

BUSINESS PLAN FOR THE DEVELOPMENT OF A FIVE HUNDRED HECTARES LIMA BEANS
PLANTATION AT ONWUBIKO- MGBEDALA FARM, UMUAHIA, ABIA STATE, NIGERIA BY OLIVER
ONWUBIKO AND GIRLS ENTERPRISE.

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Please NOTE that this is an incomplete version of the business plan, the full and original copy would be submitted in HARD COPY upon Resumption.

Attached would be scanned copies of APPROVAL From relevant Authorities.



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Brief Description of Project

Phaseolus lunatus, commonly known as the lima bean butter bean, sieva bean, Double Bean or Madagascar bean, is a legume grown for its edible seeds or beans. Lima bean is a domesticated species of economic and cultural importance worldwide, especially in Mexico. The species has two varieties. The wild variety is *sylvester* and the domesticated one is *lunatus*. The buttery mild taste of this bean makes it an easy side dish that pairs well with fish, meat, poultry, or grains. Lima beans can easily be added to soups, salads, casseroles, a bean mash, or a dip recipe. You can also use lima beans in place of other beans, like white beans

This business plan examines the feasibility of and indeed economic viability of the development of a 500hectares lima beans plantation at the Onwubiko Farm at Mgbedala, Umuahia, Abia State by Oliver Onwubiko and Girls Enterprise. The farm will produce about 1,600tonnes of lima beans in a production cycle. 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 North Central and North West with Benue State and Kaduna as the lead producers. Nigeria imports significant quantities of lima beans 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 lima beans to be processed will be sourced locally through direct production, contract farming in Abia 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 Oliver Onwubiko, a legal luminary and business mogul who is enthusiastic about encouraging and financing youths in start up businesses. Oliver Onwubiko is promoting the productivity of smallholder farmers in Abia State through the Onwubiko and Girls Enterprise. Which is made up of his immediate grandchildren and other relatives who are well versed in Agriculture, experts with many years of experience in the project being proposed therefore will be responsible for the management consultancy of the projects. At the end of a farming cycle of Lima Beans, any profits made during harvest will be shared between the Sponsor, the farmer and enterprise based on a predetermined model unique to that farm cycle.

Management

The management will comprise a democratically elected Board of Directors at the apex of the organization structure. This will be made up of shareholders and members 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 coordination 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

Seven local Lima bean cultivars were evaluated at Ile-Ife in the humid rainforest environment of south western Nigeria for two years. A randomized complete block design with three replications was used each year. Data were subjected to analysis of variance, Pearson correlation and stepwise multiple regression analyses. Heritability estimates of 10 agronomic characters evaluated were also determined. Significant year and cultivar effects were observed for most of the characters. Seed yield ha⁻¹ varied from 289.14 to 1358.74 kg. Only two cultivars had seed yield above 1000 kg ha⁻¹, others yielded poorly. Seed yield had positive and significant correlation with branching height, number of seeds per pod, 100- seed weight and inter-nodal length. Results of stepwise multiple regression analysis showed that pod weight per plant, 100-seed weight and pod length were the main seed yield components in Lima bean and together they accounted for 98% of the variability. One hundred seed weight also had the highest broad sense heritability estimate of 98%. Characters such as pod length, mid leaflet surface area, pod weight per plant and inter-nodal length were moderately heritable. The implications of these findings in lima bean improvement were discussed.

Mr Onwubiko will fund the processing factory and access finance for the Lima bean plantation equipment from BOI (Bank of Industry) at the rate of 9% . The cooperative will also seek grant from United State Africa Development Foundation(USADF). Mr Oliver Onwubiko has relationship with commercial banks and will approach one for loan to clear the land which will be leased to members of the cooperative.

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

He 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 Lima beans will be sold through cooperatives and other distribution channels. The soya sludge will be sold to players in the paints and cosmetics industry.

Market and Sales

In Nigeria, Lima bean is cultivated mainly for the dry seeds. Like other grain legumes, it is an important source of vegetable protein and it also improves soil fertility. It is well adapted to the humid rainforest environment of southern Nigeria.

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, Lima cake for the livestock industry, lima sludge for paint and cosmetics industries in South East.

Competition analysis

In the U.S, it is a warm season crop, grown mainly in Delaware and mid-Atlantic region for processing and in Midwest and California for dry beans. Baby lima beans are planted in early June and harvested about 10–12 weeks later. In western New York State, baby lima bean production increased exponentially from 2011 to 2015. The Andes domestication took place around 2000 BC, and produced a large-seeded variety (lima type), while the second, taking place in Mesoamerica around 800 AD, produced a small-seeded variety (Sieva type). By around 1300, cultivation had spread north of the Rio Grande, and in the 1500s, the plant began to be cultivated in the Old World. The small-seeded (Sieva) type is found distributed from Mexico to Argentina, generally below 1,600 m (5,200 ft) above sea level, while the large-seeded wild form (lima type) is found distributed in the north of Peru, from 320 to 2,030 m (1,050 to 6,660 ft) above sea level.

Tariff and Import Restriction

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

Market Potential

Lima beans, like many other legumes, are a good source of dietary fiber, and a virtually fat-free source of high-quality protein. Lima beans contain both soluble fiber, which helps regulate blood sugar levels and lowers cholesterol, and insoluble fiber, which aids in the prevention of constipation, digestive disorders, irritable bowel syndrome, and diverticulitis. The most abundant mineral in the raw lima bean is potassium, followed by calcium, phosphorus, magnesium, sodium, and iron. When lima beans germinate, there is increased calcium and phosphorus. Additionally, it is a good source of vitamin B-6. There is strong demand for Lima beans and lima derivatives in the Southern part of Nigeria. The state of infrastructure though not perfect still supports production and trade within Nigeria.

Profitability

In Oaxaca, Mexico, the main rainy season lasts from June to August and most of the above-ground parts die during dry season. Germination or budding occurs in June or July. The first inflorescence is in October or November. The production of flowers and fruits usually ends between February and April

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 cycle of production in a year.

Technical Feasibility

The Moche Culture (1–800 CE) cultivated lima beans heavily and often depicted them in their art. During the Spanish Viceroyalty of Peru, lima beans were exported to the rest of the Americas and Europe, and since the boxes of such goods had their place of origin labeled "Lima, Peru", the beans got named as such. Despite the origin of the name, when referring to the bean, the word "lima" is generally pronounced differently from the Peruvian capital.

The term "butter bean" is widely used in North and South Carolina for a large, flat and yellow/white variety of lima bean (*P. lunatus* var. *macrocarpus*, or *P. limensis*) In the United States Sieva-type beans are traditionally called butter beans, also otherwise known as the Dixie or Henderson type. In that area, Lima beans and butter beans are seen as two distinct types of beans, although scientifically they are the same.

In Spain, it is called garrofón, and constitutes one of the main ingredients of the famous Valencian paella.

In the United Kingdom and the United States, "butter beans" refers to either dried beans which can be purchased to rehydrate, or the canned variety which are ready to use. In culinary use there, lima beans and butter beans are distinct, the latter being large and yellow, the former small and green. In areas where both are considered to be lima beans, the green variety may be labelled as "baby" (and less commonly "junior") limas.

In India, it is called Double Beans and dried beans are soaked overnight and pressure-cooked as ingredients in curries 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 conform with the economic diversification objective of the government. It also supports foreign exchange and import reduction conservation of government. It creates economic opportunities, market access, 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 6months preferably between April, 2020 - October, 2020 to because land clearing is mostly done in the dry season.

Estimated Project Costs and Revenue

Fixed Cost

(A) Land Clearing

Activity	QTY	₱	K
Land Clearing	1Hectare	230,000	0 0
Cross cutting	1Hectare	20,000	0 0
Rome ploughing	1Hectare	50,000	0 0
Sub total	1Hectare	300,000	0 0
Total	400 Hectare	120,000,000	0 0

(B) Equipment

Name	QTY	MODEL	USD	₱	K
Tractor	1	YTO-904(90hp)	24,450	8,802,000	0 0
Disc harrow	1	IBJ- 3.0	3,520	1,267,200	0 0
Subsoiler	1	IS-200G	3,250	1,170,000	0 0
Soy seeder	1	2BFY-6C	4,950	1,782,000	0 0
Tripper	1	7CX-8T	9,450	3,402,000	0 0
Combine Harvester	1	4YZ-6	103,500	37,260,000	0 0
Boom sprayer	1	3W-1000L-18	6,950	2,502,000	0 0
Front loader	1	TZ10D	6,570	2,365,200	0 0
Sub total			159,390	57,380,400	0 0

(C) Vehicle

Type	Model	QTY	₺	K
Pick up Truck	HILUX	2	30,000,000	00

- Irrigation

Type	QTY	Model	USD	₺	K
Hose	140	–	1,0146,960		
Reel	1	440MT	28,186	00	

Operating Cost

Working Capital	₺	K
Ploughing/Ha	15,000	00
Harrowing/Ha	10,000	00
Sub total	25,000	00
For 400 Ha	10,000,000	00
Mechanization and storage	105,000	00
For 400Ha	42,000,000	00
Input / Ha	91,825	00
For 400Ha	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 400Ha	9,400,000	00
Interest per hectare	22,079	25
For 400Ha	8,831,700	00
Total cost per hectare	245,325	00
Total cost for 400Ha	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 (400hectare)	12,000,000 : 00
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REVENUE

Yield per hectare 3tonnes@ ₦145000 per tonne	
	₦
	K
Revenue per hectare	435,000 : 00
For 500Ha	174,000,000 : 00
Net revenue for 400Ha(without amortization)	67,038,300 : 00
Net revenue with amortization(400ha clearing)	55,038,300 : 00
2 nd Production Cycle	
Net revenue	43,020,180 : 00
Net revenue with amortization(400ha land)	
Annual Net Revenue (1 st + 2 nd Cycle)	1,04,058,480 : 00

Currency conversion rate: ₦375.00 to 1USD

Funding Mechanism

The Mgbedala Community will provide 500Ha of cleared farmland around the Family farm land and lease it to members of the cooperative. Mr Onwubiko 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.