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MATRIC NO: 18/ENG06/012

**DEPARTMENT: MECHANICAL
ENGINEERING**

**COURSE: FOOD PRODUCTION AND
HEALTH AWARENESS**

**QUESTION: Prepare a business plan on a chosen
agricultural enterprise following the guideline in
the note.**

**A BUSINESS PLAN FOR THE DEVELOPMENT OF A FIVE HUNDRED HECTARES
PALM KERNEL PLANTATION AND ESTABLISHMENT OF 30 TONNES PER DAY
CAPACITY PALM OIL EXTRACTION PLANT AT BOUNTY FARM, AGBOR,
DELTA STATE, NIGERIA BY TONYE AGRIBUSINESS VENTURES AND
CONSULTANCY CONFIDENTIALITY AGREEMENT.**

EXECUTIVE SUMMARY:

This business plan examines the feasibility of and indeed economic viability of the development of a 500hectares palm kernel plantation and the establishment of a palm oil extraction plant in Bouty Farmer's Cooperative Society Limited. The farm will produce about 1,300tonnes of palm kernel in a production cycle. The palm oil extraction plant will process about 5,200 tonnes. There is high domestic demand for these products because of our huge population and production constraints leading to shortage of the commodity. Production is currently popular in the Niger Delta and Eastern part of the country as the lead producers. Nigeria imports significant quantity of palm kernel and its derivatives to augment domestic shortages.

The proposed project will create economic opportunities, impact positively on the people and help conserve scarce foreign exchange. The entire palm to be processed will be sourced locally through direct production, contract farming in Delta State and direct purchase from smallholder farmers in other production areas. The project will create market access, improve income of farmers and contribute significantly to food security. It will also generate satisfactory returns for sponsors and investors.

SPONSORSHIP:

The project is sponsored by Chief Brigader Bright, the CEO of Bounty Farms Nigeria. Chief Brigader Bright is promoting the productivity of smallholder farmers in Delta state through an agricultuaral institute. The institute provides experts with many years of experience in the project being proposed. Tonye Agribusiness Ventures & Consultancy will be responsible for the management consultancy of the projects.

MANAGEMENT:

The management will comprise of a democratically elected Board of Directors at the apex of the organization structure. This will be made up of shareholders and member of the cooperative who have stake in the survival, growth and profitability of the business as well as distinguished agribusiness professionals of proven integrity and vast experience in the project area. The prime objective of the board will be to give strategic directions and policies that will ensure long term success of the organization. The board will ensure that the organization complied with all standards set by regulatory authorities.

The Managing Director/President shall be responsible for the co-ordination of the day to day management of the cooperative business. He is accountable to the Board of Directors; he will mobilize organization resources to achieve set goals. He will manage business risks and focus on wealth creation.

TECHNICAL ASSISTANCE:

The sponsor has working relationship with IITA (International Institute of Tropical Agriculture, Ibadan) through an executed MOU. IITA has mandate in Palm oil production and

processing and will provide technical assistance in this regard. The sponsor also has a working relationship with BOA (Bank of Agriculture) and will fund the processing factory and access finance for the palm oil extraction equipment from BOI (Bank of Industry) at the rate of 9%. The cooperative will also seek grant from United State Africa Development Foundation (USADF). The sponsor has relationship with commercial banks and will approach one for loan to clear the land which will be leased to members of the cooperative.

The sponsor has a working relationship with Delta State Government, Delta State Ministry of Agric, Farmers' Union, Agric Cooperatives and individual farmers. The sponsor will get technical support from this relationship in the area of production through contract farming or outgrower scheme.

The sponsor has working relationships with and linkages to industry players in the project area who will offtake products through a purchase and sale contract agreement. They include Flour Mill of Nigeria Limited, Obasanjo Farms Ltd, Animal Care, Amo Farms, Farm Support and others. The palm oil will be sold through cooperatives and other distribution channels. The palm sludge will be sold to players in the paints and cosmetics industry.

MARKET AND SALES:

Market orientation: domestic; South West & South East, Nigeria

Market Share: 5% niche market in South West, South East Nigeria

Users of Products: edible oil for human.

COMPETITION ANALYSIS:

Enugu state alone produced 44% of national output between 1999 and 2017. Delta State followed with 27% of national output within the period. Taraba, Plateau, Kano, Niger and Katsina produced 6% and below in the period. The seven states mentioned above produced 94% of national output within the period. The only places where significant production took place in South West, Nigeria was in Saki West L.G.A. in Oyo State and Akure North L.G.A. in Ondo State. Based on this above analysis, competition in terms of production in South East, Nigeria is non-existent compared to the demand for produce.

TARIFF AND IMPORT RESTRICTION:

Forex restriction on food importation and zero duty on imported agricultural equipment will favour the project under consideration.

MARKET POTENTIAL:

There is strong demand for palm kernel and palm oil derivatives in the Southern part of Nigeria. The state of infrastructure though not perfect still supports production and trade within Nigeria.

PROFITABILITY:

Weather, biological, chemical, physical and environmental factors such as temperature, sunlight, water, air, soil conditions, varieties of seed, pests, diseases, price fluctuations and other risks e.g. cow invading the farm could affect yield and profitability. However, technical, scientific and financial based solutions will be employed to hedge against risks and safeguard profit. Irrigation option will be factored in to ensure two cycles of production in a year.

TECHNICAL FEASIBILITY:

The projects (production of palm kernel and palm oil extraction) are technically feasible. In terms of technology, which involve the crushing of palm kernel and extraction of oil, the industrial processes are simple and a specialist in oil extraction with more than 20years experience is part of our team. The needed equipment for oil extraction are readily available and our experts have hand on experience in the usage and maintenance of the equipment.

On the palm kernel production, we have specialists in mechanization, irrigation, farm management, crop production, weed science, market development, agric extension and accounting as part of our management team. We also have specialists in quality control as part of our management team. Raw materials will be produced and sourced locally.

We are implementing our project using best international practices, sustainable production and due consideration for the environment. Although some degree of deforestation will occur, the EIA (Environmental Impact Assessment) report shows little or no damage to the environment as it relates to the issue of climate change. Organic fertilizer will be substituted for chemical fertilizer within three years of farm operations.

GOVERNMENT SUPPORT AND REGULATION:

The project conforms to the economic diversification objective of the government. It also supports foreign exchange and import reduction conservation of government. It creates economic opportunities, market access, and improved income for farmers and support food security objective of government. The project will benefit from government intervention fund in the agriculture sector. The project will also benefit from the favourable policy of zero duty for

agricultural and equipment import. Restriction of forex for all food products will also widen market opportunity. The project will contribute significantly to employment, output increase, stable price and stable exchange rate.

PROJECT TIMELINE:

The project will be completed within 9 months preferably between April,2021 to January 2022.

Estimated Project Costs and Revenue

Fixed Cost

(A) Land Clearing

Activity	QTY	₦	K
Land Clearing	1Hectare	230,000	00
Cross cutting	1Hectare	20,000	00
Rome ploughing	1Hectare	50,000	00
Sub total	1Hectare	300,000	00
Total	500 Hectare	120,000,000	00

(B) Equipment

Name	QTY	MODEL	USD	₱	K
Tractor	1	YTO-904(90hp)	24,450	8,802,000	00
Disc harrow	1	IBJ- 3.0	3,520	1,267,200	00
Sub soiler	1	IS-200G	3,250	1,170,000	00
Soy seeder	1	2BFY-6C	4,950	1,782,000	00
Tripper	1	7CX-8T	9,450	3,402,000	00
Combine Harvester	1	4YZ-6	103,500	37,260,000	00
Boom sprayer	1	3W-1000L-18	6,950	2,502,000	00
Front loader	1	TZ10D	6,570	2,365,200	00
Sub total			159,390	57,380,500	00

(C) Vehicle

Type	Model	QTY	₱	K
Pick-up Truck	HILUX	2	30,000,000	: 00

(D) Irrigation

Type	QTY	Model	USD	₱	K
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Hose Reel	1	140 – 440MT	28,186	1,0146,960 : 00
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Operating Cost

Working Capital		
	₦	K
Ploughing/Ha	15,000	00
Harrowing/Ha	10,000	00
Sub total	25,000	00
For 500 Ha	10,000,000	00
Mechanization and storage	105,000	00
For 500Ha	42,000,000	00
Input / Ha	91,825	00
For 500Ha	36,730,000	00
Area yield insurance	13,500	00
Produce aggregation	5,500	00
Geo Spatial Service	4,500	00

Sub total	23,500	00
For 500Ha	9,500,000	00
Interest per hectare	22,079	25
For 500Ha	8,831,700	00
Total cost per hectare	245,325	00
Total cost for 500Ha	98,130,000	00
Loan principal and interest (cost per Hectare)	267,404	25
Total for 500Ha	106,961,700	00
Irrigation cost for 500Ha (excluding fixed cost)	24,018,120	00

Amortization

₪ K

Land clearing amortization (per hectare)	30,000	: 00
Land clearing amortization (500hectare)	12,000,000	: 00

REVENUE

Yield per hectare 3tonnes@ ₦145000 per tonne	
	₦ K
Revenue per hectare	435,000 : 00
For 500Ha	174,000,000 : 00
Net revenue for 500Ha(without amortization)	67,038,300 : 00
Net revenue with amortization(500ha clearing)	55,038,300 : 00
2nd Production Cycle	
Net revenue	43,020,180 : 00
Net revenue with amortization(500ha land)	
Annual Net Revenue (1st + 2nd Cycle)	98,058,480 : 00

Currency conversion rate:₦360.00 to 1USD

FUNDING MECHANISM:

Our sponsor will provide 500Ha of cleared farmland around the university and lease it to members of the cooperative and will also lease 6,000MT capacity silo as equity contribution.

Equity investor to provide equity for equipment and vehicles purchase. Where possible equity investor to provide equity for working capital or otherwise secure loan at the rate of 9% through government intervention window at the Bank of Agriculture, Bank of Industry and Commercial banks.

CONCLUSION:

The project is technically feasible and commercially viable. It is therefore recommended for funding.

