Name: Mohammed Abdulmalik

Matric No.; 18/ENG06/043

Department: Mechanical Engineering

Course: AFE 202

Course Title: Food Production and Health Awareness

A FEASIBILITY REPORT / BUSINESS PLAN FOR THE DEVELOPMENT OF A FOUR HUNDRED HECTARE SOYABEAN PLANTATION AND ESTABLISHMENT OF 30 TONNES PER DAY CAPACITY SOYA OIL EXTRACTION PLANT AT MOHAMMED FARMS BY MALIK AGRIBUSINESS VENTURES AND CONSULTANCY CONFIDENTIALITY AGREEMENT

Executive Summary/ Project Description

This feasibility plan inspects the achievability of and indeed economic viability of the development a 400-hectare soya bean plantation and the erection of a soya oil extraction plant in Kaduna state by the Kaduna thrift and credit corporate society. The Plantation will deliver about 10,000 bushels of soya beans in a production cycle. The soya oil extraction plant will process about 10 tonnes of soya bean meal which would be used as animal feed. There is high local interest for these items on account of our tremendous populace and creation limitations prompting deficiency of the ware. Processing is done mostly in the North with Benue and Kaduna as lead makers. Nigeria imports huge amount of palm oil and its subsidiaries to supplement shortage domestically.

The project proposed would create economic opportunities, have a positive effect on individuals, help foreign exchange as well as contribute economically to the development of the country. The whole palm oil to be prepared will be sourced locally through direct production, contract farming in Kaduna and purchase from smallholder farmers in other processing areas. The project will make markets accessible, improve the pay of farmers, provide shelter for farmers during work and contribute significantly to food security. It will also create adequate returns for sponsors and investors.

Sponsorship

The project is sponsored by Ahmed Mohammed, a Doctor. Dr. Mohammed is empowering smallholder farmers in Kaduna through the Kaduna thrift and credit society. He recently developed an interest in agriculture and would like to fund and promote the productivity of farmers in his native state. Malik Agribusiness Ventures & Consultancy will be responsible for the management of the project as well as being a consultant to the farmers on problems they might encounter

Management

The administration of the task will comprise of an equitably chosen Board of Directors at the zenith of the structure of the association. This will be comprised of investors and individual from the agreeable who have stake in the congruity, development and productivity of the business just as recognized agribusiness experts of demonstrated genuineness and immense

information or training in the undertaking zone. The primary point of the board will be to give strategic administration and plans that will guarantee life span of the association. The board will guarantee that the association is in accordance with the standards and guidelines set by the specialists.

The Managing Director/President will be liable for the co-appointment of the everyday administration of the agreeable business. He is liable to the Board of Directors; he will send the assets of the association to arrive at the points of the association. He should have great information on business and its dangers so as to oversee reserves viably and make benefit.

Technical Assistance

The organisation has working relationship with NASC (National Agricultural Seed Council) through an executed MoU (Memorandum of Understanding). NASC is responsible for registering and licensing seed companies. The Organisation also has a good understanding with BOA (Bank of Agriculture) and we are offering jobs to the best local farmers in the company as well as monetary rewards.

The organisation will fund the processing factory and access finance for the palm oil extraction equipment from BOI (Bank of Industry) at the rate of 5%. The cooperative will also seek grant from United State Africa Development Foundation (USADF). The organisation has relationship with high profile commercial banks and will approach one for loan to clear the land which will be rented to members of the cooperative.

The organisation has a healthy relationship with Kaduna State Government, Ministry of Agriculture and Forestry, Farmers' Union, Agric Cooperatives, marketers and individual farmers. The organisation will get technical support from this relationship in the area of production through contract farming or out grower scheme.

The organisation has very good relationships with and linkages to industry players in the project area who will offtake products through a purchase and sale contract agreement. They include Jaleel farms, Uumar & sons mills, Danlami's animal care, Hadiza's poultry farm. The soya oil can be sold to pharmaceutical companies and cafeterias.

Market and Sales

Market orientation: domestic; North-west, Nigeria

Market Share: 5% niche market in South East Nigeria

Users of Products: edible oil for human, soya bean meal for the livestock industry

Competition analysis

Benue produces the most soya bean oil other states that produce soya bean oil include Kwara, Kogi, Oyo, Ondo, Bauchi, Nassaarawa and others. The states mentioned are the states that produce soya beans. The only places where significant production takes place is in North West, Nigeria. Based on this above analysis, competition in terms of production in other sectors of Nigeria is non- existent compared to the demand for produce in the country.

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 high demand for soya derivatives in the Northern part of Nigeria. The condition of infrastructure though average still supports processing, production and trade within Nigeria.

Profitability

Physical, synthetic, organic, climate and natural factors, for example, temperature, daylight, water, air, soil conditions, assortments of seed, bothers, assortment of manure, illnesses, value vacillations and different dangers for example attack of undesirable creatures for example sheep, cows and so forth. Be that as it may, specialized, logical and budgetary based arrangements will be utilized to fence against dangers and protect benefit. Water system would be performed twice to guarantee creation during the dry season for example (two production cycles in a year)

Technical Feasibility

The projects (production of soya meal and soya oil extraction) are technically feasible. In terms of technology, soya oil is produced by cracking the soya beans, heated, rolled into flakes and then solvent-extracted with hexanes. Afterwards, the oil is processed in a centrifuge to separate water and other unnecessary inclusions. Before that the oil should be preheated to 100 degrees.

The oil goes through three stages of refining:

1. Removal of impurities.

2. Bleaching.

3. Deodorization.

On the soya bean oil production, we have specialists in mechanization, irrigation, farm management, crop production, weed science, market development, agric extension and economics and accounting as part of our management team. We also have specialists in quality control as part of our management team. The state of infrastructure around the organisation and in Kaduna is adequate and suitable for the location of the farm/firm for efficient production, processing and marketing. Raw materials will be made and sourced locally.

Our organisation will target a market niche and penetrate through cooperative societies to make our brand and product favourable. From our analysis, combining production and processing will give us a competitive edge.

We are using the best international practices for our project, sustainable production and care 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 four years of farm operations. Crude tools should be phased out within five years of farm operations.

Government Support and Regulation

The project is in line with the economic diversification objective of the government. It also supports foreign exchange and reduction of import. It creates economic opportunities, market access, improved income for farmers and supports the food security objective of government.

The project will benefit from fund government gives to 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, increase in output, stability in price and stable exchange rate.

Project Timeline

The project will be completed within 1and a half years preferably between October, 2019 to March, 2021 because land clearing is mostly done in the dry season.

Estimated Project Costs and Revenue

Fixed Cost

Land Clearing

Activity	Quantity	₦	K
Land Clearing	1 Hectare	250,000	00
Cross cutting	1 Hectare	50,000	00

Rome ploughing	1 Hectare	50,000	00
Sub total	1 Hectare	350,000	00
Total	400 Hectare	140,000,000	00

(B) Equipment

Name	QT	MODEL	USD	₦	K
	Y				
Tractor	1	Mahindra eMax 20S HST Cab Tractor	19,810	7,329,700	00
Disc harrow	1	2017 case ih true tandem	40,075	14,867,825	00
Sub soiler	1	Blu-Jet Sub Tiller	14,000	5,180,000	00
Palm sickle cutter	1	Wuhan Acme Agro-Tech co. Ltd.	540.5	199,985	00
Tripper	1	7CX-8T	10,000	3,700,000	00
Combine Harvester	1	AW-85GR	23,000	8,510,000	00
Boom sprayer	1	3W-1000L-18	7,500	2,775,000	00
Front loader	1	TZ10D	7,000	2,590,000	00
Sub total			121,925	45,152,510	00

(C) Vehicle

Type	Model	QTY	₦	K
Pick-up Truck	HILUX	2	47,722,600	00

(D) Irrigation

Type	QTY	Model	USD	₦	K
Hose Reel	1	140 –	28,186	10,428,820	00

		440MT			
water	200litres			300,000	00
Total				10,728,820	00

Operating Cost

Working Capital		
	₦	K
Ploughing/Ha	20,000	00
Harrowing/Ha	15,000	00
Total	35,000	00
For 400Ha	**14,000,000**	**00**
Mechanization and storage	105,000	00
For 400Ha	**42,000,000**	**00**
Input / Ha	95,000	00
For 400Ha	**38,000,000**	**00**
Area yield insurance	15,000	00
Produce aggregation	7,000	00
Geo Spatial Service	5,000	00
Sub Total	27,000	00

For 400 Ha	**16,200,000**	**00**
Interest per hectare	30,000	75
For 400 Ha	**12,000,000**	**00**
Total cost per hectare	292,000	00
For 400 Ha	**116,800,000**	**00**
Loan principal and interest (cost per Hectare)	267,404	25
For 400Ha	**106,961,700**	**00**
Irrigation cost for 400Ha **(excluding fixed cost)**	**20,333,413**	**00**

Amortization

	₦	K
Land clearing amortization (per hectare)	33,000	00
Land clearing **amortization (400hectare)**	**13,200,000**	**00**

Amortization(2nd Cycle)

	₦	K
Land clearing amortization (per hectare)	19,000	00
Land clearing **amortization (400hectare)**	**7,600,000**	**00**

REVENUE

Yield per hectare 30 tonnes@₦ 30,000 per tonne			
	₦	K	
Revenue per hectare	420,000	:	00
For 400 Ha	**168,000,000**	**:**	**00**
Revenue for 400Ha (without **amortization)**	**91,557,600**	**:**	**00**
Net revenue with amortization (400ha **clearing)**	**71,757,600**	**:**	**00**
2nd Production Cycle			
Net revenue for 600 Ha(without **amortization)**	**51,9579,600**	**:**	**00**
Net revenue with amortization(600ha **clearing)**	**40,557,600**		
Annual Net revenue (1st+2nd Cycle)	112,315,200		

Currency conversion rate: ₦770.00 to 1USD

Funding Mechanism

Ahmed Mohammed will provide 400Ha of cleared farmland in Kaduna state and lease it to members of the thrift and credit cooperative society. Ahmed Mohammed will also lease 10,000MT 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

This is a technically feasible and commercially viable project. It is therefore recommended for funding so implementation can take place