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MESPT
MICRO ENTERPRISES SUPPORT PROGRAMME TRUST

COUNTY GOVERNMENT OF KISII

DEPARTMENT OF AGRICULTURE, LIVESTOCK, FISHERIES, CO-OPERATIVES AND IRRIGATION

BANANA COMMERCIALIZATION STRATEGY FOR KISII COUNTY

2025-2030

FOREWORD

The Micro Enterprises Support Programme Trust (MESPT) is a local development organization founded in 2002 through a partnership between the Government of Kenya (GoK), the European Union (EU), and later, the Royal Danish Government. MESPT's main goal is to eradicate poverty by supporting the growth of microenterprises, including agricultural production, agribusiness, and agro-processing. This support aims to foster social, economic, and environmentally sustainable growth by increasing access to financial and business development services, creating jobs, and promoting sustainable microenterprises. Our vision is to build a more prosperous society, and our mission is to provide sustainable business development and financial services to smallholder farmers and agri-MSMEs in Kenya.

For over two decades, our team of professionals has been at the forefront of developing cost-effective and scalable solutions that promote financial inclusion and support the growth of sustainable agribusinesses. We accomplish this by providing tailored financial solutions that meet the specific needs of various agricultural value chains, delivered through a wholesale lending model to financial service providers such as SACCOs, MFIs, and Farmer Cooperatives. These providers, in turn, extend loans to smallholder farmers and micro agricultural enterprises. Our approach emphasizes delivering integrated financial and business development services to smallholder farmers and MSMEs in Kenya, helping them access finance, boost agricultural productivity, improve agro-processing, and connect to markets. Over the years, we have worked closely with county governments, development agencies, donors, and investors to strengthen business development capacities in the agricultural sector, using a unique tripartite model that connects farmers, SMEs, and financial institutions.

Banana is among the key value chains supported by MESPT. Recognizing its significance in food and nutrition security, income generation, and environmental sustainability, MESPT facilitated the development of the Kisii County Banana Commercialization Strategy (KCBCS) as a timely intervention to guide the transformation of the sector. The strategy is aligned with national development frameworks such as Vision 2030, the Agriculture Sector Transformation and Growth Strategy (ASTGS), and the Kisii County Integrated Development Plan (CIDP) 2023–2027.

The Strategy emphasizes increasing productivity, improving quality, promoting sustainable agricultural practices, strengthening market systems, facilitating access to finance, adopting green technologies, and promoting gender inclusivity. It also emphasizes partnership building and collaboration among stakeholders, including county governments, development partners, and farmers. MESPT remains committed to supporting the successful implementation of this strategy and appreciates the contributions of all involved.

Rebecca Amukhoye,

Chief Executive Officer, Micro-Enterprises Support Programme Trust

PREFACE

The agricultural sector is the backbone of Kenya's economy, contributing 32% of GDP and providing livelihoods for the majority of the rural population. The transformation and growth of agriculture are vital to achieving the 10% annual GDP growth targeted in Vision 2030. This transformation is supported by the newly launched Agriculture Policy and the Agriculture Sector Transformation and Growth Strategy (ASTGS), which prioritize food and nutrition security, income generation, and environmental sustainability.

In Kisii County, over 70% of the population relies on agriculture for food and income (CIDP Kisii County, 2023-2027). Agriculture significantly contributes to the County's Gross County Product (GCP) and connects with key sectors such as manufacturing, transport, and services. From 2017 to 2022, agriculture accounted for 56% of Kisii's GCP, contributing 2.1% to the national GDP (Gross County Product Report 2019, KNBS).

To improve agricultural performance in Kisii County, the Directorate for Crops Development emphasizes the need for effective policies, regulations, and strategies to drive enterprise commercialization. This includes enforcing standards and promoting Good Agricultural Practices (GAPs) as part of the Kisii County CIDP 2023-2027.

The Banana Commercialization Strategy (KCBCS) serves as a timely intervention to enhance revenue and profitability in the banana sector. It aims to create decent jobs, ensure sustainable resource use, and promote green technologies and gender equality. The banana value chain is increasingly recognized for its importance in food security, nutrition, and export potential. However, most banana farming in the county remains subsistence-based, with inadequate institutional support and infrastructure.

The KCBCS outlines a comprehensive approach to developing the banana value chain by improving produce quality, increasing productivity, enhancing infrastructure, strengthening markets, and facilitating access to finance while promoting environmental sustainability.

Under this strategy, banana value chain stakeholders are encouraged to adopt innovations and technologies for sustainable development. The county government will collaborate with stakeholders to provide essential services such as extension, training, research, and regulation, ensuring efficient and cost-effective support for value chain actors.

This strategy reaffirms the Department of Agriculture's commitment to creating an enabling environment for the successful realization of banana commercialization goals and objectives. We urge all stakeholders to actively participate in implementing the Kisii County Banana Commercialization Strategy

Elijah Obwori
County Executive Committee Member (CECM)
Department of Agriculture, Livestock, Fisheries, Cooperatives and Irrigation.
Kisii County.

ACKNOWLEDGEMENT

I wish to acknowledge all stakeholders who participated in the development of the Kisii County Banana Commercialization Strategy. Special thanks go to Micro Enterprise Support Programme Trust (MESPT) through Green Employment in Agriculture Programme (GEAP) funded by DANIDA for providing resources for the development of this strategy.

I also recognize and appreciate the Technical Working Group drawn from the Department of Agriculture, Livestock, Fisheries, Cooperatives and Irrigation (DoALFCI), Agricultural Sector Development Support Programme II (ASDSP II), Agriculture and Food Authority- Horticulture Crops Directorate (AFA-HCD); Kenya Agricultural and Livestock Research Organization (KALRO), Department of Water, Environment, Natural Resources, Energy and Climate Change, Office of the County Attorney; Kisii University, Boka Eats, Kisii County Banana Production and Marketing Cooperative Society for their consistent engagement from initial brainstorming workshops, technical reviews and final scrutiny of the strategy document.

I wish to thank the CECM for Agriculture for his invaluable leadership and guidance in the preparation of this strategy. We are grateful to all who contributed in one way or another in the development of this strategy document.

Agnes Choti
County Chief Officer
ALFCDI

MESSAGE FROM THE COUNTY DIRECTOR FOR AGRICULTURE

The Crops Directorate recognizes that banana cultivation is the most widely practiced agricultural enterprise among farmers in Kisii County. By enhancing productivity across the banana value chain, we aim not only to increase incomes for all value chain actors but also to create more job opportunities. Our focus will be on promoting Good Agricultural Practices (GAP), improving product quality and safety, identifying niche markets, and expanding into the export market. We are committed to collaborating with all stakeholders, including academic institutions, researchers, innovators, ICT practitioners, and traders, to realize our vision of becoming the leading county in banana productivity.

Building on the resolutions from stakeholder meetings and the Kisii Banana Platform, the Directorate will intensify interventions and initiatives to foster the growth of the banana enterprise. We pledge to engage all relevant stakeholders and create an enabling environment for the value chain to thrive.

We must unite in our efforts to support all value chain actors in Kisii County, ensuring the creation of decent jobs and profitable incomes. It is essential to adhere to Good Agricultural Practices and prioritize product safety to access and maintain niche markets effectively.

The prospects for banana production in our county are promising. We anticipate an increase in ventures focused on value-added products derived from bananas, which will significantly enhance food and economic security. Together, we can transform the banana sector into a pillar of prosperity for Kisii County.

In conclusion, the Kisii Banana Commercialization Strategy represents a pivotal step toward harnessing the full potential of our banana sector. By prioritizing productivity, quality, and sustainable practices, we can elevate the livelihoods of our farmers and create a thriving agricultural economy.

I urge all stakeholders to embrace this strategy, collaborate actively, and commit to our shared goals. Together, we can transform Kisii County into a leader in banana production, ensuring prosperity for our communities and a brighter future and prosperity for all.

Thank you for your continued support and dedication to advancing agriculture in Kisii County.

Nathan Ombati Soire
County Director for Agriculture (Crops)
Kisii County

MESSAGE FROM THE COUNTY FOCAL PERSON, KISII COUNTY

On behalf of Kisii County, I would like to extend our sincere gratitude to MESPT's Green Employment in Agriculture Project for their invaluable support in the development of the Kisii County Banana Commercialization Strategy for 2025 - 2030.

Kisii County faces several pressing challenges, including increasing competition for limited land, declining soil fertility, and the impact of erratic climate conditions characterized by rising temperatures, unreliable rainfall, and the emergence of new pests and diseases. We are also acutely aware of the need to address both biotic and abiotic challenges through technically sound and financially viable solutions.

It is crucial that all members of our society—men, women, and youth—actively participate in shaping the future of our agricultural landscape. The banana value chain, in particular, presents complex dynamics that require the collaboration of a diverse range of stakeholders. This strategy recognizes the importance of involving key actors in the sector to harness collective efforts and energy toward achieving long-term success.

Moreover, we are aware of the evolving consumer preferences, which call for innovative products that can meet these changing demands. With this in mind, the Kisii Banana Commercialization Strategy has been meticulously crafted, incorporating the expertise of technical and socio-economic experts, and it has been tested through a robust public participation process.

As we move forward, it is imperative that research institutions collaborate to conduct multidisciplinary research, especially on gender issues in banana production and sales. This will ensure inclusive development within the sector. Additionally, research into the application of modern technologies—such as digital innovations, novel irrigation methods, and technologies to extend the shelf life of bananas—is essential to drive efficiency and sustainability in production and post-harvest handling.

We also encourage the involvement of consumer scientists to explore innovative product development, such as banana noodles, to meet the growing demand for value-added products. Furthermore, exploring effective marketing strategies will be vital to boost local banana consumption and create a stronger market presence for Kisii bananas both locally and nationally.

We are now ready to roll out this strategy with confidence, as we believe the objectives set forth will significantly contribute to the sustainable growth and development of the banana industry in Kisii County.

Together, we can realize the full potential of this important agricultural sector and create lasting positive impacts for our communities.

Winston Motanya
MESPT County Focal Person - Kisii County

EXECUTIVE SUMMARY

Banana (*Musa sp*) is the eighth most important food crop in the world, and the fourth most important crop in developing countries and ranks as the first fruit food crop in Kenya. Banana accounts for 32 % of the total value of fruits and therefore ranks first among horticultural crops in Kenya. Banana serves as a major source of food, livestock feed and cash income in most parts of the country. More than 200,000 smallholder farmers plant banana and earn a net value of Kenya Shillings one billion annually. Banana farming is ranked 11th nationally and contributes significantly to food security and income generation. Household consumption accounts for about 24% of total production.

Banana is a tropical crop that grows best under warm and wet climate throughout the year. The crop grows optimally from sea level to an altitude of 1800m, but can grow as high as 2100m above sea level. The optimum temperature for growth and development is 27°C to 30°C.
Banana is a very nutritious food and some of its nutritional properties include high sources of vitamin C, B6, a high content of carbohydrates and fibre, and are low in protein levels and fat-free. They are also rich in minerals, especially potassium. It is the most affordable fruit in both rural and urban households and is used both for cooking, eaten whole and dessert. In 2021, Kisii county accounted for 111,767 metric tons of bananas worth Kshs. 1,020,600,000 from 5232 Ha (AFA Annual Report, 2022)

The County has a favourable policy framework and stakeholder goodwill that supports the development of banana value chain. There are several development partners supporting banana mother blocks, Tissue culture laboratories, hardening nursery establishment, technical training, sourcing and distributing of improved banana varieties across the county. This necessitates the need to develop a County Banana promotion strategy geared towards tapping the local and export market through improved productivity and commercialization.

The vision of the strategy is "*To be a commercially oriented and globally competitive banana industry County*". Whereas the mission is "*To transform the banana sub-sector through improved productivity, enhanced value addition and marketing for increased household income, food and nutrition security, job creation and environmental resilience"*

The specific objectives are to increase production and productivity; improve quality of produce; enhance knowledge and skills; strengthen market and market systems; enhance relevant infrastructure; enhance mitigation and adaptation on the effects of climate change, enhance access to finances, reduce cost of inputs and enhance adherence to legal and regulatory framework. The objectives will address key strategic issues identified in this strategy which include Low production and productivity, low quality produce, inadequate knowledge and skills, weak Market and marketing system, lack of required infrastructure and effects of climate change.

The implementation matrix provides specific interventions, activities, outputs, targets, responsible entities and budget estimates which will inform an inbuilt framework for monitoring and evaluating performance and progress during implementation of the strategy. A set of stakeholders and actors have been mapped and their roles indicated for effective implementation of the strategy.

Progress reports during implementation of the strategy will be submitted to the County Agricultural Sector Steering Committee (CASSCOM) through the Kisii County Banana platform for action by partners and stakeholders. The strategy will be reviewed as need arises taking into consideration the emerging issues and policy changes.

ABBREVIATIONS

AFA	Agriculture and Food Authority
AfDB	Africa Development Bank
AgGCP	Agriculture Gross County Product
AgGDP	Agriculture Gross Domestic Product
ARR	Annual Review Report
ASDS	Agricultural Sector Development Strategy
ASDSP II	Agricultural Sector Development Support Programme – Phase II
ASTGS	Agricultural Sector Transformation and Growth Strategy
CASSCOM	County Agricultural Sector Steering Committee
CBOs	Community Based Organizations
CCAFS	Climate Change, Agriculture and Food Security Programme of CGIAR
CDA	County Director of Agriculture
CECM	County Executive Committee Member
CIDP	County Integrated Development Plans
CO	Chief Officer
COG	Council of Governors
CSA	Climate Smart Agriculture
DANIDA	Danish International Development Agency
RoK	Republic of Kenya
EACCCP	East African Community Climate Change Policy
EMCA	Environmental Management and Coordination Act
FAO	Food and Agriculture Organization of the United Nations
GCP	Gross County Product
GDP	Gross Domestic Product
GoK	Government of Kenya
ICRAF	International Centre for Research in Agroforestry
ICT	Information, Communication Technology.
IFAD	International Fund for Agriculture Development
IGF	Inter-Governmental Forum

IGR	Inter-Governmental Relations Summit
IGSC	Inter-Governmental Steering Committee
ISFM	Integrated Soil Fertility Management
ITK	Indigenous Technical Knowledge
ITWG	Inter-Governmental Technical Working Group
JAS	Joint Agricultural Secretariat
KALRO	Kenya Agricultural and Livestock Research Organization
KAMIS	Kenya agricultural marketing systems (KAMIS)
KCBCS	Kisii County Banana Commercialization Strategy
KCIC	Kenya Climate Innovation Centre
KCG	Kisii County Government
KEPHIS	Kenya Plant Health Inspectorate Service
KIRDI	Kenya Industrial Research and Development Institute
KMD	Kenya Meteorological Department
KNBS	Kenya National Bureau of Statistics
M&E	Monitoring and Evaluation
MALF	Ministry of Agriculture, Livestock and Fisheries
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
PESTLE	Political, Economic, Social, Technology, Legal and Environmental Analysis
PPP	Public Private Partnership
SIDA	Swedish International Development Cooperation Agency
SLM	Sustainable Land Management
SWOT	Strengths, Weaknesses, Opportunities and threats
TC	Tissue Culture
VMPs	Vulnerable and marginalized Producers
VMGs	Vulnerable and marginalized groups
WRA	Water Resources Authority
WY&VG	Women, Youth and Vulnerable Groups

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

1.1 Background Information

In 2023, fruits accounted for 52% of the total horticultural crop value in Kenya. Murang'a County led fruit production, contributing 17% of the total fruit value, followed by Lamu at 10% and Meru at 9%. Other notable producers included Makueni, Kisii, Taita Taveta, Kirinyaga, and Kiambu, all of which reported substantial areas and quantities of fruit production.

In 2022-2023, the area dedicated to fruit cultivation increased by 3.6%, rising from 225,525 hectares in 2022 to 233,695 hectares in 2023. Fruit volumes saw a slight increase of 0.6%, while the total value surged by 29%, growing from Ksh 86.3 billion in 2022 to Ksh 111.7 billion in 2023. The leading fruits by value were bananas (34%), avocados (23%), mangoes (16%), oranges (5.8%), and watermelons (5%), with pawpaws, pineapples, and limes also being significant contributors.

1.2 Banana (Musa sp)

Bananas are a staple food and an important income source for many local communities in Kenya. In 2023, bananas were the top fruit crop in terms of both quantity and value, contributing 32% to the total fruit value. The area under banana cultivation grew from 71,800 hectares in 2022 to 75,184 hectares, reflecting a 4.7% increase. However, total production decreased to 1.9 million tons, valued at Ksh 35 billion, compared to 2.1 million tons valued at Ksh 27.5 billion in the previous year—an 8.3% decrease in quantity but a 30.9% increase in value (HCD, 2023).

Meru (20%) and Murang'a (17.1%) were the leading counties in banana value. Kisii County, despite having a relatively large cultivation area of 7,426 hectares, reported lower production levels. This discrepancy in value among counties with smaller cultivation areas can be attributed to variations in farm gate prices and the differing maturity stages of the banana crop (HCD, 2023).Taita Taveta county has recorded an increase in income and is poised to become a top producer in the future. This has been attributed to the collaboration of the county government with the Micro Enterprise Support Programme Trust (MESPT), is currently supporting over 500 smallholder banana farmers to produce more than 700 tons of organic bananas for export to Denmark. Household consumption accounts for about 24% of total production.

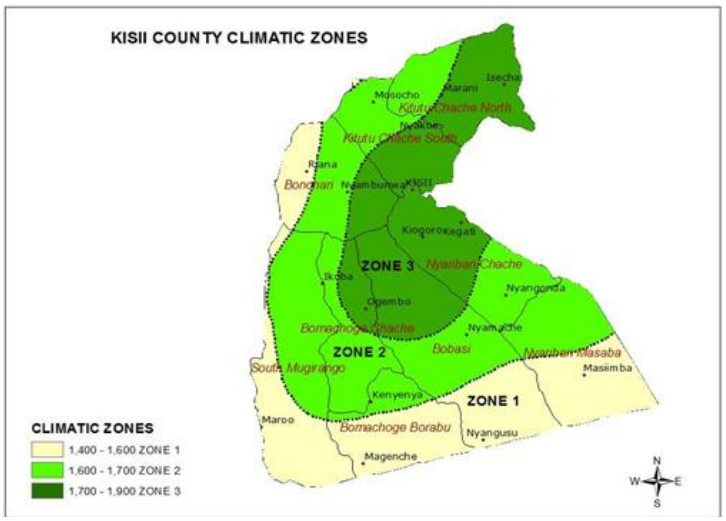

Figure 1: Kisii County Climatic Zones

Bananas grow well in tropical or near tropical regions, between latitudes 30°N and 30°S at an optimal temperature of 26.67°C with mean annual rainfall of 1200 mm. Suitable banana production areas in Kisii is shown on (Figure 1). The main varieties grown by small-scale farmers include: dessert banana cultivars (Grand Nain, Gross Mitchel, Williams's hybrid, Valery, Chinese Cavendish, Giant Cavendish, Geradine Tucker (GT) Dwarf Cavendish and Apple), and cooking cultivars; Nusu Ngombe, *Ng'ombe, Engonche,* Kisii green (Uganda green) and

multipurpose cultivars such as *Muraru*, Fiah 17 and Gold finger.

During stakeholder forum in 2022, banana ranked the second most important food crop in Kisii County. For more than ten years banana has served as both a food and cash crop in the County.

1.3 Geographical Location and administrative units

Kisii County lies between latitude 0˚30' and 1˚0' South and longitude 34˚38' and 35˚0' East. The county covers a total area of 1,332.7 square km. Its total population was 1,266,860 persons in 2019 (KNBS census, 2019). It has nine sub counties and forty-five wards. It receives adequate rainfall, coupled with moderate temperature and is suitable for growing of crops like tea, coffee, maize, beans, finger millet, potatoes, bananas and groundnuts.

Table 1: Banana Production Statistics in Kisii County 2012-2021

YEAR	AREA (HA)	Volume (MT)	Value (Ksh) Million
2012	3,856	85,700	1,238,000
2013	3,795	85,022	1,151,000
2014	3,962	85,780	1,231,000
2015	3,088	60,975	897,400
2016	3,919	77,415	1,337,769,300
2017	4,193	67,986	1,316,460,000
2018	3,791	64,158	821,181,326
2019	8,342	178,132	2,133,761,493
2020	6,019	119,662	1,565,162,500
2021	5,332	111,767	1,206,005,400

(Source: AFA 2021 Annual Report)

Banana subsector has emerged as one of the promising enterprises with potential to contribute towards food and nutrition security, income generation, poverty reduction and improved livelihood of Kenyans as stipulated in Vision 2030. Despite this potential the banana sub-sector has not received adequate attention with regard to policy strategy and institutional support. Consequently, there has been little growth in the subsector. Area and production are declining while value has stagnated for more than ten years (2012-2021) as shown in Table 1.

Figure 2: Boka Eats CEO (L), Investor running Kisii Banana Factory receives banana bunches from a farmer for processing

Despite its great potential in contributing to food, economic and nutritional security, small holder farmers have not realized the benefits of bananas. For instance, under research the potential banana yields range between 30-40 tons/ha, however smallholder farmers realize less than 10 tons/ha. This is attributed to several constraints namely: Inadequate clean planting materials, low and declining soil fertility, limited use of recommended production inputs, high incidence of pests

and diseases and limited information on suitable management practices. Changing climatic conditions, especially erratic rainfall patterns and increasing temperatures also pose great threats to the banana value chain. Higher temperatures increase water demand for banana production by 12-15% which creates a challenge to small scale farmers in Kisii county who mainly depend on rain fed farming.

Bananas in Kisii are easily prone to pests and diseases including nematodes and weevils, fungal diseases like Sigatoka and *Fusarium* Wilt, bacterial diseases such as the Bacterial *Xanthomonas* Wilt (BXW) and viruses such as banana streak and banana bunchy top disease. Increased temperatures will accelerate the incidence and severity of some of these diseases including introduction to areas where the disease is not common. This is the case with Black Sigatoka disease whose lifecycle is determined by weather and microclimate.

Advancing agriculture and economic growth in Kisii will be realized if farmers adopt agricultural biotechnology technologies that give advantage to farmers by providing disease free planting materials, early maturing varieties, better yielding and safe for human consumption such as those selected and developed through tissue culture. The industry therefore requires urgent attention both nationally and in Kisii County in terms of resources and long term planning for it to play its rightful role in the economy.

Traditional sources of planting material (suckers) cannot meet the threshold for clean banana planting material. This is due to: diseases, pests, limited suckers per stool, high transportation costs and other environmental pressures. Emerging technologies such as TC offers enormous opportunities to poor farmers and low-income consumers in developing countries. This technology is where plants are generated from roots, leaves or stems in sterilized conditions. The technology has been used to produce banana materials in large quantities which are uniform genetically, free from disease and high yielding. It will yield about 2,000 healthy plantlets from a single shoot as compared to ten suckers from a single banana plant. Tissue culture banana produces healthy fruits within 340 days as compared to 420 days for conventional bananas in Kenya.

Studies in Central, Western, Eastern and Southwestern Kenya have demonstrated that TC bananas are high yielding and produce better quality bunches than those produced through the conventional suckers. Currently availability of quality tissue culture planting material in western Kenya is limited. Tissue Culture has the potential of increasing supply of quality and required number of planting material in Kisii County. Climate change patterns, especially erratic rainfall and increased temperatures also contributes to the unattained potential of banana production. The TC banana varieties to be promoted in the county will have drought tolerant traits in addition to disease tolerance. Precision farming will be practiced with the goal of optimizing returns on inputs while preserving the limited resources. This will improve food security by facilitating and enhancing productivity and incomes of the rural households in the county, with focus on vulnerable groups especially women and youth.

CHAPTER 2: SITUATIONAL ANALYSIS

2.1 SWOT Analysis

Strengths:

- Kisii County is known for its high-quality bananas, which have a strong market demand, especially the cooking indigenous (Uganda green/Kisii green)
- Favourable rich soils suitable for banana production: they are well draining friable soils.
- Favorable climate for banana production
- Indigenous knowledge in banana production. There is a strong local knowledge base for banana production, including traditional farming practices and indigenous knowledge.
- Support and collaboration among different stakeholders, including government agencies, NGOs, research institutions, and private sector actors. The county government has prioritized agricultural development and has established several programs and initiatives to support banana farmers.
- There are functional cooperatives which are important for organized marketing
- Trainings done on planting, compost making, record keeping, postharvest, market linkages
- A few established Infrastructure, e.g. access roads few market centres, banana processing factory, cold storage in SHOMAP horticultural markets, TC nurseries
- Presence of Kisii County banana platform.

Weaknesses:

- Lack of Financial credit: There is low credit availability for banana enterprise. Analyzing the availability and accessibility of financial services, such as credit, insurance, and savings, for banana farmers.
- Decline in soil fertility due to Soil erosion (due to topography) and nutrient mining
- Low local consumption of bananas and banana products
- limited access to information and extension services,
- Poor post-harvest handling and marketing: eg. immature banana harvesting
- Inadequate access to clean planting material
- Inadequate soil nutrient testing and specific fertilizer for banana production needed.
- High cost of inputs
- Unstructured markets and organization.
- Poor adoption of good agricultural practices
- Limited access to market information. There is exploitation by brokers.
- Social cultural dynamics affecting access, ownership and control of banana value chain resources
- Low Technology and innovations adoption: The level of technology adoption in banana farming, such as the use of irrigation, mechanization, and Good Management Practices (GMP).
- Transportation and logistics: Evaluating the transportation infrastructure, storage facilities, pack houses and other logistical factors that may impact the success of your banana production. KS 1758 PART 2: Transportation of fruits
- Low production volumes e.g. due to land fragmentation etc
- Poor attitude to farming, especially among youths

Opportunities:

- There is potential to increase productivity to the set target of 60T/Ha.
- Existence of a banana factory: processes banana into flour, wine, juice, crisps, cookies
- Existence of markets in close proximity to the county
- Existence of banana aggregation centres
- Value addition opportunities e.g. banana fiber, canvas, hats, braids, animal feeds, medicinal ingredient.
- There are established nurseries for clean planting materials
- There is a growing market demand for high-quality bananas, both domestically and internationally.
- There are experienced farmers, extension officers, agro-processors, research institutions willing to partner in the banana value chain
- Improvement in post-harvest handling and marketing through investment in storage and transportation infrastructure and training on effective marketing strategies.
- There exists marketing strategies such as; digital platforms, Kenya Agricultural Marketing Systems (KAMIS)
- Technology adoption, such as bagging technology against hailstones
- Investment in transportation handling of bananas: specialized vehicles/crates
- Use of niche markets enhanced by contract farming

Threats:

- Land use change, fragmentation and Land competition by other crop enterprises. Many banana farmers in Kisii County have small, fragmented plots of land, which can limit economies of scale and make it difficult to invest in their farms.
- Pest and disease outbreaks: The spread of Panama wilt disease poses a significant threat to the county's banana production, especially the sweet banana (apple variety) which could result in significant crop losses and reduced income for farmers. Examining the history of pest and disease outbreaks in the banana farming sector and the measures taken to prevent, control, and manage them.
- Increased Competition: Increased competition from other banana-producing regions could reduce market prices and profitability for Kisii County banana farmers.
- Climate change and weather variability pose significant threats to banana production, including drought, floods, and extreme weather events.
- Insecurity: Theft of produce
- Changes in government policies and priorities could result in reduced support for agricultural development in the county.

By considering these strengths, weaknesses, opportunities, and threats, stakeholders involved in banana value chain in Kisii County, can develop more effective strategies to support sustainable and resilient banana commercialization.

CHAPTER 3: STRATEGIC MODEL

This chapter outlines the Vision, Mission, Goal, Strategic objectives, Strategic Issues and Interventions that will enhance the development of the Banana Value Chain commercialization strategy in Kisii County.

Vision - To be a commercially vibrant and globally competitive banana industry leader, recognized for driving sustainable economic growth through innovative practices, green technologies, and inclusive development.

Mission - To revolutionize the banana sector by enhancing productivity, value addition, and marketing strategies, thereby increasing household income, ensuring food and nutrition security, creating decent jobs, and fostering environmental resilience through green technologies.

3.1 Strategic Objectives

1. Enhance Production and Value Chain Efficiency - Improve the production, processing, and marketing of bananas and their derivatives, utilizing advanced green technologies to boost productivity and environmental sustainability.
2. Foster Collaborative Research and Stakeholder Engagement - Facilitate robust interactive research and collaboration among all value chain actors, including farmers, researchers, and industry stakeholders, to drive innovation and enhance industry efficiency.
3. Promote Inclusivity and Empowerment - Create and sustain decent job opportunities within the banana industry while actively involving youth and women in all facets of the sector, ensuring equitable access to resources, training, and empowerment.
4. Advance Value Addition and Market Access - Enhance value addition and product development to improve market access and competitiveness, ensuring that innovations meet consumer demands and drive economic growth.
5. Mobilize Resources for Industry Development - Consolidate and strategically deploy resources necessary for the advancement and expansion of the banana industry, ensuring efficient use of financial, human, and technological assets.
6. Support Legal and Regulatory Frameworks - Advocate for the establishment and implementation of a conducive legal and regulatory environment that supports industry growth, fosters innovation, and ensures sustainability.

3.2 Justification for the Strategy

Kenya's Vision 2030 outlines the ambition to become a ‘globally competitive and prosperous economy with a high quality of life’. To achieve this, the long-term development policy targets an annual economic growth rate of 10% over the next six years, with agriculture identified as a key economic pillar to support this growth. In alignment with Vision 2030, the Agricultural Sector Ministries have developed the Agricultural Sector Transformation and Growth Strategy (ASTGS).

The Vision of the Banana Commercialization Strategy is to establish a ‘commercially oriented and globally competitive banana industry’. Its Mission is to ‘transform the banana sub-sector through enhanced productivity, value addition, and marketing, thereby increasing household income, ensuring food and nutrition security, creating decent jobs, and fostering environmental resilience.’

This strategy focuses on commercializing banana production in Kisii County, in line with the County Integrated Development Plan (CIDP) for 2023-2027. The banana sector has been identified by the

Department of Agriculture as a high-potential value chain that can contribute significantly to both food security and income generation, thus supporting the 10% economic growth target set by Vision 2030. Bananas are a vital food crop and a major income source for many small-scale farmers. In 2008, the banana sector contributed KES 23.8 billion to Kenya's economy, accounting for approximately 50% of the total fruit sector contribution.

Given the substantial economic impact of bananas and their potential for creating employment opportunities throughout the value chain, it is essential to prioritize this sector with appropriate resources and long-term planning. Current promotional efforts by stakeholders are fragmented and uncoordinated, resulting in duplication of activities and hindering industry growth.

As the banana sub-sector lacks a comprehensive development strategy, this document is prepared to provide clear guidance and direction for the industry's development, ensuring that efforts are streamlined and effectively contribute to the sector's growth.

3.3 Strategic Issues

This strategy identifies nine critical strategic issues impacting the development of the banana value chain in Kisii County. An in-depth situational analysis has been conducted, and corresponding objectives have been formulated to address these challenges.

The nine strategic issues are:

1. Low banana fruit production and productivity (particularly of Kisii Green Banana)
2. High post-harvest losses
3. Inadequate knowledge and skills
4. Weak market and marketing systems
5. Insufficient infrastructure
6. Effects of climate change, gender, and cross-cutting issues
7. Weak legal and regulatory framework
8. Limited access to financial services
9. High cost of inputs
10. Insufficient value addition

3.1.1 Strategic Issue 1: Low Banana Fruit Production and Productivity

The current banana production per unit area in Kisii County is low. To meet both local and international market demand, it is essential to increase both the area under cultivation and the yield.

Strategic objective - To increase banana production and productivity in Kisii County from 20 tons per hectare to 40 tons per hectare by the year 2030.

Strategic interventions - In collaboration with stakeholders, the County Government will support:

i. The adoption of high-yielding banana varieties, including the local Kisii Green Banana.
ii. The establishment of nurseries and mother blocks to improve access to high-quality planting materials.
iii. Capacity building for value chain participants on best agricultural practices.
iv. The promotion of climate-smart innovations and green transformation technologies.
v. Enhanced access to affordable banana farm inputs.
vi. The implementation of efficient water use technologies.

vii. The use of banana-specific blended fertilizers.

3.1.2 Strategic Issue 2: High post-harvest losses

Low adoption of good agricultural practices in Banana production lead to low quality of the produce.

Strategic objective - To reduce post-harvest losses from 50% to 30% by the year 2030
The strategic interventions of the strategy include:

i. Promotion of high-quality varieties
ii. Promotion of precooling facilities
iii. Use of crates and specialized vehicles during transportation
iv. Promoting food safety in Banana value chain
v. Support harvesting of mature Banana fruits through use of technologies
vi. Control of pests and diseases

3.1.3 Strategic Issue 3: Inadequate Knowledge and Skills

There is limited knowledge and skills on commercial Banana production and marketing.

Strategic objective - To enhance knowledge and skills among the 10,000 Banana value chain actors by the year 2030.

The strategic interventions of the strategy include:

i. Capacity building of value chain actors on Banana production and marketing through meetings, field days, demonstrations, shows and trade fairs and exchange visits etc
ii. Training of 100 extension service providers as Trainer of Trainees (TOT) on Banana value chain using the ATVET model
iii. Establish a central information sharing platform at County level
iv. Establish 46 centres of excellence for sharing skills, knowledge, technologies and innovations for ease of Banana adoption

3.1.4 Strategic Issue 4: Weak Market and Marketing System

The county has a weak network of Banana value chain actors which has led to poor coordination, market information asymmetry, and inadequate linkages. This has led to limited accessibility to markets resulting to low business development and low incomes.

Strategic objective - To strengthen five market and marketing systems

The strategic interventions of the strategy include:

i. Establish/strengthen nine marketing organizations for aggregation, quality assurance and access to markets
ii. Identification of potential local and international markets
iii. Establishment of 10 market linkages among the 10,000 value chain actors
iv. Promote adherence to market requirements and standards
v. Development of 10 marketing instruments for market access and price stability
vi. Development and promotion of produce and products
vii. Development of 10 market information sharing platforms

viii. Support three effective traceability mechanisms

3.1.5 Strategic Issue 5: Inadequate infrastructure

Kisii County lacks the required infrastructure for Banana production and handling. These facilities include harvesting shades, aggregation centres, pack houses and cold chain facilities.

Strategic objective - To support the establishment and maintenance of appropriate infrastructure for Banana value chain commercialization

The strategic interventions of the strategy include

i. Promote irrigation, rainwater harvesting technologies and other opportunities.
ii. Support establishment of post-harvest handling facilities (harvesting shades, aggregation centres, pack houses and cold chain facilities)
iii. Promote value addition and agro-processing facilities
iv. Promote investment in Banana value chain

3.1.6 Strategic Issue 6: Effects of climate change, gender and cross-cutting issues

The climatic conditions in Kisii County have changed and exhibit erratic circumstances away from the normal and predictable experience.

Strategic objective - To enhance mitigation of the effects of climate change and mainstream gender and other cross cutting issues.

The strategic interventions of the strategy include:

i. Promotion of soil and water conservation technologies
ii. Promotion of organic agriculture
iii. Promotion of Integrated Pest Management (IPM)
iv. Promotion and adoption of renewable energy sources
v. Promotion, establishment and restoration of nature to absorb carbon
vi. Promotion and use of biodegradable materials in packaging
vii. Mainstream gender and other crosscutting issues in the banana value chain

3.1.7 Strategic issue7: Weak legal and regulatory framework

The legal and regulatory provisions with a bearing on the banana sub-sector are found in different sectoral laws and policies. The existing legal provisions with a bearing on the sector are: - the Agriculture Act Cap 318, Agriculture and Produce (export) Act Cap 319, Agriculture and Produce (export) Act Cap 319, Protection Act Cap 324/325, Seeds and Plant Varieties Act, Cap 326, EMCA (1999), the Standards Act and the Local Government Act, Cap 265).

Strategic objective - To create an enabling legal and regulatory environment for sustainable growth of the banana industry

The strategic interventions of the strategy include:

i. Anchor the banana strategy into the National Horticulture Policy and Kisii County Agribusiness Policy.

ii. Support the code of practice for the banana industry.

iii. Support product standards.

3.1.8 Strategic Issue 8: Inadequate access to Financial Services

With inadequate access to credit, Banana value chain players are hard-pressed to finance capital investment and trade financing. Marketing of Banana products is also a high-risk venture that requires insurance services, which are hardly accessible.

Strategic objective – To enhance access to financial services

The strategic interventions of the strategy include:

i. Support the FSPs to develop innovative financing models that are appropriate to support banana value chain.

ii. Support the creation of an enabling environment for FSPs and ISPs to participate in the development of the banana value chain

iii. Support the insurance service providers in the development of insurance products that are appropriate to support banana marketing such as risk-bearing financing

iv. The County Government of Kisii and Stakeholders to support sensitization on financial literacy

3.1.9 Strategic issue 9: High costs of inputs

Currently the cost of fertilizers, agrochemicals, irrigation infrastructure and clean planting material is high. It imposes prohibitive costs of production.

Strategic objective - To increase availability and access of farm inputs.

The strategic interventions of the strategy include:

i. Introducing subsidies to vulnerable groups
ii. Promote appropriate technologies, innovations and best practices
iii. Encourage collective and bulk acquisition of inputs

3.1.10 Strategic Issue 10: Inadequate Value Addition

Banana production in Kisii is predominantly low input: low output with most bananas sold green. There is very little value addition.

Strategic objective - Increase the value of the marketed bananas.

The strategic interventions of the strategy include:

i. Train producers need for production of higher value raw bananas
ii. Support the setting up of Banana value additional initiatives
iii. Support contract marketing and quality standards for banana value added products
iv. Promote product diversification and market participation.

CHAPTER 4: IMPLEMENTATION PLAN

4.1 Institutional framework and stakeholders Analysis

The successful implementation of this strategy will depend on the partnership between the County Government of Kisii and particularly the Department of Agriculture, Livestock, Fisheries, Cooperatives and Irrigation with the various stakeholders. These partners include, other County Government departments, the national government and its institutions, other county governments, bilateral and multilateral institutions, non-state actors like International and local NGOs, and Private Sector.

Table 4. 1: Stakeholder analysis

Category	**Stakeholders**	**Roles**
National Government	National Government Agencies	Regulations, Laws, Policy and Strategy, Funding, Personnel and infrastructure, Incubation, licensing, technology development and law enforcement.
Council of Governors	CoG institutions	Consultations among the county governments and National governments, Sharing of information on the performance of counties in the execution of the functions including implementation of this strategy
Other County Governments	Other Counties	Inter county trade and capacity development
County Government of Kisii	Agriculture, Livestock, Fisheries, Cooperatives and Irrigation	Coordination, Implementation of the strategy, Extension services, Capacity building, reporting and review.
	Trade, Tourism and Industry and Marketing	Implementation of the strategy, Capacity building, market information and infrastructure.
	Roads and Public Works	Construction and maintenance of access roads and other infrastructural facilities
	County Assembly of Kisii	Approval of county plans, budgets and oversight roles
	Finance and Economic Planning.	Planning and budgeting
	Education, Technical Training, Innovation and Social sciences	Implementation of the curriculum Training and quality assurance.
	Information, Communication Technology (ICT)	Innovation and Technological Support

	Public service management and administration	Mobilization, sensitization and enforcement
	Gender, Culture, Youth and Sports	Implementation of the strategy (Cross cutting issues) and Capacity building of the youth.
	Health and sanitation	Promoting water and sanitation hygiene
Regional Economic Blocks	The Lake Region Economic Block,	Coordinating and facilitating service delivery and development on behalf of stakeholders (Promotion of trade, investment and development)
Regulatory Bodies	NEMA, WRA, KEBS, KEPHIS, PCPB, AFA,	Regulatory functions (Environmental, water use standardization, Sanitary and phytosanitary regulations, traceability and food safety, registration and regulation of agrochemicals
Development Partners	DANIDA, MESPT, GIZ, USAID, FAO, RTI, GFA, UNIDO, KCIC, EU, BIOVISION AFRICA TRUST, SIDA, WB, IFAD.	Capacity building, support implementation and financial support
Non-State Actors	KENAFF, Producer Organizations, Civil Societies,	Capacity building, support implementation, Financial support and advocacy.
Private Sector/ Value Chain Actors	Input dealers (Agro dealers. Agrochemical and Mechanization companies,)	Provision of inputs and capacity building
	Buyers (Exporters, Marketing agents, agro processors and local traders	Markets, Distribution and processing of produce.
	Transporters and Service Providers.	Transport services
	Producer and marketing Organisation, (Cooperatives, Common Interest Groups, producers,)	Market access, training, advocacy, Market linkages, mobilization, produce aggregation, lobbying, capacity building, and financial mobilization
Horticulture Industry Associations	Fresh produce Exporters Association of Kenya (FPEAK), Banana Society of Kenya Agrochemical Association of Kenya (AAK), Agro-dealers Association	Lobbying, offering technical services and representing members' interests in stakeholders' meetings. Promote safe and effective use of pesticide chemicals.
Finance Institutions	Banks & Microfinance Institutions.	Provision of Credit facilities Finances, Training.
Research, Training and Education Institutions.	KALRO, Universities, ATC, KIE, ATDC, KIRDI, TVETs, ICIPE,	Research, Training and Development

4.1 County Coordinating Unit

The Department of Agriculture will work with the Kisii County Banana Platform to monitor the progress and implementation of the strategy. Furthermore, regulations will be developed on the utilization of resources.

CHAPTER 5: MONITORING, EVALUATION, LEARNING, REPORTING AND REVIEW

This chapter outlines monitoring, evaluation, review and reporting of the planned activities and interventions with an incorporation of learning and sustainability measures.

5.1 Monitoring, Evaluation, Accountability and Learning (MEAL)

A systematic and robust monitoring and evaluation (M&E) will be pegged on coherent projects and Programmes design for the implementation of the strategy. The implementation design will have sound internal logic articulating what changes the strategy intends to achieve and how it expects to do so. The MEAL will be an integral component of this strategy. The strategy logic will be synthesized into a results framework and an associated set of indicators for tracking progress using Results-Based Management (RBM) approach. Section 47 (1) of the County Government Act 2012 requires counties to develop a performance management plan to evaluate the performance of the County Public Service in the implementation of county policies and strategies. Therefore, MEAL shall provide specific, measurable, time bound performance indicators and citizen participation. The M&E process will be undertaken by the department of Agriculture, Livestock, Fisheries, Co-operatives and Irrigation in unification with the county coordinating unit.

5.2 Reporting

The nature and scope of reporting will include Progress made against Plan, Deviations and the causes of deviations from the plan if any, Challenges and proposes solutions to issues that adversely affect the implementation, Corrective measures and the lessons drawn from the process of implementation. The report will be submitted to the Banana Value Chain Platform and to the County Agricultural Sector Steering Committee (CASSCOM) for action by partners and stakeholders. The control mechanism will include; Action plan and performance targets, Management reports, Budgets and the implementation Programme matrix.

5.3 Review of the Strategy

This strategy shall be reviewed as need arises taking into consideration the emerging issues and policy changes but not beyond five years from date of approval

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APPENDICES

7.1 KISII COUNTY BANANA STRATEGY IMPLEMENTATION MATRIX

Strategic issue 1 - Low Banana fruit production and productivity

Strategic objective 1 - To Increase Banana production and productivity in Kisii County from 20T/Ha to 40T/Ha by the year 2030.

Strategic interventions	**Key activities**	**Key output/target**	**Unit of Measure**	**Time frame**	**Responsible persons**	**Resources required**	**Budget (Kshs. Millions)**	**Remarks**
Promote high yielding varieties	Establish mother blocks	18	Number	By December 2026	CEC, KALRO, AFA,KEPHIS, farmers	Land, planting materials, fertilizer, Transport, DSA	4M	
	set up macro propagation units	2	Number	By December 2025	CEC, KALRO, AFA,KEPHIS, farmers	Land, planting materials, fertilizer, Transport, DSA	0.5M	
	Establish hardening nurseries	2	Number	By February 2025	CEC, KALRO, AFA,KEPHIS, MESPT farmers	Land, planting materials, fertilizer, Construction materials Transport, DSA	1M	For cooking banana mostly Carrying capacity of 15,000 seedlings each
	Capacity building of nursery entrepreneurs good nursery management practices	60	Number	By January 2026	CEC, KALRO, AFA,KEPHIS, Nursery managers	Conference facilities, transport refund for the participant	0.5M	

	Training farmers on agronomic practices	5,000	Number	Continuous	CEC, KALRO, AFA,KEPHIS, Nursery managers	CEC, KALRO, AFA,KEPHIS, Nursery managers	1M	
Promote climate smart technologies	Train farmers on soil fertility management	5, 000	Number	Continuous	CEC, KALRO, AFA,KEPHIS, Nursery managers	Conference facilities, transport refund for the participant	1M	Identify key players in all nodes in the value chain
	Train farmers on soil and water conservation	5,000	Number	Continuous	CEC, KALRO, AFA,KEPHIS, Nursery managers	CEC, KALRO, AFA,KEPHIS, Nursery managers	1.5M	
	Train farmers on agroforestry	5000	Number	Continuous	CEC, KALRO, AFA,KEPHIS, Nursery managers	CEC, KALRO, AFA,KEPHIS, Nursery managers	0.5M	
	Carry out model farm demonstrations	45	Number	Continuous	CEC, KALRO, AFA,KEPHIS, Nursery managers	CEC, KALRO, AFA,KEPHIS, Nursery managers	11.25M	Cost shared by farmers, partners and government
	Carry out field days	45	Number	Continuous	CEC, KALRO, AFA,KEPHIS, Nursery managers	Conference facilities, transport refund for the participant	4.5	

	Carry out farmer exchange tours	50	Number	Continuous	CEC, KALRO, AFA,KEPHIS, Nursery managers	Transport accommodation,	7,000,000	5 external and 45 internal Cost sharing
	Train farmers on soil sampling and testing	4,000	Number	Continuous	CEC, Cooperative, Group leaders, KALRO	Soil sampling and testing equipment, Transport	1M	Cost sharing
	Train producers on organic farming	4000	Number	Continuous	CEC, Cooperative, Group leaders, KALRO, Certification Agencies	Transport, Conference facilities	1M	Cost sharing
Control pest and disease	Train farmers on Agrochemical use, Pest and Disease management	5000	Number	Continuous	CEC, Lead farmers, PCPB	Transport, Conference facilities, demo materials	1.5M	Training to be carried out at Ward level
Use targeted farm subsidies	Identify, mobilize and recruit the vulnerable and marginalized producers(VMPs)	2,000	Number	Continuous	CEC, Stakeholders	Transport, Demo materials	3M	
	Train the VMPs	2,000	Number	Continuous	CEC, Stakeholders	Transport, Demo materials	3M	
	Distribute and document issuance of tissue culture bananas	240,000	Number	Continuous	CEC, Stakeholders	Transport, Planting materials,	48M	

	Distribute and document issuance of subsidized mineral fertilizers	2,000	Kilograms of fertilizer issued	Continuous	CEC, Stakeholders	fertilizers,	18M	
	Train lead farmers to enhance extension services	450	Number	Continuous	CEC, Stakeholders	Conference facility, Transport, DSA,	7M	
	Identify, mobilize, sensitize private actors for extension services	225	Number	Continuous	CEC, Stakeholders	Conference facility, Transport, DSA	4M	
	Hold stakeholders meetings with banana value chain Leaders	2000	Number	Quarterly	CEC, Stakeholders	Conference facility, Transport, DSA	6M	

Strategic Issue 2 - High post-harvest losses

Strategic objective 2 - To reduce post-harvest losses from 50% to 30% by the year 2030

Strategic interventions	**Key activities**	**Key output/target**	**Output indicator**	**Time frame**	**Responsible persons**	**Resources required**	**Budget**	**Remarks**
Promote value addition and Agro-Processing facilities	Train VCAs on maturity indices and harvesting techniques	5000	Number	Continuous	CEC, Stakeholders	Conference facility and transport refund	10M	
	Construct aggregation centres with cold storage facilities	3	Number	2030	CEC, Stakeholders	Construction funds	110M	To be done under PPP.
	Training VCAs on post harvest management	5000	Number	Continuous	CEC, Stakeholders	Conference facility and transport refund	4.5M	
	Train VCAs on food safety	5000	Number	Continuous	CEC, Stakeholders	Conference facility and transport refund	4.5M	
	Facilitate Training of processors on branding, packaging standards/ specifications of banana products	30	Number	Continuous	CEC, Stakeholders	Conference facility and transport refund	1M	Collaborative effort with competent authorities

Strategic Issue 3- Inadequate Knowledge and Skills

Strategic objective 3 - To enhance knowledge and skills among the 10,000 Banana value chain actors by the year 2030.

Strategic interventions	**Key activities**	**Key output/target**	**Unit of Measure**	**Time frame**	**Responsible persons**	**Resources required**	**Budget (Kshs. Millions)**	**Remarks**
Training of 100 extension service providers as Trainer of Trainees (TOT) on Banana value chain using the ATVET model	Train 100 extension service providers as Trainer of Trainees (TOT) on Banana value chain	100	Number	By December 2026	CEC, KALRO, AFA,KEPHIS, farmers	Land, planting materials, fertilizer, Transport, DSA	4M	
Capacity building of value chain actors on Banana production	Train VCAs on Good agronomic practices	5000	Number	Continuous	CEC, KALRO, AFA,KEPHIS, farmers	Land, planting materials, fertilizer, Transport, DSA	4.5M	
Establish a central information sharing platform at the County level	Hold banana Platform meetings to share information	2	Number	Quarterly	CEC, KALRO, AFA,KEPHIS, MESPT farmers	Transport, DSA	1M	
	Strengthen the banana secretariat with an MIS	2	Number	By December 2025	CEC, KALRO, AFA,KEPHIS, MESPT farmers	DSA	1M	

Strategic Issue 4 - Weak Market and marketing system

Strategic objective 4 - To strengthen five market and marketing systems.

Strategic interventions	**Key activities**	**Key output/target**	**Unit of Measure**	**Time frame**	**Responsible persons**	**Resources required**	**Budget (Kshs. Millions)**	**Remarks**
Identification of potential local and international markets	Market analysis and market niche selection	TWG	Number	continuous	CEC, TWG, KALRO, AFA,KEPHIS, MESPT farmers	conference facility and fare	0.5M	
	Stakeholder engagement on potential market avenues	5000	Number	continuous	CEC, KALRO, AFA,KEPHIS, MESPT farmers	conference facility and fare	4.5M	
Establishment of market linkages	Sensitizion and development of stakeholders on market linkage instruments (MoUs, Contract farming Agreements,	450	Number	2030	CEC, stakeholders	Conference facility and transport refund	1M	
Promote adherence to market requirements and standards	Support enforcement of market standards and requirements	5 TWG	Number	2030	CEC, TWG, stakeholders	Funds, conference facility	1.5M	
development and promotion of produce and products	Sensitize actors on Produce/product branding with	90	Number	Jun 2030	CEC, stakeholders	Funds, conference facility	1M	

	stakeholders							
	Train actors on digital marketing platforms	5000	Number	2026	CEC, stakeholders	Conference facility and transport refund	5M	
Development of effective traceability mechanism	Capacity building of stakeholders on traceability mechanisms	450	Number	2026	CEC, Stakeholders	Conference facility and transport refund	3M	
	Promotion of consumption and marketing of banana products on local markets	45	Number	2030	CEC, Stakeholders	Conference facility and transport refund	4.5M	

Strategic Issue 5 - Inadequate infrastructure

Strategic objective 5 - To support the establishment and maintenance of appropriate infrastructure for Banana value chain commercialization

Strategic interventions	**Key activities**	**Key output/target**	**Unit of Measure**	**Time frame**	**Responsible persons**	**Resources required**	**Budget (Kshs. Millions)**	**Remarks**
Promote irrigation, harvesting rainwater technologies and other opportunities.	Training actors on water harvesting technologies	5000	Number	By December 2030	CEC, KALRO, , farmers	Land, planting materials, fertilizer, Transport, DSA	4M	
Support establishment of post-harvest handling facilities (harvesting shades, aggregation centres, pack houses and cold chain facilities)	Support stakeholders to participate in PPP meetings	450	Number	By December 2030	CEC, KALRO, AFA,KEPHIS, farmers	Funds, conference facilities	5M	

Strategic Issue 6 - Effects of climate change, gender and cross cutting issues

Strategic objective 6 - To enhance mitigation of the effects of climate change and mainstream gender and other cross-cutting issues

Strategic interventions	**Key activities**	**Key output/target**	**Unit of Measure**	**Time frame**	**Responsible persons**	**Resources required**	**Budget (Kshs. Millions)**	**Remarks**
Promotion of soil and water conservation technologies	Training of actors on integrated soil and water conservation management technologies	5000	Number	By December 2030	CEC, KALRO, farmers	Land, planting materials, fertilizer, Transport, DSA	4M	
Promotion of organic agriculture	Training the actors on organic banana production	2250	Number	By December 2030	CEC, KALRO, farmers	Land, planting materials, fertilizer, Transport, DSA	0.5M	
Promotion of Integrated Pest Management (IPM)	Training actors on IPM	5000	Number	By December 2030	CEC, KALRO, AFA,KEPHIS, MESPT farmers	Land, planting materials, fertilizer, Construction materials Transport, DSA	0.5M	
Promotion and adoption of renewable energy sources	Training and demonstrations of actors on renewable	5000	Number	By January 2030	CEC, KALRO,, Nursery	Conference facilities, transport	0.5M	

	energy sources				managers	refund for the participant		
Mainstream gender and other crosscutting issues in the banana value chain	Sensitization of VCAs on gender issues; labour, access to resources, decision making power, health and safety	5000	Number	By January 2030	CEC	Conference facilities, transport refund for the participant	0.5M	
	Sensitization of VCAs on cross cutting issues; HIV/AIDS, Drug and substance abuse, etc	5000	Number	By January 2030	CEC	Conference facilities, transport refund for the participant	0.5M	

Strategic issue 7 - Weak legal and regulatory framework

Strategic objective 7 - To create an enabling legal and regulatory environment for sustainable growth of the banana industry

Strategic interventions	**Key activities**	**Key output/target**	**Unit of Measure**	**Time frame**	**Responsible persons**	**Resources required**	**Budget (Kshs. Millions)**	**Remarks**
Anchor the banana strategy into the National Horticulture Policy	Sensitization of Actors on the policy and strategy	5000	Number	By December 2030	CEC, Stakeholders	Funds, Transport,	2 M	
	Mobilize and sensitize stakeholders on relevant policies, strategies and regulation	2250	Number	2024	CEC	Conference facility and transport refund	0.5M	
	Review the banana strategy	TWG	Number	2030	CEC	Conference facility and transport refund	0.5M	

Strategic Issue 8 - Inadequate access to Financial Services

Strategic objective 8 - Enhance access to financial services

Strategic interventions	**Key activities**	**Key output/target**	**Unit of Measure**	**Time frame**	**Responsible persons**	**Resources required**	**Budget (Kshs. Millions)**	**Remarks**
Financial service providers to develop innovative financing models that are appropriate to support banana value chain	Hold stakeholders meetings with financial service providers	2000	Number	January 2025-June 2027	CEC	Conference facility,DSA,	2M	
	Train actors on financial literacy and investment.	5000	NUMBER	Dec 2030	CEC, stakeholders	Conference facility, DSA,	1M	Cost shared
	Train farmers on business risk management	2250	Number	Dec 2030	CEC	Training materials and DSA	1M	
	Mobilize, sensitize and recruit farmers to join saccos	5000	Number	Dec 2025	CEC	Training materials and DSA	0	Achieved
	Train banana VCA on entrepreneurship and business plan development	5000	Number	Dec 2030	CEC	Training materials and DSA	1M	
	Train actors on group dynamics and governance	5000	Number	Dec 2027	CEC	Training materials and DSA	1M	

Strategic issue 9 - High costs of inputs

Strategic objective 9 - To increase availability and access of farm inputs.

Strategic interventions	**Key activities**	**Key output/target**	**Unit of Measure**	**Time frame**	**Responsible persons**	**Resources required**	**Budget (Kshs. Millions)**	**Remarks**
Introducing subsidies to vulnerable groups	Mobilize, sensitize, recruit and distribute subsidies to targeted VMGs	2000	Number	By December 2030	CEC, KALRO, AFA,KEPHIS, farmers	planting materials, Transport, Funds	20M	
Promote appropriate technologies, innovations and best practices	Training on appropriate technologies and innovations	2000	Number	By December 2030	CEC, KALRO, AFA,KIRDI, KEPHIS, MESPT farmers	Land, planting materials, fertilizer, Construction materials Transport, DSA	1M	
Encourage collective and bulk acquisition of inputs	Sensitization of value chain group leaders on collective and bulk acquisition	450	Number	By January 2030	CEC, KALRO, AFA, KEPHIS, Nursery managers	Conference facilities, transport refund for the participant	1M	

Strategic Issue 10: Inadequate Value Addition

Strategic objective 10. To Increase the value of the marketed bananas

Strategic interventions	**Key activities**	**Key output/target**	**Unit of Measure**	**Time frame**	**Responsible persons**	**Resources required**	**Budget (Kshs. Millions)**	**Remarks**
Train producers on need for production of higher value raw bananas	Training actors on high value banana varieties	5000	Number	By December 2026	CEC, KALRO, AFA, KIRDI, farmers	Funds, conference facility	2M	
Support the setting up of Banana value addition initiatives	Training value chain organizations on cottage industries establishment	450	Number	By December 2030	CEC, KALRO, AFA, KIRDI, farmers	Funds, conference facility	0.5M	
Promote product diversification and market participation.	Hold stakeholder forums on product diversification and market participation	450	Number	By January 2030	CEC, KALRO, AFA, KIRDI, farmers	Conference facilities, transport refund for the participant	0.5M	

7.2 KISII COUNTY BANANA STRATEGY MONITORING AND EVALUATION MATRIX

S/No	Strategic Goal	Strategic Objectives	Activities	Resources Required	Who is responsible	Objectively verifiable indicators (OVIs)	Time Frame	Risks and Assumptions
1	Promote high yielding varieties, promote smart climate technology, control pest, weed and diseases, use targeted farm subsidies, strengthen agricultural extension services, provide adequate resources for extension	To increase banana productivity	Establish mother blocks	transport, DSA and stationery	CEC, KALRO, AFA,KEPHIS, farmers, CDA	field/site visit reports and number of mother blocks established site photos	semi-annually	
			Set up macro propagation units	transport, DSA and stationery	CEC, CO	Number of smart technologies promoted and adopted	semi-annually	
			Capacity build nursery entrepreneurs good nursery management practices	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken, training programmes	Quarterly	
			Support the tissue culture lab under Public Private Partnership	transport, DSA and stationery	CO/CDA/KALRO/ AFA/civil engineers	Approved designs and BQs , asset inventory, site visit reports, site handover and commissioning report	Quarterly visits	
			Training farmers on agronomic practices	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Train farmers on soil fertility management	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	

			Train farmers on soil and water conservation	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Train farmers on agroforestry	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Carry out model farm demonstrations	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, demonstration reports, site photos taken	Quarterly	
			Carry out field days	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, field day reports, site photos taken	Semi Annually	
			Carry out farmer tours	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, back to office reports, site photos taken	Annually	
			Train farmers on IPM	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Training farmers on safe use of agro-chemicals	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Identify, mobilize and recruit the vulnerable and marginalized producers(VMPs)	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, reports, site photos taken	Semi Annually	
			Train the VMPs	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Semi Annually	

			Distribute and document issuance of tissue culture bananas	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Distribute and document issuance of subsidized mineral fertilizers	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Purchase motorcycles	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Train lead farmers to enhance extension services	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Identify, mobilize, sensitize private actors for extension services	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Hold stakeholders meetings with banana value chain actors	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
Budget							**Kshs 3,000,000**	
2	Financial service providers to develop innovative financing models that are	to increase banana profitability through improving financial access	Hold stakeholders meetings with financial service providers	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Train actors on , financial literacy and investment.	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	

	appropriate to support banana value chain Establishment of marketing organizations for aggregation, quality assurance, access to markets, Identification of potential local and international markets, Establishment of market linkages, Promote adherence to market requirements and standards, development		Capacity build and mentor actors on suitable financial models	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Train farmers on business risk management	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Mobilize, sensitize and recruit farmers to join saccos	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Train banana VCA on entrepreneurship and business plan development	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Train actors on group dynamics and governance	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Capacity building of stakeholders on the need for collective marketing	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Mobilization meetings, formation and registration of marketing organizations	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	

	and promotion of produce and product brands, Development of Market information sharing platforms, Development of effective traceability mechanisms, promote value addition and agro-processing		Establishment of Collection centers	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Stakeholder engagement on potential market avenues	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Market analysis and market niche selection	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Stakeholder engagement on selected market niche	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Capacity building of stakeholders on market linkage instruments (MoUs, Contract farming Agreements,	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Development of market linkage instruments (MoUs, Contracts, Agreements)	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Identification of niche market standards and requirements	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	

			Capacity building of stakeholders on market requirements and standards	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Produce branding meetings with stakeholders	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Product prioritization meetings with stakeholders	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Capacity building of stakeholders on banana market information management	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Establish a central county unit for banana information management	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Train actors on digital marketing platforms	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	

			Capacity building of stakeholders on traceability mechanisms	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Train VCAs on maturity indices and harvesting techniques	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Construct aggregation centres with cold storage facilities	transport, DSA and stationery	CEC, CO	Approved designs and BQs , asset inventory, site visit reports, site handover and commissioning report	Annually	
			Training VCAs on value addition and post harvest management	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Capacity building of VCAs on techniques to reduce post harvest losses	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Train VCAs on food safety	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Train processors on branding, packaging standards/ specifications of banana products	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	

			Train the VCAs on consumption and marketing of banana products on local and regional markets	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Mobilize and sensitize stakeholders on relevant policies, strategies and regulation	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, reports, site photos taken	Quarterly	
			Carry out training on cottage industries	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, training reports, site photos taken	Quarterly	
			Develop banana farmer training manual	transport, DSA and stationery	CEC, CO	Invitation letters, list of attendance, reports,Banana training Manual, site photos taken	Quarterly	
			Support students and researchers in aspects of banana value Chain	Research funds, logistics support, participatory ction research	MESPT, CEC, CO, Kisii University, KALRO	MoUs, Theses		
Budget								**KShs. 2,000,000**
								Grand Total for M&E Plan – KShs 5,000,000.

7.3 EXPECTED GROSS MARGIN FOR THE PRODUCTION OF BANANAS ON 1 ACRE

Spacing: 3* 3 Metres	Plant population: 450. 6 Years Optimal Production					
Production Years	Establishment.	Year 1	Year2	Year 3	Year 4	Year 5
Expected Returns						
Yield: Number of Bunches	-	450	900	1,350	1,350	1,350
Farm gate Price per Bunch (Kshs)	-	300	400	400	450	500
Expected Gross Income (Kshs)	**-**	**135,000**	**360,000**	**540,000**	**607,500**	**675,000**
Variable Costs						
Establishment Costs:						
Ploughing	5,000	-	-	-	-	-
Planting Suckers; 450 @ Kshs 120	54,000	-	-	-	-	-
Transportation of suckers. Hire of Pick up (Kshs) 4,000	4,000	-	-	-	-	-
Digging of holes; 450 @ Kshs 25	11,250	-	-	-	-	-
Manure 1 Debe per hole @ Kshs 30	13,500	-	-	-	-	-
Transportation of the Manure; 450 Debes @Kshs 10	4,500	-	-	-	-	-
Nematicide; 1 table spoon per hole	2,000	-	-	-	-	-
NPK Fertilizer; 250 gms per hole. 3 bags (50 Kgs) @ Kshs 6,000	18,000	-	-	-	-	-
Planting labour 20 Mandays @ Kshs 400	8,000	-	-	-	-	-
Transportation of fertilizers	3,000	-	-	-	-	-
Total Establishment Costs	**123,250**					
Maintenance Costs;						
Weeding 3 times per year; 10md @ kshs 400	12,000	12,000	12,000	12,000	12,000	12,000
Propping poles (props)	-	22,500	22,500	45,000	45,000	45,000
CAN for top dressing twice @ Kshs 7,000	21,000	21,000	21,000	21,000	21,000	21,000
Total Maintenance Costs	**33,000**	**55,500**	**55,500**	**78,000**	**78,000**	**78,000**
Other costs						
Harvesting costs	-	4,500	9,000	13,500	13,500	13,500
Transport	-	22,500	45,000	67,500	67,500	67,500

Working Capital	156,250	82,500	109,500	159,000	159,000	159,000
Add 5 % Contingency Costs	**7,813**	**4,125**	**5,475**	**7,950**	**7,950**	**7,950**
Add Interest in Working Capital 12%	**18,750**	**9,900**	**13,140**	**19,080**	**19,080**	**19,080**
Total Variable Costs (establishment costs + maintenance costs + interest + contingencies)	**182,813**	**96,525**	**128,115**	**186,030**	**186,030**	**186,030**
Total variable costs for the project period						**965,443**
Expected Annual pre-tax Returns	**(182,813)**	**38,475**	**231,885**	**353,970**	**421,470**	**488,970**
Total Returns for the project period						**1,351,957**
Average Annual pre-tax Returns						**225,326**

7.4 LIST OF TECHNICAL WORKING GROUP MEMBERS

S.NO	NAME	ORGANIZATION	DESIGNATION
1	Winston Motanya	Agriculture-Kisii County	MESPT Coordinator –Kisii County
2	Evans Onchagwa Tinega	Agriculture-Kisii County	County Deputy Director – Extension services, Kisii County
3	Nicholas Manyinsa	ASDSP II	County Business Development Officer
4	Nasambu Okoko	KALRO	Principal Research Scientist (Emeritus).
5	Raymond Lal	AFA- HCD	Regional Coordinator
6	Dorice Ombuna	Agriculture-Kisii County	County Deputy Director- Crops, Kisii County
7	Dr. Thomas Nyakweba	Cooperatives – Kisii County	County Deputy Director- Cooperatives, Kisii County
8	Richard O Ogendo	Agriculture –Kisii County	Principal Agricultural Officer
9	Dr. Lydia Kitonga	Kisii University	Senior Lecturer
10	Caroline Mutitu	Agriculture-Kisii County	Chief Agricultural Officer
11	Everline Maiywa	Agriculture-Kisii County	Chief Assistant Agricultural Officer
12	Lameck Nyabuto	ASDSP II	Policy and Institutional Capacity Development Officer.
13	Solomon Ondieki	EU IDEAS	Project officer
14	Caroline Mokoi	MESPT	Technical Assistant
15	Ronald Guto	Kisii County Banana Production and Marketing Cooperative Society	Committee Honorary Secretary
16	David Onsombi	Kisii Business Community	Banana Trader

17	Joel Mokaya	Pamoja Fruit Tree Nursery	Nursery Operator
18	Elias Mabiria	Boka Eats Ltd	Chairman
19	Jasper Nyakundi	Director Agribusiness and Agro processing	Director
20	Jared Makori	SCAO Bobasi	SCAO
21	Michael Makori	Coordinator-KABDP	Project Coordinator