

BUSINESS PLAN FOR COMMERCIAL PRODUCTION AND MARKETING OF **GROUNDNUTS**





















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FOREWORD

GROUNDNUT BUSINESS PLAN

The European Union (EU) in partnership with the East African Community (EAC) has launched the Market Access Upgrade Programme (MARKUP) to support member countries improve market access of agro-food products to the EU and regional markets. The main purpose of this project is to contribute to the economic development of Kenya by increasing the value of both extra and intra-regional agricultural exports in selected horticulture sub sectors; (snow peas and peas, mango, passion fruit, chilies, herbs and spices, and nuts [macadamia nuts and groundnuts]). According to MARKUP, agriculture (crop and livestock production) contributes to an average of 27.3% of the national GDP and provides a source of livelihood to most Kenyans. It also contributes about 26% indirectly to GDP through linkages with other sectors such as agro-based manufacturing, transport, wholesale and retail trade. This programme (MARKUP) is structured around two intervention levels: the EAC Regional Window and the Partner States National Window with country specific projects. United Nations Industrial Development Organization (UNIDO) is the implementation partner for the Kenya-Partner States window.

Although groundnut is a major food and cash crop for smallholder farmers in Kenya. Its production and productivity is limited by lack of knowledge and technical entrepreneurial skills, lack of access to reliable markets, in addition to unavailability of good quality planting materials. Therefore, provision technical information (business plan manual), and clean, improved disease and pest tolerant, high yielding groundnut varieties with good market acceptability could enhance overall productivity. To maximize benefits, the adoption of improved seeds should be coupled with the training of extension staff and lead farmers on improved seed crop management techniques, use of business plan in commercial groundnut seed production along with enhanced opportunities to sell any marketable surpluses.

This document is a business plan for the commercialization of clean groundnut seed in Kenya, is an initiative by the Kenya Agricultural & Livestock Research Organization (KALRO). It gives a summary of the estimated market demand strategies to meet groundnut seed demand. The plan gives a description of groundnut seed production, marketing, and distribution. It also includes the financial plan, legal and governance structure in the seed system.

This business plan describes the various aspects of groundnut seed plan namely: business planning, business model-focusing on the cost of production and quality control capacity in the production of good quality groundnut seed planting material; capacity building to provide key skills required in seed business; critical risks and situation analysis; types of seed businesses; type and quantity of inputs required for investment. The plan equips the seed growers, farmers and seed company managers with the knowledge and techniques of establishment and running

of small scale-seed commercial business. This plan aims to provide information on groundnut seed production and marketing practices. It targets technicians, seed producers and traders to ensure sustainable availability of high quality seed production.

The current plan on production and sales is based on increment derived from the averages of the previous years and sales during the same period. The operating cost plan is based on unit costs of field activities and overheads. The sale value is based on minimum price of the groundnut seed sold to the groundnut growers. The cash flow plan is also included, marketing and distribution activities to reach the last mile will be required to ensure availability and affordability of the product by farmers.

The plan is meant to be used together with the procedural manual to ensure that both technical and business considerations are met during the production process. I am greatly indebted to the KALRO commodity experts who participated in the preparation of the Business Plan, which is expected to epitomize a new way of operating propagation units where in addition to the technical considerations, the business aspects are also incorporated to ensure sustainability.

Prof. Lusike Wasilwa, PhD
Director Crop Systems
For Director General, KALRO

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ACRONYMS

AFA Agriculture and Food Authority
ASK Agriculture Society of Kenya
CBO Community Based Organization

EAC East African Community

EU European Union

GAP Good Agricultural Practice
GDP Gross Domestic Product

HCD Horticulture Crops Directorate

KALRO Kenya Agricultural & Livestock Research Organization

KEPHIS Kenya Plant Health Inspectorate Service

KES Kenya Shilling

KRA Kenya Revenue Authority

MARKUPMarket Access Upgrade ProgrammeMoALMinistry of Agriculture & LivestockNOCDNuts and Oil Crops Directorate

UNIDO United Nations Industrial Development Organization

USD United States Dollar



1. EXECUTIVE SUMMARY

This document is a business plan for the commercialization of clean groundnut seed in Kenya, as an initiative by the Kenya Agricultural & Livestock Research Organization (KALRO). It provides a summary of the estimated market demand and overall strategy to meet this demand, as well as a description of how production, marketing, and distribution activities will be conducted. The financial plan, legal and governance structure to conduct operations are also described. This business plan should be regularly updated to reflect the changing market conditions and insights gained from operations.

Although groundnut is a major food and cash crop for smallholder farmers in Kenya, its productivity is limited by unavailability of good quality planting materials. Therefore, provision of clean, improved disease and pest tolerant, high yielding groundnut varieties with good market acceptability could enhance overall productivity. To maximize benefits, the adoption of improved seeds should be coupled with the use of improved crop husbandry techniques, along with enhanced opportunities to sell any marketable surpluses.

This business plan describes the principles and practices in the production of good quality groundnut seed planting material. The plan equips the seed growers, farmers and seed company managers with the knowledge and techniques of establishment and running of small scale-seed commercial business. This plan aims to provide information on groundnut seed production and marketing practices. It targets technicians, seed producers and traders to ensure sustainable availability of high quality seed production. It is also designed to facilitate the learning process by incorporating practical activities that provide better and clearer understanding of the principles of seed production, establishment, management and marketing to enable participants to transform such knowledge and skills into commercial projects.

The current plan on production and sales is based on increment derived from the averages of the previous years and sales during the same period. The operating cost plan is based on unit costs of field activities and overheads. The sale value is based on minimum price of the groundnut seed sold to the groundnut growers. The cash flow plan also included marketing and distribution activities to reach the last mile required to ensure availability and affordability of the product by farmers. In addition to awareness raising campaigns, agro-input bundling and subsidy schemes will be designed and tested, in collaboration with the Government of Kenya and input suppliers and agro-dealers that KALRO has existing relationships with.

2. INTRODUCTION

Groundnut (*Arachis hypogaea* L.) is important edible oil crop grown by smallholder farmers and regarded as a high value crop commonly grown in semi-arid areas. In Kenya, groundnuts serve as a source of both food and cash crop in Busia, Homabay and Siaya counties and are produced along with other major crops, such as maize/beans sorghum. Groundnut is a highly nutritious crop, rich in protein (38.6%), and oil (47%) contents (Atasie *et al.*, 2009) and edible oil, hence a major source of financial and nutritional well-being of farmers and consumers in Kenya. Besides protein and oil, groundnut seeds are rich source of mineral, vitamin A, B, C and E, oil, calcium, iron, zinc, boron, etc. and dietary fiber. The groundnut haulms are used as fodder for the animals.

Economically, it is a cash crop for smallholder farmers especially women. It is grown mainly for local and a little for export markets. In 2020/2021, Homa Bay was the highest producer of groundnuts accounting for up to 30% of the country's production followed by Kakamega where the crop is now being produced on a commercial scale to supply to processors as shown in Table 1 below.

Table 1: Area under peanuts, production and the value 2020-2021 (AFA, 2021 Report)

Country	Area (Ha)		Quantity(MT)		Value (KES) Million	
County	2020	2021	2020	2021	2020	2021
Homabay	3,923	5,529	3,461	3,870	460.31	491.25
Kakamega	1,377	2,100	1,232	2,601	158.88	234.09
Migori	972	1,541	962	1,510	134.71	145.53
Kisumu	902	561	661	592	92.48	74.61
Siaya	671	627	619	502	86.72	65.76
Bungoma	591	760	665	854	86.48	105.11
Busia	515	940	601	846	78.13	93.06
Elgeyo Marakwet	502	339	451	329	45.10	35.26
Vihiga	496	68	420	30	60.90	3.90
Meru	412	849	406	764	52.73	68.73
Kisii	196	365	179	420	24.72	54.02

Country	Area (Ha)		Quantity(MT)		Value (KES) Million	
County	2020	2021	2020	2021	2020	2021
Tharaka Nithi	121	192	59	115	8.35	11.52
West Pokot	81	15	57	11	22.44	0.99
Trans-Nzoia	67	77	42	45	5.73	4.32
Lamu	67	10	68	9	9.37	1.35
Kwale	61	29	56	15	8.03	1.66
Baringo	52	98	46	87	6.18	9.00
Taita Taveta	22	14	14	10	2.06	1.10
Tana River	9	107	19	222	2.85	22.20
Others	61	53	54	66	8.10	7.25
TOTAL	11,098	14,275	10,071	12,897	1,354	1,431

Although the demand for groundnut has been on the increase, production has been on the decline over the last couple of years. A larger proportion of Kenya's consumption is supplemented by imports from Malawi and Uganda. In the year 2020, the area under groundnut reduced by more than 4,867 ha from 15,965 ha reported in 2019 to 11,098 in 2020. The reduction is attributed lack of access to quality seed for planting. Besides the unavailability of quality seeds at production, aflatoxin, leafspots, rosette virus are the major challenges in the production and marketing of groundnuts in the country.

Overall production increased marginally by more than 140 metric tons which was as a result of increased productivity by unit area in Busia, Siaya and other counties such as Kakamega and Migori Counties. This increment was as a result of farmers own initiatives to increase their volumes in order take advantage of the ready demand in the local markets for cottage processing and household consumption. Hence groundnut enterprise is a source of income and employment for both the rural and urban communities.

Access to quality groundnut seeds plays a major role in sustainable groundnut production. Production of groundnuts starting with clean seed aims at improving food /nutrition security, in addition to enhancing household income. Access to information on technology in quality and clean seed production, improved agronomic practices, pests and disease management and post-harvest handling offers a solution.

However, many private seed growers such as CBOs do not meet the requirements or cannot pay the fees, thus operate without certification. The existing registered groundnut companies have limited production capacity for bulking and maintenance of breeder seed of released groundnut varieties hence the lack of access to quality seeds in Kenya.

Therefore, most farmers plant own farm saved seeds or purchase seeds from the local markets that do not meet the required sanitary and phytosanitary requirements. Note that these markets are not registered and certified by the requisite authorities and poses health risks to producers. Hence the most important things to consider in producing clean groundnut seed for business is the suitability of the climate, the soil and the irrigation in the proposed site. In addition, appropriate varieties that are best suited to the region and climate as well as the targeted market. Good Agricultural Practice (GAP) should be practiced during seed production.

3. DESCRIPTION OF THE BUSINESS

Groundnut Seed Producer Business Plan



Figure 1: Business plan concept

3.1 GROUNDNUT SEED BUSINESS PLAN

Business Planning

The first decision which needs to be made by the seed merchant, grower or a farmers group, is whether investment in land, labor and capital investment in groundnut seed business will make a 'good business' and return a profit to the owner. There are considerable planning and recording implications for running the business. This requires knowledge of what needs to be recorded, either for compliance with national laws or for Global GAP. A seed business plan helps to determine the type, market, location, site, design and size of operations. It also helps one to establish specific details on equipment, employee requirements, operational costs, estimated pricing schemes, projected return on investment and asset availability.

When starting a new seed business, it is important to look ahead and envisage what the returns on the initial investment are likely to be, before deciding to borrow money or invest personal savings in the business venture. Initial business planning will require the grower to:

- ☐ Identify all the types of inputs which will be required and the quantity of each input that will be needed for the size of the groundnut project planned (appendix 1 and 2)
- ☐ Predict the potential number of seeds to be sold, the time it will take to peak sales and the value of the predicted sale of seeds

☐ Calculate the difference between the cost of inputs and the value of outputs (sales of groundnut seeds) to determine the profitability of the groundnut seed business

3.2 BUSINESS MODEL

Through training of seed growers, we look at the cost of production of every kg of seeds and a margin will be added on the cost hence the price for the seed is discovered taking into account the forces of demand and supply in force within the market. Quality control of all the seeds being sold out will be highly checked to ensure that the products meet the required standards and fetch good prices.

3.3 LAUNCHING A SEED SYSTEM

A seed business is a process that can be personally and financially rewarding, if done in the right way.

Key issues; to enhance the seed Business

- Superior/ Competitive Seed varieties
- Understanding the market
- Seed promotion fairs/exhibition

The above issues will enable the nursery operator to have profit from the business.

Key Skills required for seed business

- Knowledge in seed production skills
- Understand seed plant growth, its needs and care
- · Key pests and diseases; their management
- Post-harvest handling
- Administrative skills
- Business skills
- Marketing skills
- Communication skills

3.4 CRITICAL RISKS OR SITUATION ANALYSIS

- Natural water disaster caused by prolonged drought; can be managed by expanding water sources
- Competition from other nurseries in the vicinity
- Outbreak of pests and diseases

3.5 TYPES OF SEED BUSINESSES

a. Wholesale -Distributor

- Produces certified seeds in large quantities
- Sell in large batches at significantly reduced prices
- Target customers; exporters/ retailers

b. Retail - Stockists

- Mainly buys from wholesalers/distributors
- Sell in smaller batches at retail prices

3.6 MARKETING AND COMMERCIALIZATION

- Assesses market preference
- Advice the farmers on quality and quantity
- Price review and negotiations
- Market research
- Explore new markets

3.7 FINANCE AND AUDIT

This is done through;

- Financial reporting
- Management and monitoring expenses
- Crafting financial policies
- Interpreting policies
- Managing petty cash
- Evaluating proposed financial investments

3.8 PRODUCTION AND GRADING

Quality control

- Ensures supply of quality produce
- Produce seeds according to market demand
- Price differentiation according to profitability
- Compliance with government health standard
- Explore and educate new farming technologies
- Receive information from agricultural centers

3.9 THE TARGET MARKET

This one depends on the target customer. This is partially influenced by the type of business one chooses and the location of one's operation, whether urban or rural.

Possible Approaches of Defining the Market

1. Customer Types

- Define the types of customers within your target market based on market available
- data and advice for example data from MoAL, AFA-NOCD among others

2. Preferences

 Determine customer preferences for products and services by investigating in the local competition

3. Market Trends

- Determine market trends anticipated in future on the types and number of plant varieties to grow
- May use local and national association and government data

4. Promotions

- Invest and use different channels (friends, media, exhibitions, ASK shows, Trade fairs, socio media) to promote the seeds
- Attract as many customers as possible

3.10 COMPETITION IN THE BUSINESS

Knowing the competition in the business is essential in developing a marketing strategy.

There is competition from roadside nurseries which can be minimized by farmers increase in knowledge of the importance of establishing groundnut production units with high quality groundnut varieties.

There are key issues to understand regarding the business competition.

- a. Understanding what other growers are producing for the market helps to develop a better competing position for products and services.
- b. Developing a competitive attitude helps to identify products that will sell, along with pricing strategies and promotions that are necessary for keeping the customer interested.
- c. One must have a product or service that others perceive as different and superior from everything else offered
- d. Understand what the market wants after knowing the unit price, then produce the needed seeds.
- e. Product selection, good quality, lowest price and fastest service defines a good seed business

Table 2: Business Plan

GROUNDNUT BUSINESS PLAN					
Name of					
Business					
Name of Group					
Entrepreneur(s)	Kipingi Groundnut Producers and Marketing Group				
Number of	Total Membership: 118 Male 41 Female 44 Youth 33				
members					
Contact details/					
other	XYZ				
Co-ordinates					

	GROUNDNUT	BUSINESS PLAN				
Physical Location of the Business/Group	Siaya, Busia and Ndhiwa - Homabay County					
Brief Description of the Business	Vision: A leading supplier of quality groundnut grain in Homabay Siaya and Busia Counties. Mission: To increase clean groundnut seed production in Homabay, Siaya and Busia Counties into an innovative, competitive socially inclusive and commercially oriented enterprise for the realization of high household income in a stable environment. Objectives: a. To produce high quantity groundnut seed to the market. b. To create sustainable job opportunities for the youth and women Activities: Land preparation, planting, weeding, harvesting, storage and marketing.					
Target customers.	Groundnut seed growers and trad	lers.				
Business Opportunity	market, Value addition Reasons: a. To improve food and nutrition b. To increase income of the gro	Reasons: a. To improve food and nutrition security. b. To increase income of the group members				
Competitor Analysis	 Maize and sugarcane producers Other groundnut 	Price 2kgs tin @ KES 180 1 Kg @ 170 2kgs tin @ KES 600	 Strengths. It's high in nutrition / medicinal Quick maturity, improves soil fertility 	Weaknesses. Highly labour intensive		
Competitive Strategy.	a. Producing quality groundnutb. Bulk production of groundnutc. Bulking of the produced. Good post-harvest handling		, ,			

	GRO	DUNDNU	T BUSIN	ESS PLAN			
Business Branding	 a. Intense promotion of our produce through informing, advertising and publicity. b. Customer feedback mechanism. c. Working in line with the policies and regulations of relevant government ministry. d. Public private partnership collaboration e. Review business plan with market trends 						
Participatory stakeholder's Market research undertaken	Marketing research on market price and highly demanded groundnut varieties						
Expected sales growth	Basic Unit of sale (KES)						
	Years	1	2	3	4	5	
	Number sold (50 kg bags)	840	1,200	1,400	1,600	1,800	
	Price per unit (KES 300)/ kg	15,000	15,000	15,000	15,000	15,000	
	Revenue (KES)	252,000	360,000	420,000	480,000	540,000	
Marketing Strategy	Steps Contracting buyers to guarantee the price.	Equipment Groundnut harvester, groundnut sheller, canvas, solar drier, pics bags, metal silos					nts.

GROUNDNUT BUSINESS PLAN						
	Input needed to produce products / services	Cost@ item	No of units	Sub-Total		
	Groundnut Harvester	200,000	1	200,000		
	Groundnut Sheller	40,000	1	40,000		
	Canvas	3,000	5	15,000		
	PICs bags	300	60	18,000		
	Metal silos	20,000	4	80,000		
	Land preparation	3,000	3	9,000		
	Planting	400	10	4,000		
	Rhizobium inoculum	400	4	1,600		
	Planting fertilizer	7,000	1	7,000		
	Top Dressing Fertilizer	6000	1	6,000		
	Aflasafe	500	4	2,000		
	Fertilizer application	400	2	800		
	weeding	400	10	4,000		
	Field inspection and certification	60,000	1	60,000		
	Pesticide application	400	2	800		
	Harvesting	400	20	8,000		
	Post - Harvest handling (drying, sorting)	400	20	8,000		
	Shelling	200	60	12,000		
	Seed dressing pesticide	200	60	12,000		
	Seed dressing	400	2	800		
	Storage	300	1	300		
	Seed inspection	780	1	780		
	Seed packaging and labelling	1,800	1	1,800		
	Total Sum			491,880		
Key risk and how to manage	Key risk	Risk management				
them	Post-harvest losses.	Appropriate storage	2.			
	Price fluctuation	Contract farming				

Sources of funds for the investment (sometimes it is the in-kind assets within the farm to cultivate groundnuts, harvest and transport them if it's not the first time producing groundnut seeds) Explain the Bank credit - some bank provides a financial package to farmers for crop production and insurance against crop loss. Agricultural Finance Corporation - an agricultural finance institution that farmers can borrow a farming loan. County Government - where appropriate some counties in Kenya have set aside programs and activities that promote groundnut farming.



Figure 2: Good quality of groundnut seed

4. POTENTIAL MARKET AND COMPETITIVE ANALYSIS

Groundnut, also known as peanut, is a large legume crop of oil, food, and feed grown in over 100 countries. With a gross volume of 38 million tons in 2010, it covered 24 million hectares of land worldwide.

- Groundnut is a cash crop grown mainly by smallholder farmers, which provides them
 with income and livelihoods. It also contributes to farm families' well-being through
 eating energy- and protein-rich groundnut kernels and provides livestock with nutritious
 fodder. Groundnut farming thus leads to the survival of mixed crop-livestock processing
 systems, the most widespread semi-arid system in the world.
- Groundnut is valued in the kernels as a rich source of energy supplied by oil and protein. Out of 100 g kernels, they provide 564 kcal of energy. In addition, groundnut kernels are rich in mono-unsaturated fatty acids and contain many health-enhancing nutrients such as minerals, enzymes, and vitamins. They include antioxidants such as p-coumaric acid and resveratrol, vitamin E, and many of the main thiamine, pantothenic acid, vitamin B-6, folate, and niacin B-complex types.
- Groundnuts are a dietary source of polyphenols, flavonoids and isoflavones, which are biologically active. Groundnuts and groundnut-based products can be marketed as nutritional foods to combat energy, protein, and micronutrient malnutrition among the needy / vulnerable, since they are highly nutritious.
- Groundnut oil has high smoking point, an outstanding cooking medium. India, China, Myanmar, and Vietnam make heavy use of groundnut oil for cooking purposes. This can be promoted for use in Kenyan households to address nutritional security.
- The cake obtained after oil extraction is used in the animal feed industry, in the preparation of enriched, readily digestible foods for children and the elderly.
- The most popular groundnut food in the USA, Canada, and Australia is peanut butter. Groundnut seeds can be eaten raw (non-heated), boiled, roasted and fried, and can also be used to produce baked goods with confectionery and flour.
- In the fertilizer and feed industry, groundnut shells are used for making particle boards or used as fuel or filler. Groundnut haulms are nutritious food for livestock.
- Groundnut, as a legume crop, tends to boost soil quality and fertility by leaving nitrogen and organic matter behind in the soil.

5. MARKET AND SALES

5.1 DEFINING THE MARKET

Defining the market involves answering the question:

Who is the customer? This is partially answered by the type of business you choose and the location of your operation (urban or rural).

Possible approaches to defining your market and customers are:

- Define the types of customers within your target market based on market available data and advice e.g. from MoAL and AFA-NOCD among others
- Determine customer preferences for products and services by investigating the local competition
- Use local and national association and government data to determine market trends and preferences anticipated in future on the types and number of plants to grow

5.2 MARKETING STRATEGY

Market research should be carried to ascertain the potential sales as compared to actual sales. This involves including performance in the following areas:

- Customer service
- Affordable prices
- Great location
- Quantity and quality of plants, seedlings, trees and saplings

5.3 REGISTRATION, INSPECTION AND CERTIFICATION FEES FOR THE NURSERY

A registered nursery business must pay annual nursery licensing fees and be subject to inspections. The costs of licensing and any other authority-mandated certifications must be included in the operational costs when budgeting. They include;

- KRA Pin registration (free)
- NOCD inspection
- KEPHIS inspection and certification
- Mileage per Kilometer

5.4 SALES STRATEGY

Factors that influence primary sales

- Excellent customer service
- Exceptional product knowledge
- Large and varied offer of seeds
- Good certified seed bulking location
- Good quality seeds
- Affordable prices

5.5 RECORD KEEPING

- Seed business plan budget
- Seeds sown in quantity
- Seedlings germinated/ dried up
- Total number of seed bags sold
- Labour wages
- Contacts/ age/ gender of the farmers (customers)
- Dates when all the above activities took place

In 2019, Kenya shipped 118 tons of groundnuts (peanuts). In 2019 alone, the market for Kenya groundnuts (peanuts) (nuts category) improved, with a change of 226% compared to the year 2018. Between 2017 and 2019, groundnuts (peanuts)'s exports increased by 202.56% netting the country US\$0.06m for the year 2019. Kenya's groundnuts (peanuts) exports are categorized as:

- Groundnut seed, for sowing (HS code 120230)
- Groundnuts in shell, not roasted or otherwise cooked (HS code 120210)
- Groundnuts, shelled, whether or not broken (excluding seed for sowing, roasted or otherwise cooked) (HS code 120242)

- Groundnuts, in shell (excluding seed for sowing, roasted or otherwise cooked) (HS code 120241)
- Shelled groundnuts, whether or not broken (excluding roasted or otherwise cooked) (HS code 120220)

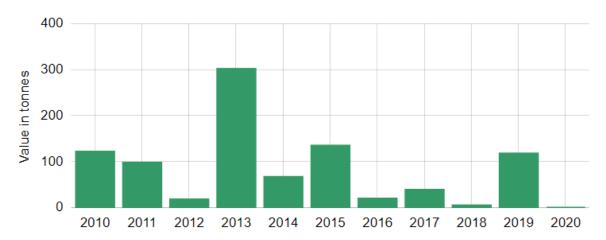


Figure 3: Groundnut production

Kenya groundnuts (peanuts) export values

In 2019, Kenya exported groundnuts (peanuts) valued at 0.06m USD, an increase of 1,400% from 2018's total groundnuts (peanuts) export of 0.004m USD. The annual increase in value of Kenya groundnuts (peanuts) between 2017 to 2018 was - 20%.

The per year variation in the quantity of Kenya's groundnuts (peanuts) exports between 2017 and 2019 was 202.56% compared to a variation of 226% in the period between 2018 and 2019. Kenya's portion of the world's total groundnuts (peanuts)'s exports in 2019 was less than 1%. The country holds number 24 in world exports of groundnuts (peanuts).

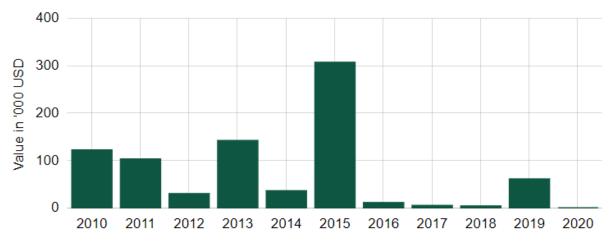


Figure 4: Groundnuts export values in Kenya

Kenya's leading export markets for groundnuts (peanuts) are DRC Congo, South Sudan, Sudan, Uganda and Tanzania.

Import/Export Trends

Kenya is a net importer of groundnuts (peanuts). The annual growth of Kenya groundnuts (peanuts) in value between 2015 to 2019 was -11%, per year, while annual growth in quantity through the same period was -12%, per annum. Kenya procured 16,793 tons of groundnuts (peanuts) in 2019. Groundnut farming in the country has been the domain of small-scale farmers in the western parts of the country for domestic and commercial use. However, other counties have now started planting the crop after introduction of new varieties by researchers that could suit their areas and are raking big. It's well adapted in the Western, Rift Valley, Coastal and Eastern regions of Kenya.

Farmers who are using supplementary irrigation, their expenditure from cultivation to the harvest comes to around Sh. 20,000, but with one acre producing almost a ton, the farmers are able to cope since they get good returns. One Kilogram of groundnuts are sold at KES 87, and one acre produces one ton. A farmer can get around KES 80,000 per acre and if he has around 5 acres, he makes a KES 400,000.

Users of the product: Groundnut farmers, traders and groundnut manufacturing companies

6. FINANCIAL PLAN

The project will be completed within 24 months preferably between January, 2023 to December 2025 to enable us strike the profitability of the business. Some of the activities that will be carried out include:

- Training of extension staff in the three counties (Busia, Homabay and Siaya) on improved groundnut seed production.
- The trained extension staff will then train selected seed growers in the target counties.
- The trained farmers/groups will be contacted by seed companies such as KALRO seed, Kenya seed or any other seed company interested in groundnut seed production.

7. POTENTIAL RISKS AND MITIGATION STRATEGIES

There are three broad types of risks to the execution of this business plan: product risk, market risk, and operational risk. Acknowledging their potential impact on the execution and proper running of the plant, KALRO will need to put in place necessary measures to mitigate these risks. Risks will need to be regularly reviewed and managed, as the market context changes.

Table 3: Summary of potential risks and mitigation strategies

	Risk	Description	Mitigation strategies
Product risk	Unsustainable input procurement	Competing demand for inputs could threaten sourcing	 Contract farming Growing own groundnut Building strong relationships with farmers
	Weak quality control	Improper manufacturing of groundnut seed	 Training and quality control Clear branding Selection of reliable outlets and awareness creation of these outlets
	Untimely production	Delayed production leading to delayed planting of groundnut for seed production	Adequate planning and timely execution of operations, leveraging past commercialization experience
Market risk	Low uptake of product	Low uptake due to lack of awareness, availability, or affordability	 Awareness raising drives Advocacy for stronger regulation Building strong distribution network Subsidy schemes or price premiums Passing on cost savings to consumers Regular Strategy Review between KALRO, to refine the strategy as required, in order to maximize uptake
Operational risk	Coordination breakdown	Risk of conflict due to misaligned objectives and expectations	 Clearly defined roles and responsibilities between two parties Legal agreements in case of any dispute Clear mediation and arbitration channels
	Funding shortfall	Inadequate funding may lead to delays in execution of plan	 Identification of additional funding required and funding sources as soon as possible

8. APPENDICES

8.1 Appendix 1: Machinery and equipment costs

ltem	Description	Quantity	Cost Per Unit (KES)	Total Cost (KES)			
	Machinery and equipment costs						
Seed drill	Drill	1	50,000	50,000			
Seed cleaner	Cleaner	1	80,000	80,000			
Ridging and ditch machine	machine	1	50,000	50,000			
Harvester	Groundnut harvester	1	200,000	200,000			
Sheller	Groundnut Sheller	1	40,000	40,000			
Canvas	M	5	3,000	15,000			
PICs bags	Bags	60	300	18,000			
Metal Silos	Silos	4	20000	80,000			
Store	store	1	400,000	400,000			
Total (KES)				933,000			

8.2 Appendix 2: Template for costing seed production

Item of Cost	Description	Quantity	Cost per Unit	Total Cost
Labour				
Land Preparation	Mandays	3	3000	9,000
Planting	Mandays	10	400	4,000
Rhizobium inoculum	Mandays	4	400	1,600
Fertilizer application	Mandays	2	400	800
Weeding	Mandays	10	400	4,000
Field inspection and	Mandays	1	60,000	60,000
certification				
Pesticide application	Mandays	2	400	800
Harvesting	Mandays	20	400	8,000
Postharvest handling	Mandays	20	400	8,000
(drying, sorting)				
Shelling	Mandays	60	200	12,000
Seed dressing pesticide	Mandays	60	200	12,000
Seed dressing	Mandays	2	400	800

Item of Cost	Description	Quantity	Cost per Unit	Total Cost
Storage	Mandays	1	300	300
Seed inspection	Mandays	1	780	780
Seed packaging and	Mandays	1	1800	1,800
labelling				
			Subtotal	123,880
Inputs				
Planting fertilizer	Bags	1	7,000	7,000
Top dressing fertilizer	Bags	1	6,000	6,000
Aflasafe	Bags	4	500	2,000
			Subtotal	15,000
Materials				
Groundnut seed	Kg	35	500	10,500
Farmyard manure	Tons	5	1000	5000
			Subtotal	15,500
Transport operation				
Seed collection	Kms	200	30	6,000
Purchase of stores	Kms	150	30	4,500
			Subtotal	10,500
Travelling and				
accommodation				
Groundnut seed	persons	2	1000	2000
collection				
			Subtotal	2000
Total cost				161,180
Selling price	Bags	8	31,500	252,000
Profit				90,820

8.3 Appendix 3: One-year Business plan

Capital costs Year 1.	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
Capital Items e.g. seed equipment etc.					
Depreciation on capital					
Input Costs Year 1	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
Annual costs of licenses					
Annual costs of labour					

Annual costs of inputs						
Fertilizers						
Pesticides						
Commission to sales man						
Transport costs						
Tax						
Total costs (KES)						
Revenue year 1	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total	
Number of seed bags sold (No.)						
Predicted value						
Total income year 1						
Total income year 1	<u></u>					
Total income year 1 Gross profit year 1	(Total incon	ne-Total costs)				
,	,		on gross profit	t)		

8.4 Appendix 4: Action Plan

Activity	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Preparation to start						
operations						
Business plan approved						
Secure funding commitment						
Develop monitoring and						
evaluation plan						
Identify talent to fill each role						
Develop process flows and						
train talent						
Production of product						
Identify channel to procure						
groundnut						
Procure groundnut certified						
seeds						
Procure other inputs						
Produce first batch of seeds						
Marketing and distribution						
Secure distribution						
agreements for clean seeds						
Conduct awareness raising						
drives						





















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