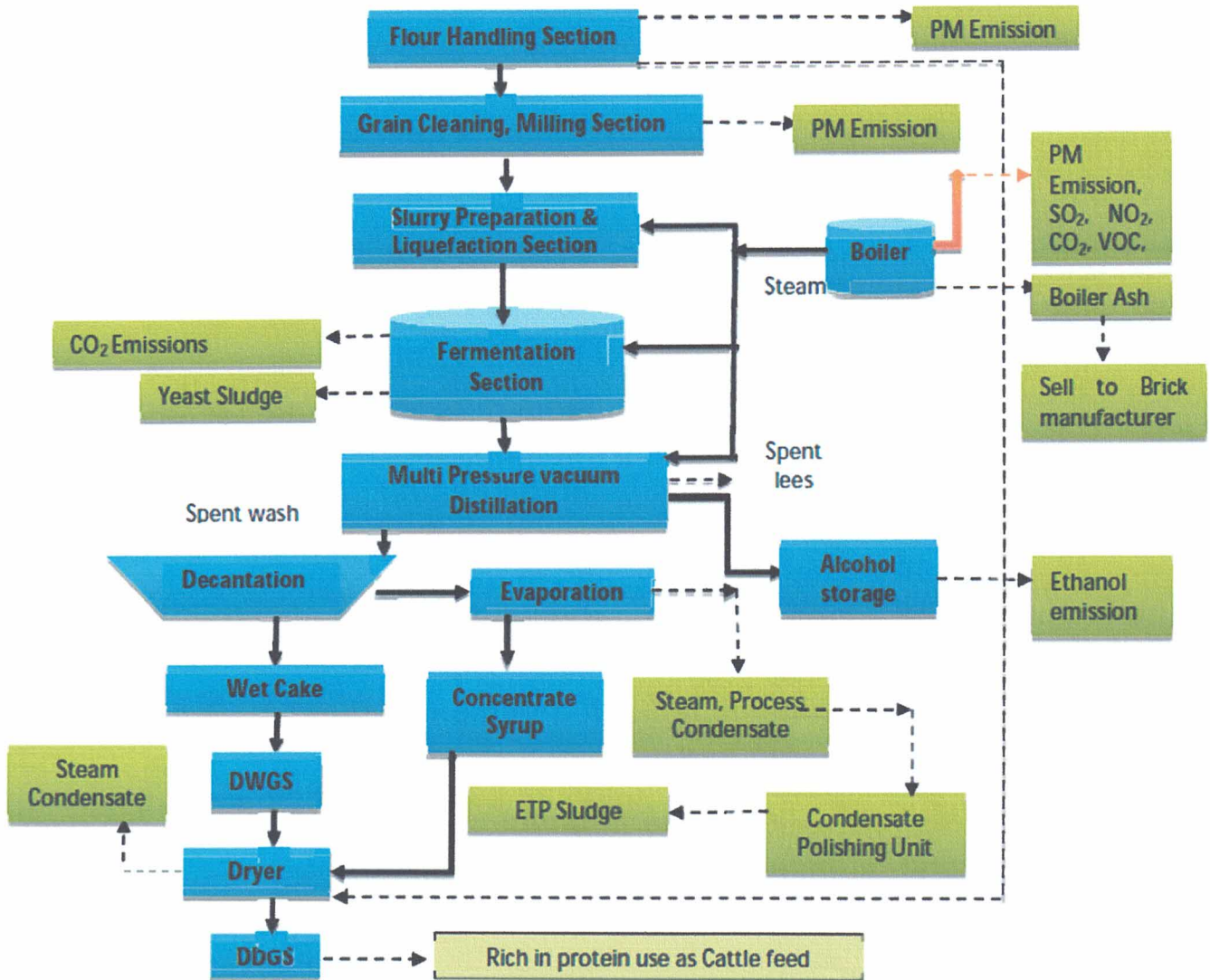
**Machines Supplier- evaluation and selection**

The project was tendered to 5 prospective suppliers

S/n	Supplier name	Country	Remarks
1	Rattan Group	India	<ul style="list-style-type: none"> <li>• One of the good performing in India, estimated to be within top 15 in India.</li> <li>• Much specialized in bottling</li> <li>• Less experience in full fledged system of turbine distillery plant</li> </ul>
2	Green Engineering Group	Siena – Italy	<ul style="list-style-type: none"> <li>• Could not submit the offer</li> </ul>
3	Chemdist Process Solution	India	<ul style="list-style-type: none"> <li>• Small sized fabrication company</li> <li>• Concentrated much on supply of equipments</li> </ul>
4	Mojj Engineering Systems Ltd	India	<ul style="list-style-type: none"> <li>• Within top 3 best companies in India in Distillery plant construction and commissioning</li> <li>• Completed projects and commissioned to more than 1000+ clients world wide including Africa and Tanzania.</li> </ul>

The initial evaluation has opted for Mojj Engineering Systems Ltd from India. However further negotiations shall be done before final contract execution and signing. BGL is open in the meantime to receive other supplier who will be more favourable than Mojj. Obligation of suppliers and BGL are stipulated in the offer.

**Manufacturing Process flow**



## 9 Financial Considerations

### Investment cost and break down

The company expects to spend \$11.799Million in investment. This will cover land acquisition, fencing, electrification, water facilities and administration block, Plant and building, machinery cost, transportation, duty payments, clearing and installation and working capital for raw materials and startup.

- ✓ Machinery cost is provided through Offer letter from supplier.
- ✓ Shipments and clearing pegged at 20% of FOB, and
- ✓ raw materials includes grain, (2 months stock-20k tones /day) chemicals and labor
- ✓ Energy (Coal at 450k/ Tone)

s/n	Investment cost	\$	Client	Norsad	Status
i	Land, fencing, admin Block, electricity, water	1,250,000	1,250,000		70%
ii	Plant Building *	1,650,000		1,650,000	0%
iii	Machinery FOB **	6,950,000		6,950,000	0%
iv	Shipment, Duty and Clearing	1,390,000		1,390,000	0%
v	Raw Materials /w-capital *	559,565	559,565		0%
	<b>Total</b>	<b>11,799,565</b>	<b>1,809,565</b>	<b>9,990,000</b>	
	<b>Costruction</b>	<b>11,240,000</b>		<b>95%</b>	
	<b>Working capital</b>	<b>559,565</b>		<b>5%</b>	
	<b>Total by activity</b>	<b>11,799,565</b>		<b>100%</b>	
	<b>Equity</b>	<b>1,809,565</b>		<b>15%</b>	
	<b>Financial inst.</b>	<b>9,990,000</b>		<b>85%</b>	
	<b>Toal</b>	<b>11,799,565</b>		<b>100%</b>	

v(a)	Raw materials	Qty	Price	Total TZS
	Maize Kg (2Month)	1,200,000	1000	1,200,000,000
	Coal TZS/MT	111	450,000	50,000,000
	chemicals			5000000
	Labour /Month	80	400000	32000000
	<b>Working Capital p.m</b>			<b>1,287,000,000</b>

Exrate TZS2300/\$

### Contribution of the capital requirements

- Equity contribution will be 15% at \$1,809,565 and will cover working capital (raw materials, Labour , Chemicals and Coal) Plus Land acquisition, electrification, water facility, land scaping and admin block) currently the work is 70% complete.
- External Term Loan will be 85% at \$9,990,000 and will be used to cover acquisition of machinery and civil work building to commissioning as per suppliers offer submitted.

**Terms of the loan**

- 8 years Term Loan with one year grace period. (Note the construction period is 12 months)
- Repayment mode quarterly basis
- Interest on grace period - will be paid through other existing business/ guarantor (*Guarantor sec 9.4.2*)
- Disbursement: 50% immediate, 50% after 2 months.

**Security of the loan****9.1.1 Chattel and Legal Mortgage**

Over Plant and machinery to be acquired and erected on 20,000sqm plot located at Kibaha Coast region (Expected cost after investment \$13 Million)

**9.1.2 Corporate guarantee by City Music Sound Limited**

- City music sound is the sister company to BGL with the same shareholders who have diversified to manufacturing sector.
- The company is currently the market leader for the importation and supply of all kind of music systems in Tanzania.

**Key Assumptions**

<b>Assumptions</b>	
1 Debtors	60 days
2 interest rate	12%p.a
3 Loan	80% of investment
4 Repayments period	8 yrs
5 cost of sales	50%
6 ops expenses	10%
7 Depreciation (30 yrs plant Life span)	5% flat rate
8 Sales start	one year after investment
9 Opening Cash YR0	20% Equity Contribution
11 Loan balance	Amortised by 8 yrs annualised
12 Creditors	5% of direct cost
14 Production target: 20Klp/day- discounted to 20days/30 days (growing 1 day p.a from Yr2-Yr8)	

## 10 Environmental evaluation

### Air Emissions

Dust generated from the normal operation of the hammer mill, conveyors, elevators, DOGS dryer and storage areas will be spirited. The dust laden streams will be passed through centrifugal cyclones to minimize fire hazard and particulate emissions : The wood fired boiler system will include a separate cyclone to remove particulate matter from the spent flue gases discharged through the DOGS dryer system and into the atmosphere. The cyclone will have a removal efficiency of 94-95%. The boiler system can be retrofitted with a bag filter in series with the cyclone in the unlikely event that the cyclone alone proves to be inadequate. Emission of NO<sub>x</sub> will be minimal because the X fluidized bed combustion temperature will be limited to 1500 to 1600°F. Since wood fuel is normally low in sulfur content (relative to coal), no SO<sub>2</sub> removal equipment will be required. The SO<sub>2</sub> and CO emissions will be within allowable limits. Some hydrocarbon emissions will come from the product surge tanks and the denaturant tanks. The main alcohol storage tanks will have internal floating roofs to minimize vapor losses from tank breathing or displaced vapors during filling operations. The gasoline storage tank will be provided with a vapor recovery balance-back system to eliminate the escape of gasoline vapors into the atmosphere during tank truck-to-storage transfer operations.

• A minimal amount of vapor will be displaced from the alcohol tank trucks during filling operations. This vapor will be piped away from the truck rack area to minimize fire hazard. Since vapor losses from these tanks is insignificant relative to state environmental standards, a vapor recovery system will not be necessary.

### Liquid Effluents and Wastes

Approximately 70 GPM of process and sanitary wastes will be piped to an activated sludge waste water treatment system. The waste water will flow initially to an equalization basin for stabilization. It will then flow to two aeration basins connected in series. Compressed air supplied through a diffuser system provides the oxygen necessary to satisfy the demands of the microorganisms responsible for consuming the organic

waste material. The basins will be constructed of concrete to prevent the possibility of waste water leaching into the ground water. The BOD level of the treated effluent will be reduced from an initial level of 1000 mg/l in the combined waste water stream (2000 mg/l in stripper bottom and evaporator condensate) to 30 mg/l for eventual discharge into McIvor canal which flows approximately two miles south of the plant site. Computer model studies (to be made by the Mississippi Air and Water Pollution Control System) will evaluate the possibility of discharging the treated effluent into a dry stream bed which runs from the plant site to Mcivor Canal. Allowances have been made to provide a 6" subgrade outfall line from the site to the canal in the event that use of the dry stream bed is unacceptable. A closed loop cooling system will be utilized

with the only discharge being from occasional cooling tower blow down. This flow along with the boiler

blow down is combined with the activated sludge waste water for a total effluent flow of 100 GPM. All alcohol and gasoline storage tanks as well as the fermenters will be diked for spill containment.

TLOG Associate 0752 120 971



TLOG Associate 0752 120 971