

**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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**FAVOUR ONWUBIKO**

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## INTRODUCTION

*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. 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.

EXECUTIVE SUMMARY

Onwubiko Farm at Mgbedala, Umuahia, Abia State is an existing farm dedicated to the production of both livestock as well as farm produce. Onwubiko Farm at Mgbedala, Umuahia, Abia State has been formed and since then has been working hard to become a leading producer of botanical plants for the natural supplement industry as well as plant nurseries. By leveraging a well thought out business plan executed by a skilled management team, Botanical Bounty will generate over \$216,000 in year three sales.

In order to achieve this profit, the Farm has identified three keys that will be instrumental in their success. The first is the implementation of strict financial controls. By having the proper controls, production efficiency will be maximized. The second key will be the never ending pursuit for the industry's highest concentration levels of botanical ingredients in each plant. The third key is the recognition and implementation of the philosophy that 100% customer satisfaction is required to ensure a profitable business. Profits are a by-product of satisfying customers, not the other way around.

The Onwubiko Farm of Lima Beans has three distinct customers: large companies, processors of lima beans, and nurseries that resell the plants. The first two customers purchase the plants for use in their products which they ultimately sell to the end consumer. The market for lima beans is quite exciting.

The Onwubiko Lima Beans Farm is a Nigeria based perennial farm that grows a variety of botanical Lima beans perennials. The company has been formed as an Enterprise. The farm has been in existence for five years now, initially operating as a hobby rather than a profit producing business.

ENVIRONMENTAL AND INDUSTRIAL ANALYSIS

The botanical perennial growing market is typically concentrated in several regions around the U.S. which have optimum growing conditions. While there are a couple mega farms, on the whole, 78% of the U.S. production comes from growers with 5-20 acres of land. Approximately 23% of botanical extracts are grown abroad and imported into the United States. Reasons for botanical growth to occur overseas is typically based on the type of herb and its ability to grow better in the respective region.

CULTURE

The basic reason cited for Lima beans as a dietary supplement growth is the desire for self-care. Consumers use dietary supplement products to help them achieve their self-care goals that arise out of a sense of alienation from the established health care system. Results from a national survey conducted in 1999 by Men's Health magazine show that consumers use dietary supplements as a means of ensuring good health. They also use supplements for very specific medicinal purposes such as treating and preventing serious illnesses, colds, and the flu; increasing mental sharpness; and alleviating depression. The consumer's desire for self-care and the widespread use of dietary supplements may cause problems for public health. An estimated 22.8 million consumers use herbal remedies instead of prescription medicine, and an estimated 19.6 million use them with a prescription product.

INDUSTRY DEMAND

In the past, except for vitamin and mineral products, dietary supplements, particularly botanical products like Lima Beans, were sold mainly to adults in health food stores. In contrast, now such products are available in supermarkets, other retail stores, and on the Internet, making these products readily accessible to children and other vulnerable populations. The Nutrition Business Journal estimated that in 1999, U.S. consumer sales of supplements over the Internet amounted to \$142 million, almost three times the previous year's total of \$48 million. 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.

### ANALYSIS OF COMPETITORS

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.

### MARKET ANALYSIS

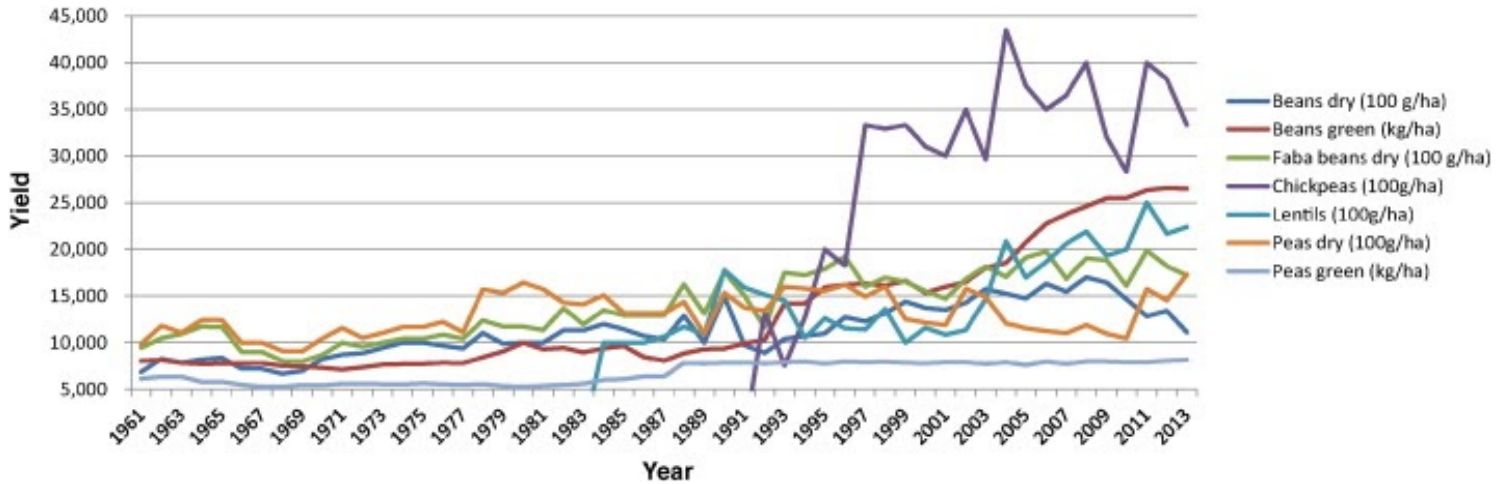
The botanical perennial growing market is typically concentrated in several regions around the U.S. which have optimum growing conditions. While there are a couple mega farms, on the whole, 78% of the U.S. production comes from growers with 5-20 acres of land. Approximately 23% of botanical extracts are grown abroad and imported into the United States. Reasons for botanical growth to occur overseas is typically based on the type of herb and its ability to grow better in the respective region.

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.

FUTURE ECONOMIC OUTLOOK AND TRENDS

From the diagram above it is clear that Although lima beans have been cultivated in Peru for more than 7,000 years, historians are unsure whether they originated there or in Guatemala. Soon after Columbus' discovery of America, Spanish explorers noticed different varieties of lima beans growing throughout the South America, Central America and the Caribbean. The sales forecast indicates that growth will be slow but steady. Growth will be slow because of the time and effort needed to develop the customers. Production is not the slowing element as Botanical Bounty has been in production for a couple of years. Granted they were not producing at the same level, or for that matter with the same goal of business efficiency, but nonetheless they will be able to reasonably raise production to meet the sales needs. During the wet months of the year, the forecast reflects a tapering of sales as production will fall during these months. There will however be some sales and production which will be moved inside to the greenhouses.

There are a few risks that could have a negative impact on sales. The first is weather. Plants are dependant on the weather. A poor growing season will have a serious effect on production. This risk is spread amongst all of the producers of the specific region meaning the weather risk is imposed on everyone, generally not a specific farmer. Another risk that could effect sales is some sort of pest that could unexpectedly negatively effect the crops. By planting multiple botanicals and choosing them based on their heartiness relative to the growing climate, Botanical Bounty is able to minimize these risks as much as possible. Those eating the most water-soluble dietary fiber fared even better with a 15% reduction in risk of CHD and a 10% risk reduction in CVD.

## LEGAL CONCERNS

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.

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

## PRODUCTION PLAN/ORGANISATIONAL PLAN

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<sup>-1</sup> varied from 289.14 to 1358.74 kg. Only two cultivars had seed yield above 1000 kg ha<sup>-1</sup>, 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.

ASSESSMENT OF RISK

Working Capital		
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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

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Land clearing amortization (per hectare)	30,000	:	00
Land clearing amortization (400hectare)	12,000,000	:	

