



## COUNTY GOVERNMENT OF KAKAMEGA

### AGRICULTURE, LIVESTOCK, FISHERIES AND CO-OPERATIVES

#### SECTOR PLAN

2023-2032



Modernization Of Agriculture  
Towards Transformation And Growth

Prepared by:

**The Department of Agriculture, Livestock, Fisheries and Cooperatives**

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## **Vision**

*A leading innovative, commercially oriented and modernized agricultural sector.*

## **Mission**

*To improve the livelihoods of Kakamega County residents through promotion of competitive and sustainable agricultural, livestock and fisheries production, affordable and quality veterinary services provision, growth of a viable cooperative movement and adoption of smallholder irrigation that is efficient, sustainable and effective.*

## STATEMENT FROM THE COUNTY EXECUTIVE COMMITTEE MEMBER OF FINANCE, ECONOMIC PLANNING AND ICT



The Kenyan Government adopted Kenya vision 2030 as the long term development blue print in 2008 which is being implemented through a Five year Medium Term Plans (MTPs). With the inception of the two tier governments under the constitution of Kenya 2010, the development framework for the county government required the implementation of the projects and programmes through the County Integrated Development Plans (CIDPs) implemented through the Annual Development Plans (ADPs). The County Government of Kakamega has so far implemented the First and Second generation County Integrated Development Plans with the Third generation being implemented between 2023-2027. Equally the County Government Act, 2012 Section 109 requires the development of a ten year County Sectoral Plan as component part of the County Integrated Development Plan which shall be revised every five years but updated annually. The County Government developed Ten Sector plans by the established Ten Sector Working Groups which provide the background information for the third generation CIDP.

The Sector Plans provide in greater detail the outline of specific plans to be implemented in each sector during the 2023-2032 Plan period with provision for revision every Five years as provided by Section 109 of the County Government Act, 2012. The Sector Plans have been prepared through a participatory and inclusive process which involved representatives from both the National as well as the County Government Departments, Private Sector, NGOs, Civil Society Organizations, Faith Based Organizations, Academia and Research Organizations, Professional Organizations as well as the Organizations representing Women, Youth and Differently Abled Persons among other stakeholders. All the sector priorities have incorporated views from the Community areas, Ward, Sub-County and County forums which captured the views and priorities of the residents of Kakamega in different levels. The Sector Plans have also taken into consideration the broad priorities outlined in the National and County policies including the Governors Manifesto.

The Third generation CIDP, the Spatial Plans, Departmental and Agencies Strategic Plans 2023-2027 as well as future plans will be aligned to the Sector Plans. In addition, the implementation of the plan will be linked to the Result Based Management Framework through the Performance Contract, Staff Performance Appraisal System and other performance management tools for effective service delivery. To ensure tracking of progress, my Department will put in place a robust Monitoring, Evaluation and Reporting Framework constituting the County Integrated Monitoring and Evaluation System (CIMES) and the electronic Project Monitoring Information System (e-CIPMIS). These will be fully integrated in the County Government Financial System that will boost public investment and confidence.

Finally, I take this opportunity to sincerely thank H. E the Governor Dr. Wycliffe Ambetsa Oparanya and Deputy Governor for their visionary leadership, guidance and direction that enabled this process to be undertaken. I also appreciate the County staff who formed part of the Ten Sector Working Groups for their valuable inputs. In addition, I commend the Department of Economic Planning and Investments staff led by the Chief Officer Planning for the effective co-ordination of the Sector plan preparation process.

A handwritten signature in black ink, appearing to read 'B. Sabana'.

**Dr. Beatrice A. Sabana, Ph.D**  
**County Executive Committee Member**  
**Department of Finance, Economic Planning and ICT**

## FOREWORD



I feel privileged to be associated with the realization of this Sector Plan since it outlines the roadmap for the entire sector in addressing the aspirations of the Africa Agenda 2063, SDGs and Vision 2030 in ensuring there is food and nutrition security in the County. The County government Act 2012 section 109 identifies the Sector plan as part of the integrated planning documents to be developed to guide the county planning framework for 10 years. The County Government has been implementing its projects and programmes through the County Integrated Development Plans (CIDPs) aligned to the Kenya Vision 2030 which is the country's long term development blueprint. This sector plan identifies key programs and projects to be implemented over the 10 year period and is aligned to key development plans such as Africa Agenda 2063, SDGs and the Governor's Manifesto.

Traditionally, the sector has been instrumental in provision of raw materials for agro-processing, employment creation and income generation for majority of the people in the County. In the last 10 years, the sector managed to increase maize production from 1.8 million bags in 2014 to 2.8 million bags per year in 2020 through the Farm Inputs Subsidy programme, Increased milk production through the One Cow Initiative programme, enhanced fish farming through development of fish farming infrastructure and revamped the cooperative movement in the County. Moving forward, the sector envisages to increase agricultural production through up scaling the Farm Input Subsidy programme, mechanization programmes and diversification of crops; increase livestock production through adoption of improved breeding technologies, revamp fisheries, infrastructure through construction, rehabilitation and stocking of fish ponds; adopt irrigation and drainage innovations through rehabilitation of irrigation dams and develop a vibrant county cooperative movement.

This plan is a product of concerted efforts by the Sector Working group with inputs from all the stakeholders in the sector. Its implementation demands for coordinated efforts to stimulate growth in the sector which will be achieved through these strategies and thus transform and commercialize the sector to offer multiple livelihoods and employment opportunities.

For successful implementation of this plan, we call upon our development partners, the private sector and our citizens to collaborate with the Government to ensure County take a great step in ensuring food and nutrition security, employment creation, provision of raw materials and thus subsequently reduce poverty.

**CPA. Geoffrey Omulayi**  
**COUNTY EXECUTIVE COMMITTEE MEMBER**



## **Department of Agriculture, Livestock, Fisheries and Cooperatives.**

### **PREFACE**



The promulgation of the new Constitution of Kenya (2010) established County Governments which would be drivers of devolution and ensure decentralized functions reach the public effectively and efficiently across the Counties. Agriculture Sector being one of the devolved functions is tasked among others to ensure proper crop and animal husbandry practices, develop animal sale yards, establish County abattoirs, ensure proper animal and plant disease control systems, and promote fish farming and development of cooperatives. Development of this plan therefore is as a result of a rigorous planning and consultations with all the relevant stakeholders to guarantee accountability, transparency and ensure efficiency and effectiveness in resource allocation and service delivery.

The Sector has faced setbacks such as low youth involvement in agriculture, Climate Change, HIV&AIDS, drug and substance abuse among others which negatively impacted on efforts to ensure food and nutrition security and thus the County's economic development at large. To overcome these challenges, the Sector need to remain competitive and vibrant focusing on best practices that will transform and commercialize the Sector to offer multiple livelihoods and employment opportunities.

This plan outlines strategies to achieve socio-economic transformation in the Sector in the next ten years. We realize that this will require substantial resource outlay that has been well analyzed in the plan. The County planning unit shall therefore ensure that adequate resources are allocated to the planned projects and programmes identified under the plan. The plan will also offer us the chance to reach out to investors both locally and internationally to venture into our rich, wide and vast array of investment opportunities and help us to implement the many flagship projects outlined therein.

Implementation of programmes and projects in the plan will be tracked by the Sector Monitoring and Evaluation Committee in conjunction with the Directorate of Economic Planning.

It is my sincere hope and desire that this plan will enable the Sector achieve its set objectives, reduce food and nutrition insecurity and improve people's livelihoods.

A handwritten signature in black ink, appearing to be 'Dan Borter', written in a cursive style.

**Mr. Dan Borter,  
County Chief Officer,  
Department of Economic Planning**

## ACKNOWLEDGEMENT

It is with great honor that I present this sector Plan for the period 2023 – 2032. This plan will guide the Sector's operations and contribute towards achieving food security and safety as envisaged in the Kenya Vision 2030 and other national and international obligations. This Sector is committed to promotion of growth and development of crop production, livestock production, fisheries farming, irrigation and cooperatives development through provision of excellent agricultural extension services and pests and diseases control for sustainable economic growth and development

First, I wish acknowledge the valuable leadership and support from H.E The Governor, Wycliffe Ambetsa Oparanya and H.E The Deputy Governor for their guidance and general goodwill that enabled the preparation process to be completed in good time. Special thanks goes to the County Executive Committee members for Finance Economic Planning & ICT, Dr. Beatrice Sabana and Agriculture Livestock Fisheries and Cooperatives, CPA. Geoffrey Omulayi and all the Chief Officers in the sector for their support, guidance and commitment during the entire preparation period.

Secondly, sincere gratitude goes to Economic planning department headed by Chief Officer Mr. Dan Borter, the Director Mr. Cyrus Ondari and all their staff for their continued guidance, organizing public participation workshops and giving professional guidelines towards generating this document.

This Plan could not have been a success without the dedication, commitment and self-sacrifices made by all the Directors and staff from the various sub-Sectors lead by the Planning Officer Ms. Eunice Amlega, Mrs. Metrine Muricho, Mr. Bernard Wanyama, Mr. Norman Munala , Mr. Bernard Kangale, Dr. Jason Michieka and Mr. Emmanuel Wakhungu including all the other stake holders across the entire County who ensured completion of this document.

I look forward to full implementation of this sector plan which will enable us improve the livelihoods of residents of Kakamega County through improved production and productivity in the sector.

**Mr. Hillary A Onjoro,**  
**County Chief Officer,**  
**Department of Agriculture, Livestock, Fisheries and Cooperatives.**

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## DEFINITION OF TERMS

**Activities:** Actions taken or work performed during which inputs are used to produce outputs;

**Beneficiaries:** Stakeholders who will directly or indirectly benefit from the project;

**County Executive Committee:** A County Executive Committee of the County Government of Kakamega established in accordance with Article 176 of the Constitution;

**Evaluation:** Planned and periodic assessment of program or project to assess the relevance, effectiveness, efficiency and impacts it has had on the intended population;

**Flagship/Transformative Projects:** These are projects with high impact in terms of employment creation, increasing county competitiveness, revenue generation etc;

**Green Economy:** The green economy is defined as an economy that aims at reducing environmental risks and ecological scarcities, and sustainable development

**Impacts:** The long-term effects of the program or project, may be positive or negative.

**Indicators:** A measure that can be used to monitor or evaluate an intervention. Indicators can be quantitative (derived from measurements associated with the intervention) or qualitative (entailing verbal/written feedback from beneficiaries);

**Agricultural Inputs:** All the financial, human and material resources used for the development intervention;

**Monitoring:** The continuous and systematic collection and analysis of information in relation to a program or project that provides an indication as to the extent of progress against stated objectives;

**Objectives:** A measurable statement about the end result that an intervention is expected to accomplish within a given time period;

**Outcomes:** The medium-term results for specific beneficiaries which are the consequence of achieving specific outputs. Outcomes are often further categorized into immediate/direct outcomes and intermediate outcomes;

**Outcome Indicators:** Outcome indicators measure the quantity and quality of the results (change) achieved through the provision of services;

**Outputs:** These are the immediate products, goods or services produced as a result of a project activities;

**Performance indicator:** A measurement that evaluate the success of an organization or of a particular activity (such as projects, programs, products and other initiatives) in which it engages;

**Programme:** A grouping of similar projects and/or services performed by a Ministry Department and Agencies to achieve a specific objective;

**Project:** A set of coordinated activities implemented to meet specific objectives within defined time, cost and performance parameters.

**Stakeholders** – A group of people, organizations and institutions who have a direct or indirect interest(s) or/and role(s) in the project, who affect or are affected by it.

**Sustainable Development Goals (SDGs)** – is a plan of action for people, planet, peace, prosperity and partnership that was adopted by the UN member countries as the 2030 Agenda for Sustainable Development.

**African Agenda 2063-** is Africa’s development blue print with initiatives proposed aimed at achieving inclusive and sustainable social-economic development over a 50 –year period.

## ABBREVIATIONS AND ACRONYMS

|        |  |
|--------|--|
| ADP    | Annual Development Plan                                  |
| A.I.A  | Appropriation In Aid                                     |
| AGRIFi | Agriculture Financing Initiative                         |
| AI     | Artificial Insemination                                  |
| AIDS   | Acquired Immunodeficiency Syndrome                       |
| ATC    | Agricultural Training Centre                             |
| ATVET  | Agricultural Technical vocational Education Training     |
| CBEF   | County Budget and Economic Forum                         |
| CEC    | County Executive Member                                  |
| CGK    | County Government of Kakamega                            |
| CIDP   | County Integrated Development Plan                       |
| CIMES  | County Integrated Monitoring and Evaluation System       |
| CSOs   | Civil Society Organizations                              |
| CSP    | County Sector Plan                                       |
| ECF    | East Coast Fever   |
| FAO    | Food and Agriculture Organization of the United Nations  |
| FGDs   | Focused Group Discussions                                |
| FMD    | Foot and Mouth Disease                                   |
| GIZ    | German International Cooperation                         |
| GoK    | Government of Kenya                                      |
| HIV    | Human Immunodeficiency Virus                             |
| IBEC   | Intergovernmental Budget and Economic Council            |
| ICT    | Information Communication Technology                     |
| IFAD   | International Fund for Agriculture Development           |
| KALRO  | Kenya Agricultural and Livestock Research Organization   |
| KCAMS  | Kakamega County Agricultural Mechanization Services      |
| KEPHIS | Kenya Plant Health Inspectorate Services                 |
| KG     | Kilogram   |
| LREB   | Lake Region Economic Bloc                                |
| M & E  | Monitoring and Evaluation                                |
| MDAs   | National Government Ministries, Departments and Agencies |
| MESPT  | Micro Enterprise Support Programme Trust                 |
| MTEF   | Mid Term Expenditure Framework                           |
| NG     | National Government                                      |
| NGO    | Non-Governmental Organizations                           |
| PFMA   | Public Finance Management Act                            |

|        |   |
|--------|---|
| PVC    | Poly Vinyl Chloride                               |
| SACCOs | Saving and Credit Cooperative Societies           |
| SDGs   | Sustainable Development Goals                     |
| SWGs   | Sector Working Groups                             |
| UM     | Upper Midland                                     |
| UN     | United Nations                                    |
| UNICEF | United Nations initiative children Education fund |
| WB     | World Bank  |



## EXECUTIVE SUMMARY

Provision of food and nutrition security to all residents in the County remains to be one critical mandate of the government. The future of the County depends on a healthy population and an economy that is resilient to the effects of climate change, global swings in food prices, and the effects of emerging pests and diseases. Such risks threaten the welfare and livelihoods of many people in the County and destabilize the economy at large. Agricultural transformation is critical to growing the economy, reducing the cost of food, alleviating poverty and therefore delivering 100% food and nutrition security. This therefore calls for prioritization of Sector projects to ensure vibrant, commercial and modern agricultural sector that sustainably supports the County's economic development and national priorities.

In the last 10 years, the County Government invested eleven percent (11%) of the total revenue in various projects and programmes. With this investment, the Sector has managed to increase maize production from 1.8 million bags in 2014 to 2.8 million bags per year in 2020, Increased milk production through the One Cow Initiative and Artificial Insemination programme, enhanced fish farming through development of fish farming infrastructure and revamped the cooperative movement in the County. These benefits have improved farmer incomes and reduced poverty levels from 49.3 percent (Population Census 2009) to 35.8 percent. While implementing programmes and projects over the years, the Sector encountered various challenges which include; uncoordinated agricultural extension services, high staff turnover, high mortality rates of livestock breeds, limited markets for agricultural produce, gender inequality, low youth involvement and poor access to credit

To overcome these challenges while implementing this plan, the sector envisages to upscale farm input subsidy, farm mechanization programmes and diversification of crops; improve breeding technologies and develop aggregation and multiplication centres; construct, rehabilitate and stock of fish ponds and establish Aquaculture Field Schools (AFS); rehabilitate irrigation dams, revamp agricultural extension and liaison and develop a vibrant county cooperative movement . For effective implementation of the plan, the sector intends to domesticate relevant national policies and guidelines and enact new policies that would assist in operationalizing the plan. Further, the Sector in collaboration with all its stakeholders will develop an integrated strategic plan that will enhance resource pooling and synergies.

The plan is presented in five sections, Chapter one presents the County background information in terms of its size and location, demographic features, rationale for preparing the sector plan, the linkages of the sector plan with other plans and the plan preparation process. The second section provides the context in which the plan is prepared, analyzing the current situation, policies and laws that influence operations and performance of the sector, the achievements, review sector financing, cross cutting and emerging issues, challenges faced and lessons learnt. The third chapter presents the sector development strategies and programmes, development issues facing the sector and proposed programmes and interventions to address the sector issues for the planned period. Further, it outlines the sector flagship projects and key stakeholders in supporting its implementation.

The fourth section outlines the implementation mechanisms, provides information on institutional and coordination framework identifying the key institutions crucial in implementing the plan, highlights the total budget required to implement this plan and analyses the capacity development needs and risk management. Finally, chapter five presents information on Monitoring, Evaluation, Reporting and learning. It covers data sources, collection methods, types of reports to be produced, their frequency and consumers. The chapter further outlines the dissemination feedback mechanisms and citizen engagement as part of accountability mechanism on the part of the County government. The section also presents the Monitoring and Evaluation indicators that will be useful in monitoring progress while implementing the plan.

# CHAPTER I: INTRODUCTION

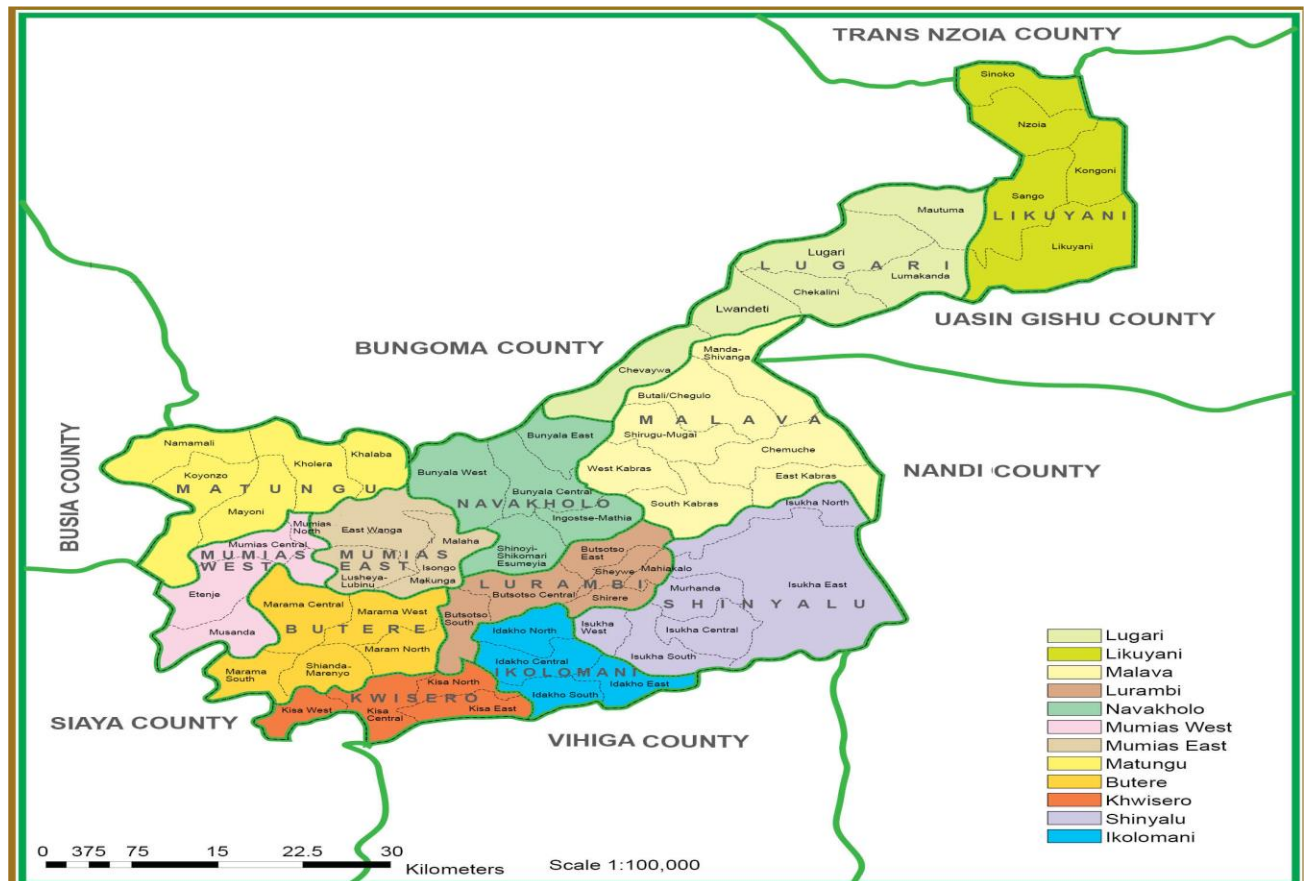
## 1.1 Overview of the County

### 1.1.1 Location and Size

The Constitution of Kenya, 2010 created a decentralized system of government; the national government and forty-seven (47) county governments, as provided for under Article 6 and specified in the First Schedule. Kakamega County is located in the Western part of Kenya bordering Vihiga County to the South, Siaya County to the West, Bungoma and Trans Nzoia Counties to the North and Nandi and Uasin Gishu Counties to the East.

The County covers an area of 3,051.3 Km<sup>2</sup> and is the fourth populous county after Nairobi, Kiambu and Nakuru with the largest rural population. Map 1 below shows the County administrative units and their boundaries.

**Figure 1: Map of Kakamega County Showing the Administrative Units**



Source: Kakamega County Administrative Boundaries Committee, 2017

### 1.1.2 Administrative Units

The County administrative units comprise 12 Sub-counties, 60 wards, 187 Village Units and 400 Community Areas. This information is provided in table 1.

*Table 1: Administrative Units in the County*

| S/No. | Sub-county   | No. of Wards | No. of Village Units | No. of Community Areas |
|-------|--------------|--------------|----------------------|------------------------|
| 1.    | Likuyani     | 5            | 14                   | 31                     |
| 2.    | Lugari       | 6            | 20                   | 43                     |
| 3.    | Malava       | 7            | 23                   | 49                     |
| 4.    | Navakholo    | 5            | 14                   | 32                     |
| 5.    | Lurambi      | 6            | 17                   | 35                     |
| 6.    | Ikolomani    | 4            | 12                   | 26                     |
| 7.    | Shinyalu     | 6            | 19                   | 38                     |
| 8.    | Khwisero     | 4            | 11                   | 25                     |
| 9.    | Butere       | 5            | 17                   | 38                     |
| 10.   | Mumias West  | 4            | 13                   | 26                     |
| 11.   | Mumias East  | 3            | 11                   | 23                     |
| 12.   | Matungu      | 5            | 16                   | 34                     |
|       | <b>Total</b> | <b>60</b>    | <b>187</b>           | <b>400</b>             |

**Source: Kakamega County Integrated Development Plan, 2018 – 2022**

### 1.1.3 Physiographic and Natural Conditions

The county altitude ranges from 1240 metres above sea level. The southern part of the county is hilly and is made up of rugged granites rising in places to 1950metres above sea level. The Nandi Escarpment forms a prominent feature on the county`s eastern border, with its main scarp rising from the general elevation of 1700metres to 2000metres. There are also several hills in the county as such Misango, Imanga, Eregi, Butieri, Sikhokhochole, Mawe Tatu, Lirhandu, Kiming`ini among others. There are several rivers in the county namely; Nzoia, Yala, Lusumu, Isiukhu, Sasala, Viratsi, Nambilima, Kipkaren, Kamehero, Lukusitsi and Sivilie.

There are two main ecological zones in the county namely; the Upper Medium (UM) and the Lower Medium (LM).The Upper Medium covers the Central and Northern parts of the county such as Ikolomani, Lurambi, Malava, Navakholo and Shinyalu that practice intense maize, tea, beans and horticultural production mainly on small-scale; and Lugari and Likuyani where maize and dairy farming is done on large scale. The second ecological zone, the Lower Medium (LM),

covers Mumias West and Matungu. In this zone, the main economic activity is sugarcane production with some farmers practicing maize, sweet potatoes, tea, ground nuts and cassava production.

The annual county rainfall ranges from 1280.1mm to 2214.1mm per year. The rainfall pattern is evenly distributed all year round with March and October receiving heavy rains while on December and February receives light rains.

The temperatures ranges from 18°C to 29°C. The temperatures in January and February are relatively high compared to other months except for July and August which have relatively cold spells. The county has an average humidity of 67 per cent.

#### **1.1.4 Demographic Features**

##### **1.1.4.1 Size and Composition**

Knowledge of the population and its distinct features is an important aspect while planning. Based on 2019 Population and Housing Census, the County population was 1,867,579 consisting of 897,133 males and 970,406 females with a population distribution of 48.04% and 51.96% for male and female respectively. The county population is growing at a rate of 1.1% and is projected to increase to 2,107,751 by the end of the year 2032. The population below 4 years represents 12.1% of the total population, indicating the need to provide child care facilities, healthcare, investment in ECDE and provision of other social amenities. Another important statistic is the school going population aged between 5 and 19 years who make up 42.81% of the population.

The youthful population aged between 15 and 34 years comprises 33.16% of the total population. The rapid increase of the youth population calls for quick government intervention in terms of job creation to minimize unemployment, increased establishment of training institutions such as youth polytechnics to equip the youth with necessary life skills and help reduce dependency ratio and vices such as drug use, alcoholism and crime. The labor force, aged between 15 and 64 years comprises of 53.28% of the total population. The high labor force implies that the government should put appropriate policies in place to create employment and encourage setting up of private enterprises to absorb this labor force.

The elderly population above 65 years comprises of 4.5%. There is need to collaborate with the national government to enhance the social protection initiatives through construction of a home for the vulnerable elderly and enhance the shelter improvement programme among others. The analysis of County population by age group is presented in table 2.

**Table 2: County Population by Age Group**

| Age Group    | 2019 Census    |                |                  | 2022           |                  |                  | 2027           |                  |                  | 2032             |                  |                  |
|--------------|----------------|----------------|------------------|----------------|------------------|------------------|----------------|------------------|------------------|------------------|------------------|------------------|
|              | Male           | Female         | Total            | Male           | Female           | Total            | Male           | Female           | Total            | Male             | Female           | Total            |
| <b>Total</b> | <b>897,133</b> | <b>970,406</b> | <b>1,867,539</b> | <b>927,232</b> | <b>1,002,964</b> | <b>1,930,196</b> | <b>968,941</b> | <b>1,048,080</b> | <b>2,017,021</b> | <b>1,012,526</b> | <b>1,095,225</b> | <b>2,107,751</b> |
| 0 - 4        | 112,360        | 113,559        | 225,919          | 116,130        | 117,369          | 233,499          | 121,354        | 122,649          | 244,002          | 126,813          | 128,166          | 254,978          |
| 05-09        | 134,230        | 134,555        | 268,785          | 138,733        | 139,069          | 277,803          | 144,974        | 145,325          | 290,299          | 151,495          | 151,862          | 303,358          |
| 10-14        | 144,975        | 147,002        | 291,977          | 149,839        | 151,934          | 301,773          | 156,579        | 158,768          | 315,347          | 163,622          | 165,910          | 329,533          |
| 15-19        | 120,265        | 118,406        | 238,671          | 124,300        | 122,379          | 246,679          | 129,891        | 127,884          | 257,775          | 135,734          | 133,636          | 269,371          |
| 20-24        | 70,440         | 79,144         | 149,584          | 72,803         | 81,799           | 154,603          | 76,078         | 85,479           | 161,557          | 79,500           | 89,324           | 168,825          |
| 25-29        | 50,363         | 63,950         | 114,313          | 52,053         | 66,096           | 118,148          | 54,394         | 69,069           | 123,463          | 56,841           | 72,176           | 129,016          |
| 30-34        | 50,695         | 66,096         | 116,791          | 52,396         | 68,314           | 120,709          | 54,753         | 71,387           | 126,139          | 57,216           | 74,598           | 131,813          |
| 35-39        | 41,408         | 43,063         | 84,471           | 42,797         | 44,508           | 87,305           | 44,722         | 46,510           | 91,232           | 46,734           | 48,602           | 95,336           |
| 40-44        | 38,070         | 42,651         | 80,721           | 39,347         | 44,082           | 83,429           | 41,117         | 46,065           | 87,182           | 42,966           | 48,137           | 91,103           |
| 45-49        | 30,545         | 33,453         | 63,998           | 31,570         | 34,575           | 66,145           | 32,990         | 36,130           | 69,120           | 34,474           | 37,755           | 72,230           |
| 50-54        | 24,415         | 29,797         | 54,212           | 25,234         | 30,797           | 56,031           | 26,369         | 32,182           | 58,551           | 27,555           | 33,630           | 61,185           |
| 55-59        | 22,399         | 27,417         | 49,816           | 23,150         | 28,337           | 51,487           | 24,191         | 29,612           | 53,803           | 25,280           | 30,944           | 56,223           |
| 60-64        | 19,330         | 23,048         | 42,378           | 19,979         | 23,821           | 43,800           | 20,878         | 24,893           | 45,770           | 21,817           | 26,012           | 47,829           |
| 65-69        | 14,387         | 17,267         | 31,654           | 14,870         | 17,846           | 32,716           | 15,539         | 18,649           | 34,188           | 16,238           | 19,488           | 35,725           |
| 70-74        | 10,503         | 12,321         | 22,824           | 10,855         | 12,734           | 23,590           | 11,343         | 13,307           | 24,651           | 11,854           | 13,905           | 25,760           |
| 75-79        | 5,649          | 8,419          | 14,068           | 5,839          | 8,701            | 14,540           | 6,102          | 9,092            | 15,194           | 6,376            | 9,501            | 15,878           |
| 80-84        | 3,879          | 5,278          | 9,157            | 4,009          | 5,455            | 9,464            | 4,189          | 5,700            | 9,890            | 4,378            | 5,957            | 10,335           |
| 85-89        | 2,105          | 3,276          | 5,381            | 2,176          | 3,386            | 5,562            | 2,274          | 3,538            | 5,812            | 2,376            | 3,697            | 6,074            |
| 90-94        | 746            | 979            | 1,725            | 771            | 1,012            | 1,783            | 806            | 1,058            | 1,863            | 842              | 1,105            | 1,947            |
| 95-99        | 306            | 554            | 860              | 316            | 573              | 889              | 330            | 599              | 929              | 345              | 626              | 971              |
| 100+         | 47             | 156            | 203              | 49             | 161              | 210              | 51             | 168              | 219              | 54               | 176              | 229              |

**Source: KNBS National Population and Housing Census Report, 2019**

### 1.1.4.2 Population Density and Distribution

The County population density is 612 persons per square kilometer, which is projected to increase to 691 persons per square kilometer by 2032. The population distribution per administrative unit is indicated in table 3. From the table, Lurambi Sub-county is the most densely populated with a population density of 1,164 people per square kilometer. This high



population density can be attributed to urbanization and several higher learning institutions within Lurambi which hosts Kakamega town.

On the other hand, Shinyalu Sub-county has the lowest population density of 376 people per square kilometer. The low population density can be attributed to the presence of Kakamega Forest that covers a large part of the Sub-county. Population density is an important parameter while planning for services to be provided in different localities. The high population density in Lurambi and other urban areas like Mumias, Malava, Butere, Lumakanda, Moi's Bridge and Matunda has led to sub-division of parcels of land into uneconomical sizes that have reduced agricultural productivity, leading to high levels of unemployment and pressure on the available infrastructural and social facilities.

*Table 3 Population Distribution by Sub-County*

| S/No. | Sub-County   | (Km <sup>2</sup> ) | 2019 (Census)    |                                       |
|-------|--------------|--------------------|------------------|---------------------------------------|
|       |              |                    | Population       | Population Density (Km <sup>2</sup> ) |
| 1.    | Lurambi      | 161.7              | 188,206          | 1,164                                 |
| 2.    | Navakholo    | 258                | 153,970          | 597                                   |
| 3.    | Ikolomani    | 143.6              | 111,743          | 778                                   |
| 4.    | Shinyalu     | 445.5              | 167,637          | 376                                   |
| 5.    | Malava       | 427.2              | 238,325          | 558                                   |
| 6.    | Butere       | 210.4              | 154,097          | 732                                   |
| 7.    | Khwisero     | 145.6              | 113,473          | 779                                   |
| 8.    | Mumias West  | 165.3              | 115,353          | 698                                   |
| 9.    | Mumias East  | 149.2              | 116,848          | 783                                   |
| 10.   | Matungu      | 275.8              | 166,936          | 605                                   |
| 11.   | Likuyani     | 302                | 152,051          | 503                                   |
| 12.   | Lugari       | 367                | 188,900          | 515                                   |
|       | <b>Total</b> | <b>3,051.30</b>    | <b>1,867,539</b> | <b>612</b>                            |

**Source: KNBS National Population and Housing Census Report, 2019**

## 1.2 Sector Background Information

Kenya adopted a new constitution in 2010 whose major milestone was the changing of the governance structure adopted at independence from a centralized system to a decentralized system of government comprising of the national government and forty-seven (47) county governments each with specific delegated functions and powers. Kakamega County is one of the 47 counties established. As per the fourth schedule of the Constitution of Kenya, 2010, decentralized units were delegated fourteen (14) functions while the national government delegated thirty-five (35) functions.

The Sector is responsible for policy formulation and implementation of all programmes and projects in Agriculture Production, Livestock Production, Veterinary Services, Fish farming, Irrigation promotion and Cooperatives movement development in the county. The Sector in fulfilment of its mandate has developed Strategic plan and domesticated National government policies and guidelines to guide planning, budgeting and monitoring of its activities.

The Sector is comprised of six (6) directorates and two Agencies (Bukura ATC and Kakamega Dairy Development Corporation). The responsibilities of these directorates and agencies is as outlined below;

### **1.2.1 Crop Production**

This directorate is responsible for formulation, implementation and monitoring of agricultural legislations, regulations and policies; Provision of agricultural research and extension services; Development, implementation and coordination of crop programmes and projects; Regulating and quality control of inputs, produce and products from the sector; Management and control of pests and diseases in crops; Promoting management and conservation of natural resource base for agriculture and Collecting, maintaining and managing information on the sector in the county.

### **1.2.2 Livestock Production**

This directorate is responsible for formulating, implementing, monitoring and reviewing livestock production policies; Providing, facilitating and regulating extension services to increase livestock productivity; Enhance value addition and market access; Collaborating with research institutions in livestock production technology development; Preserving, coordinating and managing livestock genetic resources; developing, implementing and coordinating livestock development programmes; Collaborating with relevant institutions in quality assurance of livestock, livestock products and inputs; Managing and disseminating livestock production information.

### **1.2.3 Veterinary Services**

This directorate is responsible for developing, reviewing, implementing and monitoring County veterinary policies, strategies and laws; Planning, coordinating and evaluating veterinary

programs; Providing herd health services; Monitoring and evaluating animal health programs; Participating in control of animal diseases and zoonosis; Undertaking disease search and reporting; Managing and maintaining database on animal health; Disseminating animal health information to stake holders; Implementing and managing vector control programs; Undertaking animal health extension services; mobilizing and sensitizing county residents on adoption of animal health technologies; Advising on prevention of environmental pollution from animal inputs; Management of animal waste and undertaking economic impact assessment of animal diseases, programs and projects

#### **1.2.4 Fisheries Production**

This directorate is responsible for Development of fisheries and aquaculture in the County; Fish farmer capacity building;,, Coordination of Fisheries extension services; Establishment of County fingerlings bulking units; Fish health certification; Development and maintenance of fish landing stations and fish auction centers; Demarcation of fish breeding areas; Issuance of fish trade licensing and fish movement permits; Collection of fish production statistics; Enforcement of fisheries regulations and compliance with management measures; Implementation of fisheries policy and limiting access to fishing in water bodies such as dams and rivers; Monitoring of fisheries and aquaculture activities, Control and Surveillance of fish diseases, and Zonation for Aquaculture-county specific disease control; Collaboration with investors and other government agencies in the fisheries projects and programmes and implementation of fisheries standards, policies and regulations including the Kakamega Fish Processing Plant.

#### **1.2.5 Cooperatives**

This directorate is responsible for Processing of application for registration; Inspections and investigations; Conducting co-operative education and training services; Market information, dissemination & advisory services; Investment advisory services; Co-ordination and monitoring of co-operative indemnity by co-operative leaders; Carrying out certification audits; Carrying out continuous and compliance audits; Arbitration/ settlement of co-operative disputes and Implementation of cooperatives standards policies and regulations.

### **1.2.6 Irrigation**

This directorate is responsible for Development and maintaining an irrigation database and integrate systematic monitoring and evaluation; Identifying community-based smallholder schemes for implementation in line with national guidelines; Mainstreaming irrigation related statutory obligations; Provision of capacity building for farmers and support establishment of viable irrigation water users associations; Setting up measures to implement adaptation and mitigation to climate change, and Enhance sustainable environmental management.

### **1.2.7 Bukura Agricultural Training College**

This agency is responsible for offering residential and non-residential trainings on agriculture technologies, Provision of training facilities to farmers and other stakeholders; Maintaining model demonstration farms; Carrying out in liaison with collaborators on-farm trials; Bulking of planting materials and multiplication of livestock for farmers; and Generation of revenue for self-financing of commercial activities.

### **1.2.8 Kakamega Dairy Development Corporation (KDDC)**

This agency is responsible for engaging in; Commercial rearing and breeding of dairy livestock; Promote and adoption of best practices in the dairy value chain; Creation of a ready market for milk for dairy farmers; Undertaking and promotion of research in the field of dairy farming; Setting up of dairy training facilities; Provision of advisory services to stakeholders of dairy farming; Facilitate and negotiate concessions for dairy farm inputs and Promote growth of dairy corporative societies within the dairy sector.

## **1.3 Rationale**

The Constitution of Kenya, 2010 is the basis for the process of devolution in Kenya. To implement devolution and realize its objectives, the National Assembly enacted the County Government Act, 2012 and the Public Finance Management Act, 2012. Part XI of the County Governments Act, 2012 requires county governments to prepare development plans which include County Spatial Plans, Sector Plans, County Integrated Development Plan (CIDP), and

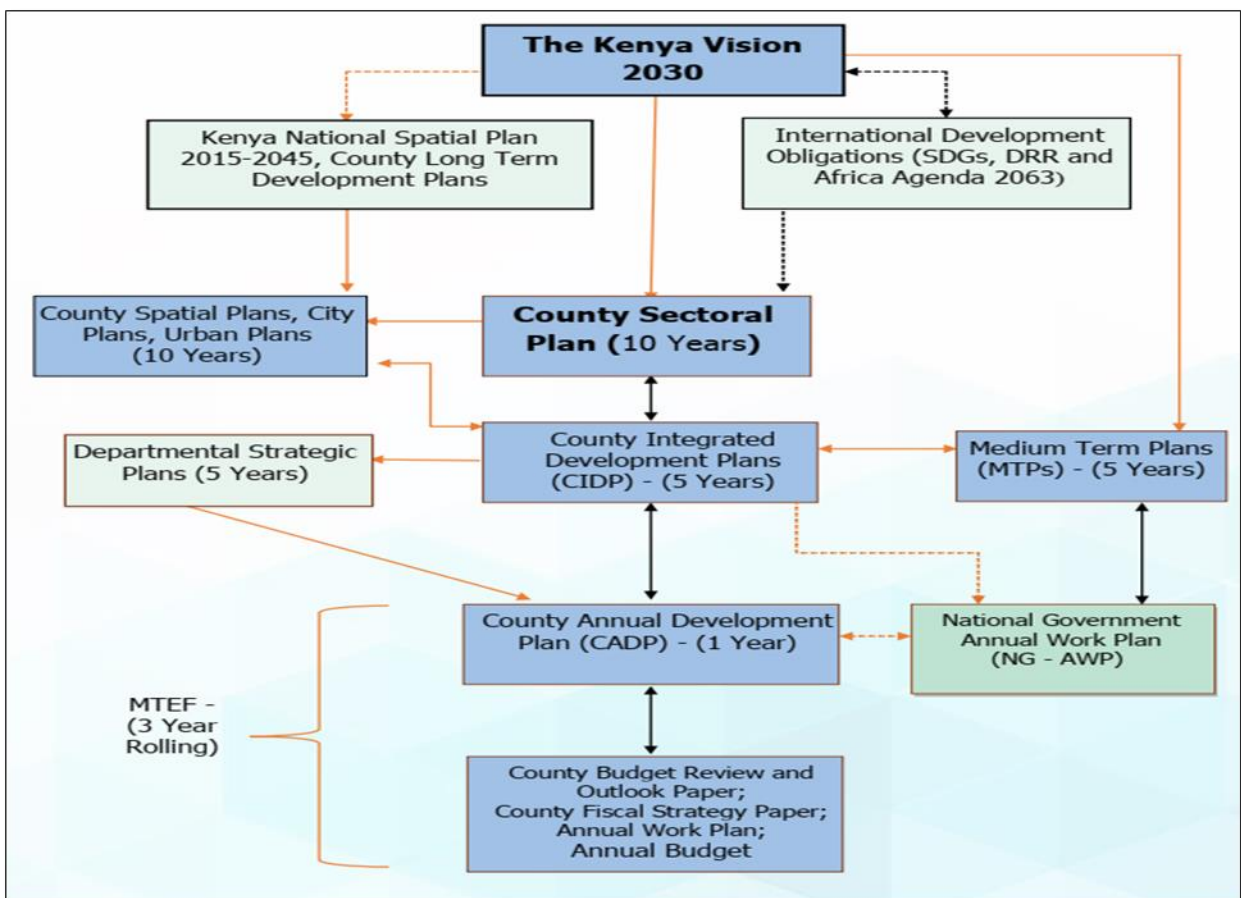
Cities and Urban Areas Plans. These plans form the basis for all budgeting and spending in the County.

### 1.4 Linkages with other plans

The Kenya Vision 2030 is the national blueprint that forms the national development agenda that is being implemented through a series of 5-year Medium Term Plans (MTPs) at the National level. At the County level, the Kenya Vision 2030 is implemented through 10-year long-term plans (Sector Plan). The Sector Plan identifies programmes for implementation over the ten-year period which are then presented in the CIDP for a 5-year period and then an annual development plan is prepared to implement projects and programmes identified in the CIDP.

Figure 1 provides a diagrammatic presentation of the link between the Sector plan, the CIDP, the ADP, the Budget and other plans.

*Figure 1: Linkage of the Sector Plan with other Plans*



## 1.5 Methodology

This sector plan was developed through a consultative process as provided for in Article 201 of the Constitution of Kenya, 2010, Section 115 of the County Government Act, 2012 and in line with the Kakamega County Public Participation Act, 2015. Consultations were done with all stakeholders and their submissions were compiled, analyzed and used in developing this plan. The Constitution of Kenya (2010) and The Big 4 Agenda Initiatives were used as reference documents. A Sector Working Group (SWG) was then established to provide secretariat services and direction to the whole preparation process. A workshop was held to build consensus on the contents and address any gaps. The SWG consolidated, revised and fine-tuned the information from each session to populate the document better. A validation meeting was held with all the stakeholders and thereafter, the plan was tabled to the Cabinet and forwarded to the County Assembly for approval.



## **CHAPTER II: SITUATION ANALYSIS**

### **2.1 Introduction**

The section discusses the environment within which the sector operates. It presents the sector policies and legal framework, highlights the current situation of key parameters in the sector, and reviews the sector financing and performance trends and further highlights the cross-cutting and emerging issues, challenges and lessons learnt.

### **2.2 Sector Context Analysis**

This Sector is the backbone of the county and continues to play a pivotal role in building the wealth of the County by contributing 34.29% of the Gross County Product. Based on its potential and opportunities therein, a significant proportion of the population is employed either directly or indirectly in this sector

#### **2.2.1 Crop Production**

The two main categories of crops grown in the county are food crops and industrial crops depending on the use of the harvested produce. A third category is horticulture crops (multipurpose).

Food crops-are either cereals (maize, sorghum, finger millet, and rice), pulses (beans, peas and grams) or roots/tubers (cassava, s/potato, arrow roots). Most cereals have recorded increased production over the recent years however some pulses have declined due to diseases. The main crops produced in the County are; Sugarcane, Tea, Maize, Sweet potatoes, Bananas, Soybeans and Local Vegetables (Managu, Saga, Miroo, Murenda, dodo). Maize production is supported by the farm input subsidy and agricultural mechanization programmes. Tea is being promoted in Khwisero, Ikolomani and Shinyalu sub-counties. The county is promoting upland rice and also rice production under irrigation in Matungu, Mumias West and upland rice in Butere sub-counties.

Banana is the main horticulture crop enterprise and the county has 2,080Ha currently and is promoting establishment tissue culture bananas for commercialization. Women groups have also been trained on horticulture production in local vegetables. The total county land acreage is 305,130Ha of which 27,075Ha is under forest cover and 255,483 is under crops. The main cash crop is sugarcane while the main food crop is maize. A total of 149,900Ha of arable land is under food crops. The distribution is as follows: Maize 78,300Ha (52.2%), beans 62,400Ha

(41.6%), Local Vegetables 3900Ha (2.6%), Sweet potatoes 3800Ha (2.5%) while Soya beans is 1500Ha (1%). A total of 41,194Ha of arable land is under Cash crops and are distributed as follows: Sugarcane 40500Ha (98.3%) and Tea 694Ha (1.7%). Overall, 78.4% of the arable land in the County is under food crops and 21.6% under cash crops.

### **2.2.2 Livestock Production**

The county is endowed with good climate for livestock husbandry. The following livestock are reared: cattle (dairy, zebu), poultry (indigenous chicken, layers, broilers, ducks, turkeys, geese and pigeons), bee keeping, pigs, goats (local goats, dairy goat), hair sheep and rabbits. According to (census 2019) Livestock population in the County is as follows Cattle – 403,450 (dairy exotic - 69,173, beef exotic -11,322, indigenous - 322,955), Sheep – 56884, Goats – 78,144, Pigs – 28,634, Donkeys – 1,080, Indigenous chicken – 1,415,652, exotic chicken layer – 102,673, exotic chicken broilers -43,620, bee hives 9,752, rabbits 15,986. About 68% of the cattle are the zebus. The major dairy breeds in the county are Friesians, Ayrshires Guernsey and Jersey. Emerging livestock include; ostriches, quails, guinea fowls and termites. There are also Dairy Cattle multiplication farms/ demonstration farm and Milk cooling plants, Honey refinery in Lurambi, Milk processing plant at Bukura Agricultural College, Milk cooling tanks distributed throughout the county and Hay stores: 6 stores each with a capacity of 2000 hay bales. The county has 16 livestock markets.

### **2.2.3 Veterinary Services**

There is one Artificial insemination services Centre that acts as a distribution point for semen and liquid Nitrogen to the 50 AI providers in the County. The County has 2 categories ‘B’ slaughter houses (in Mumias and Kakamega town) and 68 category C ‘Slaughter slabs which are either owned by the County or individuals. The average annual kill is about 45,243 cattle, 6,597 sheep, 5,885 goats, 9,673 pigs (Annual County veterinary report, 2020). There are 170 cattle dips with only 21 being operational. Mukumu Guernsey farm cattle dip is private whereas the rest are communally owned.

### **2.2.4 Fisheries Production**

The County has a total of 7,845 fish farmers operating, 8,336 fish ponds covering an area of 2,536,300 m<sup>2</sup>. Fish production is estimated at 1,627,500 Kgs and valued at Kshs.450, 000,000.

The County has four private hatcheries which supply quality male tilapia fingerlings and catfish fingerlings. Farmers also prefer other sources such as National Aquaculture Research Development and Training Centre (NARDTC) in Kirinyaga County, Lake Basin Development Authority and from neighboring Uganda.

The main culture species are Tilapia and Catfish. The preferred culture system is production in earthen fish ponds. However, some farmers are venturing in lined, concrete and raised wooden ponds in areas where water is a challenge or the soils are too porous. Aquaculture is rapidly expanding and dams are becoming the new frontier for fish farming in the county. Use of fish cages in the dams and rivers is being explored as an alternative form of aquaculture in the County.

### 2.2.5 Irrigation

The County has developed 12 small holder scale and 1 large scale (along River Nzioa supported by National Irrigation Board) irrigation scheme. In addition, 10 drainage schemes have been identified as well as shown in the table below.

**Table 4: Irrigation schemes in Kakamega County**

| Sub-County       | Irrigation |           | Drainage  |           | Identified Projects   |
|------------------|------------|-----------|-----------|-----------|---|
|                  | Potential  | Exploited | Potential | Exploited |   |
| <b>Lugari</b>    | 1,500      | 80        | 15        | 10        | Mwamba and Baharini irrigation projects; Chekalini Irrigation schemes.  |
| <b>Likuyani</b>  | 1,000      | 30        | 150       | 80        | Milimani, Machine Dam and Mumunyonzo irrigation project.  |
| <b>Mumias</b>    | 180        | 25        | 15,500    | 1150      | Masinjira drainage project.   |
| <b>Matungu</b>   | 225        | 30        | 21,000    | 1,850     | Busombi, Lutasio, Koyonzo-Bumutu rice, Nakahakosia and Nandunda drainage projects; River Nzoia irrigation project |
| <b>Ikolomani</b> | 400        | 15        | 1000      | 300       | Lukose and Kasavai Irrigation projects  |
| <b>Malava</b>    | 150        | 22        | 450       | 100       | Timbito and Tombo drainage scheme   |
| <b>Shinyalu</b>  | 850        | 0         | 500       | 20        | Mungavo irrigation project.   |
| <b>Butere</b>    | 155        | 14        | 625       | 200       | Imanga drainage project   |
| <b>Khwisero</b>  | 285        | 20        | 815       | 150       | Wambulishe drainage project.  |

|                  |              |            |               |              |   |
|------------------|--------------|------------|---------------|--------------|---|
|                  |              |            |               |              |   |
| <b>Navakholo</b> | 590          | 4          | 500           | 200          | Buchangu and Navakholo NIB Irrigation project along river Nzoia                   |
| <b>Matete</b>    | 600          | 0          | 100           | 0            | Hamtua drainage project   |
| <b>TOTALS</b>    | <b>5,825</b> | <b>258</b> | <b>40,645</b> | <b>4,060</b> | <b>Irrigation projects- 13No./sites</b><br><b>Drainage projects – 10No./sites</b> |

### 2.3 Sector Policies and Legal Framework

There are various laws and policies that influence operations and performance of the sector. The planning and the implementation of the sector development priorities is guided by the following policy documents;

*Table 5: Policies and strategies*

| S/no | Policy /Strategy   | Provisions   |
|------|--|--|
| 1    | Constitution of Kenya (2010)                                       | On Economic and social rights; Article 43(1) C to be free from hunger, and to have adequate food of acceptable quality; the sector endeavor to achieve 100% food security as per the law                         |
| 2    | The Big 4 Agenda Initiatives                                       | The Big 4 agenda provides for achievement 100% food and nutrition security   |
| 3    | Agricultural Sector Transformation and Growth Strategy (2019-2029) | Anchor 1 & 2 provides mechanisms for increasing small holder farm incomes and agricultural output. This informs the targeting of the farmers in various strategic interventions undertaken by the sector         |
| 4    | Kakamega Youth in Agribusiness strategy                            | The strategy endeavors to position the Youth as the drivers and champions of Agricultural Transformation   |
| 5    | Kakamega Soil Management strategy                                  | Prescribes strategic interventions that should be undertaken to promote integrated soil fertility management   |
| 6    | Sustainable land and Forest Management Policy                      | The policy guides the management of land and soil management within the County for sustainable agricultural productivity   |
| 7    | Kakamega County Dairy strategy                                     | The objective of this strategy is to improve production and productivity of the dairy sub-sector into improved income and food and nutrition security of Kakamega county residents through the dairy value chain |
| 8    | Kakamega County Cooperative policy                                 | Provided for the creation of Co-operative grants   |
| 9    | Kakamega Dairy Development Corporation Act                         | Provided for the creation of the KDDC to spearhead dairy value chain development in the County   |
| 10   | Kakamega County Farm inputs fund) regulations, 2018                | Provided for the creation of the fund to support agricultural inputs subsidy programmes in the sector  |
| 11   | Roots and tuber crops strategy                                     | Provided to promote traditional high value crops and ensure their production is revived to support food and security in the County   |

### 2.4 Review of Sector Financing

For the sector to implement the proposed programmes and projects in this Plan, it will require approximately KES 17.4 Billion. The county total financing since 2013/14 to 2021/2022 was

Ksh 92,574,145,550.00 of which Ksh 8,111,953,327.00 was allocated to the department of Agriculture, Livestock, Fisheries and Cooperatives representing 6.4% of the total County Budget. The department expenditure was Ksh 4,979, 445,110.00 representing 61.4% of the total departmental allocation as indicated in table 6

The sector had a low absorption rate of 7.9% in the financial year 2013/2014. During this financial year, the department had prioritized programmes under irrigation, horticulture production, fish farming, cooperative development and sugarcane production. However, these programmes were not implemented since the department had a weak legal framework, inadequate technical staff, unavailability of land and conflicting interests.

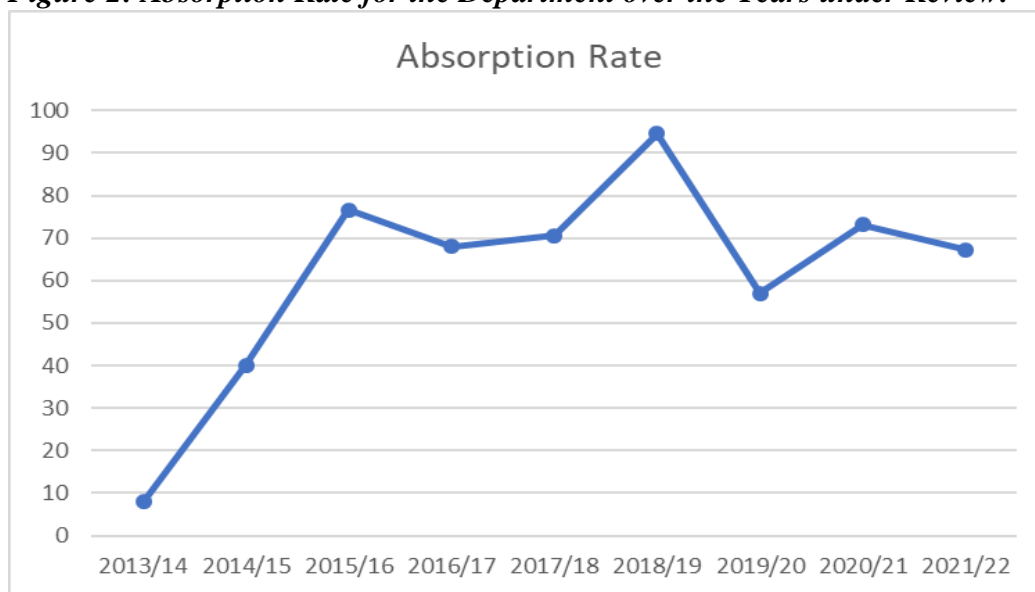
During the financial year 2015/2016, the department's absorption rate increased to 76%. This improvement was attributed to improved legal framework and implementation of demand driven programmes by the department as shown in fig 2.

**Table 6: Source of Sector Budget Financing**

| Source of Financing                             | 2012/13        | 2013/14          | 2014/15          | 2015/16        | 2016/17        | 2017/18        | 2018/19        | 2019/20          | 2020/21          | 2021/22          |
|---|----------------|------------------|------------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|
| <b>Total County Financing</b>                   | 458,455,064.00 | 7,156,086,781.00 | 8,532,742,034    | 10,095,720,459 | 11,347,358,859 | 11,640,760,649 | 12,963,808,740 | 12,416,574,234   | 14,018,883,280   | 4,402,210,514    |
| <b>Total Sector financing</b>                   |                | 715,065,446.00   | 1,040,200,000.00 | 619,052,810.00 | 581,206,542.00 | 360,933,152.00 | 752,180,662.00 | 1,051,239,841.00 | 1,608,370,189.00 | 1,330,536,473.00 |
| <b>National Government (conditional grants)</b> |                |                  |                  |                |                |                | 41,643,182.00  | 100,133,872.00   | 285,257,463.00   |                  |
| <b>Total Sector Expenditure</b>                 |                | 57,147,543.00    | 417,574,946.00   | 474,665,139.00 | 395,284,577.00 | 254,768,450.00 | 711,151,974.00 | 599,120,530.00   | 1,175,518,300.00 | 894,213,651.00   |

**NB:** The Sector began receiving National Government Grants in the FY 2018/2019

**Figure 2: Absorption Rate for the Department over the Years under Review.**



## **2.5 Sector Performance, Trends and Achievements**

### **2.5.1 Crop Production**

- Distributed 826,176 (25kg) bags of planting and 701,258 (25kg) bags of top-dressing fertilizer and 1,033,224 (2kg) packets of certified maize seed to farmers;
- Distributed 1,000,000 tea seedlings to farmers in Shinyalu, Ikolomani and Khwisero Sub-counties for infilling and established a 150, 000 Tea seedlings holding Centre at Bukura ATC
- Purchased 15 tractors and ploughed 8,225.75 acres of land;
- Distributed of 77,012 tissue banana plantlets to farmers.
- Supported 290 Groups on poultry, African leafy vegetables, fisheries and dairy;
- At the Bukura ATC, renovated and furnished one classroom; constructed and operationalized two model greenhouses, Constructed 7 fish ponds and one modern dairy unit, Established 2 net shades for tree nursery and 21 net shades for banana project, Improved access roads and installed 1 high mast security light.



**Photo 1 : H.E The Governor Issuing Subsidized Fertilizer to a Farmer**

### **2.5.2 Livestock Production**

- Distributed 1790 in-calf heifers, passed on 706 heifer calves to other beneficiaries and 48 in calf heifers given to the youth dairy trainees under ATVET programme
- Constructed and operationalized Matungu, Kabras, Bukura and Khwisero Smart Farms;
- Supported 658 farmer groups across the county with 217,000-day old chicks under poultry subsidy programme





*Photo 2: Dairy animals at Matungu Smart Farm*

### **2.5.3 Veterinary Services**

- Vaccinated 1,205,379 cattle, 25,907 sheep, 10,503 goats, 105,156 dogs and 2,178 cats against major diseases like black quarter, East Coast Fever (ECF), anthrax, lumpy skin disease, rabies and Foot and Mouth Disease (FMD);
- Constructed Lubao and Nambacha modern stockrings
- Renovated the veterinary laboratory at Kenya Agricultural and Livestock Research Organization (KALRO);
- Carried out 70,662 Artificial Inseminations; 23 AI providers trained and incorporated on the AI Programme and 12 Motor bikes distributed to facilitate AI services
- Constructed Burundu and Soysambu Cattle Dips

### **2.5.4 Fisheries Production**

- Distributed 6,908 bags of fish feeds and 1,324,000 Fingerlings to 1324 fish farmers. 36 earthen fish ponds constructed (3 per sub-county); Fishing gears (80 seine nets), purchased, purchased a collection van, and a fridge;
- Rehabilitated and stocked Lugulu, Siyenga, Musembe and Mwamba dams stocked with 22,000 mixed sex tilapia fingerlings



- Constructed and fenced a fish feed warehouse at Lutonyi Fish Farm;
- Operationalized the Kakamega Fish Processing Plant through the DAS Group;
- Established 30 Aquaculture Field Schools to train farmers;
- Distributed 200 predator nets, 200 birds' nets, 81 PVC liners to fish farmer groups

### **2.5.5 Irrigation**

- Distributed 115 no. foot pumps to farmer groups, developed 60 dams and water pans;  
Total area of land under irrigation is 412 acres while 4,200 acres under drainage;
- Protected water springs such as; (Wambuliche, Imanga A, Masinjira, Nakhakosia, Nadunda, Koyonzo II, Tombo – Mausi),
- Four (4) River crossing constructed at Nakhakosia, Nadunda, Tombo-Mausi and Ololunza

### **2.5.6 Cooperatives Development**

- 98 Co-operative societies benefited from KES 65 million grant;
- Registered 350 cooperative societies
- Revived 32 cooperative societies
- Mobilized Ksh.20M in savings for the cooperatives
- Conducted 567 cooperative audits
- Conducted 2,476 trainings on cooperatives

## **2.6 Challenges and lessons learnt**

### **Challenges**

- Inadequate funding for agricultural extension services
- Inadequate staffing and high staff turnover due to retirement and natural attrition
- High mortality rates of distributed dairy animals and heifer calves.
- Increased cost of livestock feeds
- Lack of organised marketing structures
- Inadequate means of transport (Vehicles and Motorcycles)
- Inadequate office space and furniture
- Inadequate ICT equipment
- Inadequate training opportunities

## Lessons learnt

- Early and prompt implementation of projects has a big bearing on its success.
- Public participation in all projects is critical for proper implementation.
- Partnerships with other service providers is key to improved service delivery.
- Farmers are willing to increase adoption of modern and climate smart technologies.
- Political goodwill is key to successful implementation of projects.
- Vaccinations increases survival rates of distributed animals.

## 2.7 Sectoral Development Issues

The development issues, their causes and available opportunities as identified during stakeholder meetings are presented in table 5

**Table 7: Sectoral Development Issues, Causes, Opportunities and Challenges**

| Sub-Sector             | Development Issues                                   | Causes  | Opportunities   |
|------------------------|--|---|---|
| Agriculture Production | High Prevalence of Pests and diseases                | -Climate change.<br>-Poor quality of farm inputs;<br>-Mutation (resistance seeds)   | -Existence of development partners;<br>-Existence of county crop protection unit;<br>-Existence of research Institutes.   |
|                        | Land degradation                                     | -Poor soil management practices.<br>-Soil erosion.<br>-In appropriate use of fertilizer.<br>-Deforestation  | -Existence of soil testing facilities.<br>-Existence of development partners.   |
|                        | Low uptake of farm inputs and mechanization services | -High cost of offering services/<br>Machines/Farm inputs  | -Existence of farm mechanization unit.<br>-Existence of development partners.<br>-Existence of farm input subsidy and crop production unit.   |
|                        | Declining food nutrition safety.                     | -Inadequate nutrition knowledge.<br>-Weak legislation on food and nutrition security and safety.<br>-Poor Crop husbandry production practices.<br>-High cost of production.<br>-Inadequate climate information services | -Availability of nutritious and fortified foods.<br>-Diversified food preparation and preservation technologies.<br>-Existence of Development Partners.<br>-Existence extension services, |

|                      |   |   |  |
|----------------------|---|---|--|
| Livestock Production | Low quality animal breeds                                     | <ul style="list-style-type: none"> <li>-Poor/ rudimentally animal breeding technologies.</li> <li>-High cost of breeding materials/feeds.</li> <li>-Inadequate knowledge on good livestock husbandry practices.</li> <li>-Existence of inferior dairy breeds.</li> <li>-Diminishing agricultural land sizes.</li> </ul> | <ul style="list-style-type: none"> <li>-Favorable Climate</li> <li>-Existence of National Breeding Policy.</li> <li>-Cheap and sufficient labor</li> <li>-Favorable climate conditions for rearing.</li> <li>-Availability of Agro-dealers.</li> <li>-Semi-Autonomy of the cooperation (KDDC)</li> </ul> |
|                      | High prevalence of livestock diseases                         | <ul style="list-style-type: none"> <li>-Cross border livestock movement.</li> <li>-Poor management of livestock.</li> <li>-Inadequate extension services.</li> <li>-Unprofessional licensing</li> </ul>   | <ul style="list-style-type: none"> <li>-Existence of vaccination programmes.</li> <li>-Existence of cattle dips</li> </ul>   |
|                      | Uncontrolled population of abandoned companion animals        | <ul style="list-style-type: none"> <li>-Poor handling/ownership</li> <li>-Inadequate legislation and policy framework</li> </ul>  | <ul style="list-style-type: none"> <li>-Provision for legislation and implementation on animal control and welfare issues in the constitution</li> </ul>   |
|                      | Low quality hides and skins                                   | <ul style="list-style-type: none"> <li>-Poor animal husbandry</li> <li>-Unprofessional licensing</li> <li>-Low value addition</li> </ul>  | <ul style="list-style-type: none"> <li>-Favorable Climate for animal breeding.</li> <li>-Existence of extension services.</li> <li>-Cheap and sufficient labor</li> </ul>  |
| Fisheries            | Underdeveloped fisheries infrastructure                       | <ul style="list-style-type: none"> <li>-High infrastructural costs</li> <li>-Inadequate land. Cultural / traditional practices.</li> <li>- Inadequate data to inform investment.</li> </ul>   | <ul style="list-style-type: none"> <li>-Existing water resources (springs, streams, rivers, dams).</li> <li>-Collaboration with Development partners.</li> <li>-Favorable Climate, Existing aquaculture value chain actors</li> </ul>  |
|                      | Low uptake of fisheries inputs                                | <ul style="list-style-type: none"> <li>-High cost of fisheries inputs.</li> <li>-Unavailability of fish inputs retailers</li> <li>-Poor quality fingerlings and fish feeds.</li> <li>-Inadequate technical capacity.</li> </ul>   | <ul style="list-style-type: none"> <li>-Introduction of the County Fish Subsidy Programme;</li> </ul>  |
|                      | Insecurity of investment in fisheries and post-harvest losses | <ul style="list-style-type: none"> <li>-Poverty.</li> <li>-Youth unemployment, investments done far from homesteads.</li> <li>-Poor post-harvest management practices</li> </ul>  | <ul style="list-style-type: none"> <li>-Alternative forms of fish farming systems.</li> <li>-Existence of firms providing insurance cover.</li> <li>-Existence of fish processing plant</li> </ul>   |
| Irrigation           | Low uptake of water for irrigation                            | <ul style="list-style-type: none"> <li>-Inadequate water extraction infrastructure.</li> <li>-Climate Change.</li> <li>-Inadequate maintenance of existing irrigation infrastructure.</li> <li>-Inadequate irrigation technologies amongst smallholder farmers.</li> <li>-High infrastructural costs.</li> </ul>        | <ul style="list-style-type: none"> <li>-Existence of rivers, dams and other water bodies.</li> <li>-Existence of development partners.</li> <li>-Existence of solar powered irrigation systems and money maker pumps.</li> </ul>   |
|                      | Water logged farmlands  | <ul style="list-style-type: none"> <li>-Poor drainage infrastructure, poor farming practices</li> </ul>   | <ul style="list-style-type: none"> <li>-Existence of technologies to develop proper drainage.</li> <li>-Crops tolerant in water logged farmlands.</li> </ul>   |

|                         |  |  |  |
|-------------------------|--|--|--|
| Cooperatives            | Inadequate capital base                      | -Low investment.<br>-High cost of credit facilities.<br>-Poor governance   | -Availability of County Government grants.<br>-Continuous training and education to cooperatives   |
|                         | Low uptake of value addition and enterprises | -High cost of value addition machinery and equipment.<br>-Ignorance.   | -Availability of grants.<br>-Existence of taxation exemption on imported equipment for production.   |
| Extension and Liaison   | Inadequate research and extension services   | -Inadequate technical staff.<br>-Uncoordinated extension services  | -E-Extension services.<br>-Existence of development partners   |
| Marketing and promotion | Inadequate market linkages                   | -Unstructured market channels.<br>-Inadequate market information<br>-Underdeveloped crop/livestock value chains.<br>-High post-harvest losses.<br>-Bureaucratic procedures in product certification<br>-Low production | -Existence of cooperatives<br>-Existence of development partners.<br>-Existence of market research and information platforms.<br>-Existence of markets (Large population); |

## 2.8 Cross Cutting Issues

The cross-cutting issues as identified by the sector stakeholders are presented in table 6 below. The major cross-cutting issues discussed are lack of Youth Empowerment initiatives, Climate Change, Gender Mainstreaming and HIV&AIDS as discussed below;

**Table 8: Analysis of Sector Crosscutting Issues**

| Cross-cutting Issue           | Current Situation  | Effects of the Issue on the sector   | Gaps (policy, legal and institutional)  | Measures for addressing the gaps   | Recommendations  |
|-------------------------------|--|--|---|--|--|
| Youth Empowerment initiatives | Minimum involvement of the Youths in Agriculture and aging farming community | High unemployment, Low Agric. sustainability, lack of modernization/ commercialization of the sector | Lack of legislation & legal frameworks and strategies to address issues of Youths in the sector | National or County Policies/ Strategies/ Action Plans to address the issue | Enactment and implementation of youth friendly policies and strategies in line with National Policies, strategies and aspirations. |
| Climate Change                | Adverse effects of climate change in the sector                              | Adverse effects on production and productivity   | Climate change policies have not been mainstreamed in the sector                                | Develop County Policies/ Strategies/ Action Plans to address the           | Enactment or Domestication of National Policy to county specific; Awareness  |

| <b>Cross-cutting Issue</b> | <b>Current Situation</b>   | <b>Effects of the Issue on the sector</b>  | <b>Gaps (policy, legal and institutional)</b>  | <b>Measures for addressing the gaps</b>                                    | <b>Recommendations</b>  |
|----------------------------|--|--|--|--|---|
|                            |  |  |  | issue  | Creation. Initiation and promotion of climate change mitigation and adaptation measures           |
| Gender Mainstreaming       | Gender disparities in the Sector                                     | Disparities in access and allocation of resources to either gender in the sector | Gender mainstreaming policies have not been effected in the Sector                                 | National or County Policies/ Strategies/ Action Plans to address the issue | Enactment or Domestication of the National Policy to county specific; Awareness Creation          |
| HIV&AIDS                   | Prevalence rate is 8.1%. High prevalence among Youth and farmer folk | Reduced agricultural production  | HIV&AIDS policy does not cover Fisheries, Aquaculture and Blue Economy issues                      | National Policy on HIV &AIDS; Domesticate policies to the County           | Domestication of the National Policy to county specific; Awareness Creation; Provide Care/Support |
| Alcohol and Drug Abuse     | High prevalence among the Youth and Agriculture work force           | Adverse effects on agricultural production and productivity                      | Lack of legislation and legal frameworks to address issues of Alcohol and Drug Abuse in the sector | National or County Policies/ Strategies/ Action Plans to address the issue | Enactment or Domestication of the National Policy to county specific; Awareness Creation          |
| Disability mainstreaming   | High levels of disability among farmers                              | Adverse effects on agricultural production and productivity                      | Lack of legislation and legal frameworks to address issues of disability in the sector             | National or County Policies/ Strategies/ Action Plans to address the issue | Enactment or Domestication of the National Policy to county specific; Awareness Creation          |
| Emerging Technologies      | Obsolete   | Reduced agricultural production and productivity                                 | Lack of legislation and legal frameworks to address issues of technological                        | National or County Policies/ Strategies/ Action Plans to address the       | Enactment or Domestication of the National Policy to county specific; Awareness                   |

| Cross-cutting Issue | Current Situation | Effects of the Issue on the sector | Gaps (policy, legal and institutional) | Measures for addressing the gaps | Recommendations |
|---------------------|-------------------|------------------------------------|--|----------------------------------|-----------------|
|                     |                   |                                    | issues in the sector                   | issue                            | Creation        |

## 2.9 Emerging Issues

The major emerging issues and the interventions in place or proposed to mitigate the negative effects or harness the positive effects are as presented in table 7

**Table 9: Analysis of Sector Emerging Issues**

| S/no | Emerging Issues                      | Proposed Measures to mitigate the negative effects or harness the positive effects  |
|------|--------------------------------------|---|
| 1.   | Outbreak of pests/weeds and diseases | Increase budgetary allocation on disease and pest control.<br>Develop and implement preparedness and mitigation plans<br>Enhance surveillance measures and early warning systems<br>Soil rehabilitation, Research and extension |
| 2.   | Outbreak of Covid-19 Pandemic        | Embrace Covid 19 National Mitigation Guidelines.<br>Ensure the public is immunized against the disease  |
| 3.   | Disasters (Fires floods)             | Establish County Emergency Units in the Sub-Counties and the wards  |

## 2.10 Stakeholder Analysis

The exists different stakeholders relevant to the sector and their possible areas of collaboration as presented in table 8 below;

**Table 10: Stakeholders Analysis**

| Stakeholder                             | Roles  | Possible areas of Collaboration  |
|---|--|--|
| KEPHIS                                  | Regulation and certification of seed and plant materials and Standardization and quality control of agriculture materials. | Certification of crop and training on quality control of value chain; Testing of Fertilizer, pesticides and animal feeds |
| KEBS                                    | Ensure quality of inputs   | Standardization and certification  |
| Seed Companies                          | Supply of Seeds  | Conduct demonstration on variety trials  |
| Fertilizer Companies                    | Supply of fertilizers  | Supply of other farm inputs  |
| Agro Dealers                            | Input suppliers  | Supply Agro-chemicals  |
| Ministries, County Departments/Agencies | Technical and financial support to the Sector.<br>Provide policy guidelines  | Conduct studies on impact of farm inputs programme, trainings, Monitoring and Evaluation, Enforce law and order          |

|  |  |   |
|--|--|---|
| Non-Governmental Organizations (NGOs)                | Technical support to the Sector; Advocacy, Social accountability           | Training; Capitation and Support development of relevant legislation and legal frameworks |
| Kakamega County Assembly                             | Legislations; Approval of budgets and Oversight                            | Enactment of relevant legislations and legal frameworks;                                  |
| Academic Institutions                                | Capacity building and training, Demonstration sites,                       | Support agriculture related trainings;  |
| Research Institutions                                | Research and farm trials, capacity building.                               | Technology development and transfer   |
| Financial Institutions                               | Credit facilitation  | Capacity building;  |
| Farmers' Organizations                               | Community mobilization, advocacy and job creation                          | Uptake of technical information and extension linkages                                    |
| Development partners (GIZ,FAO,IFAD,MESPT,WB, US-AID) | Avail resources in form of credit, grants, material and technical support. | Extension, community mobilization and empowerment   |
| Agro-Processors                                      | Provide market for agricultural produce, Job creation,                     | Training and Value addition   |

## CHAPTER III: SECTOR DEVELOPMENT STRATEGIES AND PROGRAMMES

### 3.1 Sector Vision and Mission

#### 3.1.1 Vision

A leading innovative, commercially oriented and modernized agricultural sector.

#### 3.1.2 Mission

To improve the livelihoods of Kakamega County residents through promotion of competitive and sustainable agricultural, livestock and fisheries production, affordable and quality veterinary services provision, growth of a viable cooperative movement and training and adoption of smallholder irrigation that is efficient, sustainable and effective.

#### 3.1.3 Goal of the Sector

To promote and facilitate production of food and agricultural raw materials, ensure food security, promote agro-based industry, agricultural export and sustainable agricultural practice.

### 3.2 Sector Development Objectives and Strategies

The sector development issues as identified by stakeholders, the development objectives and strategies proposed to address the issues are as presented in table 9.

**Table 11: Sector Developmental Issues, Objectives and Strategies**

| Sub-Sector  | Development Issues                                   | Development Objectives                                       | Strategies  |
|-------------|--|--|---|
| Agriculture | High prevalence of pests and diseases                | To reduce crop losses associated with pest and diseases      | -Improve pest and disease management<br>-Strengthen County crop protection unit.  |
|             | Land degradation                                     | To improve soil fertility and management                     | -Establish soil improvement and rehabilitation programme;   |
|             | Low uptake of farm inputs and mechanization services | To increase uptake of farm inputs and mechanization services | -Upscale the farm input subsidy programme.<br>-Establish Horticulture and cash crop commercialization programmes  |
|             | Declining food nutrition safety                      | To improve food nutrition safety                             | -Enactment of County policies and strategies and domestication of National policies and strategies<br>-Improve Agri-nutrition programs.<br>-Disseminate climate information through digital platforms |



|                      |  |   |  |
|----------------------|--|---|--|
| Livestock Production | Low quality animal breeds                              | To improve the quality of animal breeds   | <ul style="list-style-type: none"> <li>-Adoption of improved breeding technologies.</li> <li>-Capacity build technical officers and farmers.</li> <li>-Strengthen extension outreach programs.</li> <li>-Pasture and fodder development.</li> <li>-Breeding of disease resistant animals.</li> <li>-Establish value chain training centres.</li> <li>-Establish Smart farms</li> </ul> |
|                      | High prevalence of livestock diseases                  | To reduce prevalence of livestock pest and diseases                                     | <ul style="list-style-type: none"> <li>-Develop and upscale vaccination treatment programs.</li> <li>-Vector Control program.</li> <li>-Disease surveillance and early warning;</li> </ul>   |
|                      | Uncontrolled population of abandoned companion animals | To enhance responsible ownership of companion animals                                   | <ul style="list-style-type: none"> <li>-Legislate and implement policies and strategies on animal control and welfare;</li> </ul>  |
|                      | Low quality hides and skins                            | To improve the quality of hides and skins production in the County                      | <ul style="list-style-type: none"> <li>-Develop hides and skins policy</li> <li>-Enforcing quality standards in hides and skins value chain</li> <li>-Capacity build farmers and extension officers.</li> </ul>  |
| Fisheries            | Underdeveloped fisheries infrastructure                | To develop fish farming Infrastructure and increase fish consumption to diversify diets | <ul style="list-style-type: none"> <li>Upscale pond development programme</li> <li>-Establishment of Aqua Parks and aquaponics centres.</li> <li>-Enhance hatcheries development.</li> <li>-Establishment of Aquaculture Field Schools (AFSs)</li> </ul>   |
|                      | Low uptake of fisheries inputs                         | To increase uptake of fisheries inputs  | <ul style="list-style-type: none"> <li>-Upscale fish subsidy programme;</li> <li>-Strengthen value chain actors.</li> <li>-Establish aggregation centres</li> </ul>  |
|                      | Insecurity of investment in fisheries                  | To improve security of investment in fisheries  | <ul style="list-style-type: none"> <li>-Promote insurance of fisheries investment/enterprises;</li> <li>-Embrace insecurity mitigation technologies</li> </ul>   |
| Irrigation           | Low uptake of water for irrigation                     | To increase access to water for irrigation  | <ul style="list-style-type: none"> <li>-Establishment of new irrigation infrastructure;</li> <li>-Develop water harvesting programme</li> <li>-Rehabilitate existing irrigation infrastructure.</li> <li>-Irrigation schemes. Formation of water users association;</li> <li>-Establish smallholder</li> </ul>   |
|                      | Water logged farmlands                                 | To maximize utilization of water logged farm lands                                      | <ul style="list-style-type: none"> <li>-Enhance Land reclamation and rehabilitation</li> </ul>   |
| Cooperatives         | Low Capital Base                                       | To increase production hence the capital  | <ul style="list-style-type: none"> <li>-Enhance the Cooperatives Enterprise Fund.</li> <li>-Enhance governance</li> <li>-Enhance supervision and audits.</li> </ul>  |

|                                   |  |   |  |
|-----------------------------------|--|---|--|
|                                   |  |   | Develop/review cooperatives policies and regulations   |
|                                   | Low value chain enterprises                | To strengthen value chain enterprises         | -Establish e-marketing platforms;  |
| Agriculture Extension and Liaison | Inadequate research and extension services | To strengthen research and extension services | -Capacity building.<br>-Strengthen extension services.<br>Develop and implement the county extension policy/framework<br>-Embrace E-extension                    |
| Marketing Promotion               | Inadequate market linkages                 | To enhance agricultural market linkages       | -Strengthen market information systems;<br>-Establish aggregation centres.<br>-Enhance value chain development programs.<br>-Establishment of cottage industries |

### 3.3 Sector Programmes and Interventions

This section provides the programmes, their objectives and the key interventions for the planned period 2022 – 2032 including their budgetary requirements as shown in table 12 below;

**Table 12: Implementation Matrix**

| Programme                        | Development Objectives                                       | Strategies/Interventions  | Implementing Agency(s)    | Time-Frame | Funding                 |           |
|----------------------------------|--|---|---------------------------|------------|-------------------------|-----------|
|                                  |  |   |                           |            | Total Budget (Millions) | Source(s) |
| Crop production and productivity | To reduce crop losses associated with pest and diseases      | -Improve pest and disease management<br>-Strengthen County crop protection unit.  | Department of Agriculture | 2023-2032  | 300                     | CGK       |
|                                  | To improve soil fertility and management                     | -Establish soil improvement and rehabilitation programme;   | Department of Agriculture | 2023-2032  | 300                     | CGK       |
|                                  | To increase uptake of farm inputs and mechanization services | -Upscale the farm input subsidy programme.<br>-Establish horticulture and cash crop commercialization programmes  | Department of Agriculture | 2023-2032  | 7,000                   | CGK       |
|                                  | To improve food nutrition safety                             | -Enactment of County policies and strategies and domestication of National policies and strategies<br>-Improve Agri-nutrition programs.<br>-Disseminate climate information through digital platforms | Department of Agriculture | 2023-2032  | 100                     | CGK       |

| Programme                             | Development   | Strategies/Interventions   | Implementing             | Time-     | Funding |                  |
|---------------------------------------|---|--|--------------------------|-----------|---------|------------------|
| Livestock production and productivity | To improve the quality of animal breeds   | Adoption of improved breeding technologies.<br>-Capacity build technical officers and farmers.<br>-Strengthen extension outreach programs<br>-Pasture and fodder development.<br>-Breeding of disease resistant animals.<br>-Establish value chain training centres.<br>-Establish Smart farms | Department of Veterinary | 2023-2032 | 2,000   | CGK              |
|                                       | To reduce prevalence of livestock pest and diseases                                     | -Develop and upscale vaccination treatment programs.<br>-Vector Control program.<br>Disease surveillance and early warning;  | Department of Veterinary | 2023-2032 | 500     | CGK              |
|                                       | To enhance responsible ownership of companion animals                                   | -Legislate and implement policies and strategies on animal control and welfare;  | Department of Veterinary | 2023-2032 | 200     | CGK              |
|                                       | To improve the quality of hides and skins in the County                                 | -Develop hides and skins policy/regulations<br>-Enforcing quality standards in hides and skins value chain<br>-Capacity build farmers and extension officers.<br>-Establish hides and skin curing premises   | Department of Veterinary | 2023-2032 | 300     | CGK              |
| Fisheries farming                     | To develop fish farming Infrastructure and increase fish consumption to diversify diets | -Upscale pond development programme<br>-Establishment of Aqua Parks and aquaponics centres.<br>-Enhance hatcheries development<br>-Establishment of Aquaculture Field Schools (AFSs)   | Department of Fisheries  | 2023-2032 | 1,000   | CGK/Dev Partners |
|                                       | To increase uptake of fisheries inputs  | -Upscale fish subsidy programme;<br>-Strengthen value chain actors.<br>-Establish aggregation centres  | Department of Fisheries  | 2023-2032 | 600     | CGK              |
|                                       | To improve security of investment in fisheries  | Promote insurance of fisheries enterprises;<br>-Embrace insecurity mitigation technologies   | Department of Fisheries  | 2023-2032 | 200     | CGK              |
| Irrigation                            | To increase   | -Establishment of new  | Department of            | 2023-     | 700     | CGK              |

| Programme              | Developmen   | Strategies/Interventions  | Implementing                          | Time-     | Funding |     |
|------------------------|--|---|---------------------------------------|-----------|---------|-----|
|                        | access to water for irrigation                     | irrigation infrastructure;<br>-Develop water harvesting programme<br>-Rehabilitate existing irrigation infrastructure.<br>-Formation of water users associations<br>-Establish smallholder Irrigation schemes | Irrigation                            | 2032      |         |     |
|                        | To maximize utilization of water logged farm lands | -Enhance Land reclamation and rehabilitation  | Department of Irrigation              | 2023-2032 | 300     | CGK |
| Cooperatives promotion | To increase cooperative capital base               | -Enhance the Cooperatives Enterprise Fund.<br>-Enhance governance and supervision<br>-Develop/review cooperatives policies and regulations  | Department of Cooperative Development | 2022-2032 | 500     | CGK |
|                        | To strengthen value chain enterprises              | -Establish e-marketing platforms;   | Department of Cooperative Development | 2022-2032 | 400     | CGK |
| Extension and Liaison  | To strengthen extension services                   | -Develop county extension policy/framework  | Department of Agriculture             | 2023-2032 | 500     | CGK |
| Marketing promotion    | To ensure enhanced agricultural market linkages    | -Strengthen market information systems;<br>-Establish aggregation centres;<br>-Value chain development  | Department of Agriculture             | 2023-2032 | 2,500   | CGK |

### 3.4 Sector Flagship Projects

The sector flagship projects are as presented in table 13 below.

*Table 13: Sectoral flagship projects*

| Project Name: (Location)                       | Objective  | Outcome                                    | Description of Key Activities   | Time Frame | Beneficiaries (No.) | Estimated Cost | Source of Funds  | Implementing Agency       |
|--|--|--|---|------------|---------------------|----------------|------------------|---------------------------|
| Farm inputs Subsidy                            | To increase access of farm inputs                      | Yields increased                           | Supply of soil testing services, in organic fertilizers, organic fertilizer and maize seeds, N Fixing legume seeds; Trainings. M&E; Audits; | 2023-2032  | 200,000             | 7 billion      | CGK- GOK         | Department of Agriculture |
| Development of fisheries infrastructure        | To increase fish production, fish productivity         | Increase household incomes and livelihoods | Pond construction, Pond rehabilitation, Pond stocking, Aqua Parks, Trainings  | 2023-2032  | 50,000              | 700 million    | CGK - GOK        | Department of Fisheries   |
| Kakamega county Poultry multiplication project | To commercialize Poultry for food & nutrition security | Increase poultry productivity by 20%.      | Provision of subsidized day old chicks, operationalization of poultry hatcheries, feed mills and slaughter houses.                          | 2023-2032  | 100,000             | 500M           | CGK – GOK        | Department of Livestock   |
| Dairy development program                      | To increase Dairy cattle production and productivity.  | Increase Dairy production and productivity | Dairy Cattle breeding and registration  | 2023-2032  | 200,000             | 500M           | CG- Partners/GOK | Department of livestock/K |

|                                |  |  |  |           |         |      |     |                         |
|--------------------------------|--|--|--|-----------|---------|------|-----|-------------------------|
|                                |  | by 20%   |  |           |         |      |     |                         |
| Horticulture Commercialization | To commercialize horticulture crops for food and income generation | Increased banana Avocado, ALVs and tomato production by 40%                  | Provision of superior clean planting materials, establish of aggregation centers.                          | 2023-2032 | 200,000 | 300M | CGK | Department Agriculture  |
| Tea development                | To increase productivity and area under tea                        | Increase yield per area; Increase area under tea                             | Provision of seedlings; Trainings  | 2023-2032 | 100,000 | 300M | CGK | Department Agriculture  |
| Cooperative enterprise fund    | To avail low cost credit facilities                                | To double the number of cooperatives having easy access to credit facilities | Formulation and approval of Cooperative Enterprise Fund Bill; Promotion of the cooperative enterprise fund | 2023-2032 | 100,000 | 500  | CGK | Department Cooperatives |

### 3.5 Cross-Sectoral Linkages

*Table 14: Cross-Sectoral linkages*

| Programme Name  | Linked sector     | Cross-sector Linkages   |  | Measures to Harness or Mitigate the effects |
|---|-------------------|---|--|---|
|   |                   | Synergies   | Adverse effects  |   |
| Food/cash crop production, livestock production, irrigation and fisheries farming | Trade/ industries | Sale of farm produce; Process surplus farm produce                                  | Climate Change, Global conflicts, pest and disease infestation | Increase production and productivity.       |
| Cooperatives development  | Trade/ industries | Funds mobilization, marketing and value addition, Aid in acquiring trading licenses | Political instability; Global conflicts; Disease outbreaks;    | Enroll more members into cooperatives       |

| Programme Name | Linked sector          | Cross-sector Linkages                             |   | Measures to Harness or Mitigate the effects |
|----------------|------------------------|---|---|---|
|                |                        | Synergies   | Adverse effects                                     |   |
|                |                        |   | macroeconomic performance                           |   |
| Veterinary     | Health/<br>Environment | Collaborate with partners in controlling diseases | Solid and liquid matter disposal in the environment | Proper disposal management of farm waste    |

## CHAPTER IV: IMPLEMENTATION MECHANISMS

### 4.1 Institutional and Coordination Framework

#### 4.1.1 Institutional Arrangement

This highlights institutions and their specific roles in the implementation of the Sectoral plan. The institutions will range from County Government departments as well as other players such as the National Government Ministries, Departments and Agencies (MDAs).

*Table 15: Sector Institutions and their Role*

| S/No. | Name of Institution                                     | Role  |
|-------|---|---|
| 1     | County Assembly   | Legislation, budget allocation and oversight.   |
| 2     | Ministry of Agriculture                                 | Formulation of policies and guidelines for the Sector.  |
| 3     | County Executive Committee                              | Implement national and county legislations.   |
| 4     | County Planning Unit                                    | Development of plans and budgets  |
| 5     | County Budget and Economic Forum                        | Representation of the public in government programmes (budgeting)   |
| 6     | Lake Region Economic Bloc                               | Coordinate inter county economic development  |
| 7     | KEPHIS  | Regulation and certification of seed and plant materials, Standardization and quality control of agriculture materials. |
| 8     | KEBS  | Ensure quality of inputs  |
| 9     | Fertilizer/seed Companies                               | Supply of seeds /fertilizers  |
| 10    | Ministries, County Departments/Agencies                 | Technical and financial support to the Sector.<br>Provide policy guidelines   |
| 11    | Non-Governmental Organizations (NGOs)                   | Technical support to the Sector; Advocacy, Social accountability  |
| 12    | Academic Institutions                                   | Capacity building and training, Demonstration sites,  |
| 13    | Research Institutions                                   | Research and farm trials, capacity building.  |
| 15    | Development partners<br>(GIZ,FAO,IFAD,MESPT,WB, US-AID) | Avail resources in form of credit, grants, material and technical support.  |
| 16    | Agro-Processors   | Provide market for agricultural produce, Job creation,  |



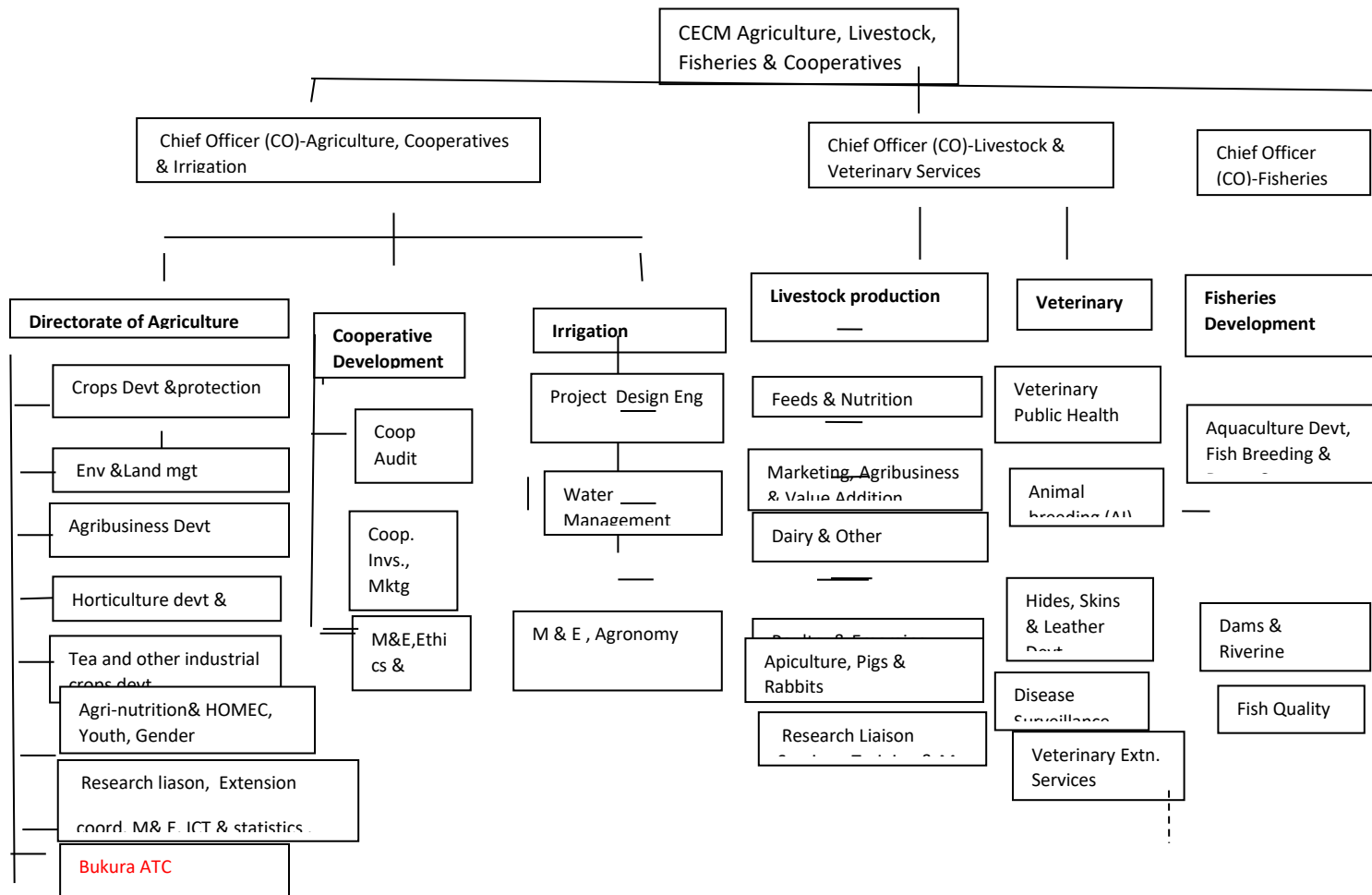
#### **4.1.2 Coordination Framework**

The coordination framework, elaborated through the organization structure defines how activities such as task allocation, coordination and supervision are directed towards the achievement of an organizational goals. The implementation of this sector plan will be executed by the Department of Agriculture, Livestock, Fisheries and Cooperatives supported by relevant County and National Government departments/agencies. Such support may include supervision on project implementation, sourcing of goods and services and provide sector policy direction and technical knowledge.

The organization structure, as elaborated in figure 3 is designed to ensure effective coordination of the implementation of the Sector plan based on the mandates. The structure exists to enable the performance of work activities in line with an organization's strategies and policies and is designed around the mandate of the organization. The Department will be headed by a County Executive Committee Member and three (3) Chief Officers appointed by the Governor. There are six (6) directorates headed by Directors and assisted by several technical staffs.

The County Executive Committee Member is responsible for overall administration and providing policy direction. The Chief Officers are responsible for coordination and administration and is the Chief Officer for Agriculture, Cooperatives and Irrigation is the accounting and authorized officer. Administrative and Support services is responsible for providing support services to all the directorates to ensure efficient and effective service delivery.

**Fig 3: Organogram & Staff Establishment**



## 4.2 Capacity Development

This section provides measures to address capacity gaps that may hinder efficient and effective implementation of the initiatives in the Sector Plan.

**Table 16: Sector Capacity Gaps**

| S/No. | Capacity Gap                       | Measures to address the gap  |
|-------|------------------------------------|--|
| 1     | Skills development                 | Training,<br>Employ more staff   |
| 2     | Agricultural systems and processes | Automation and upgrading   |
| 3     | Tools and equipment                | Procure modern tools<br>Dispose obsolete and uneconomic units<br>Routine repairs and maintenance |

## 4.3 Risk Management

This section provides possible risks that may hinder implementation of the Sector Plan and discusses proposed mitigation measures.

**Table 17: Risks, Levels, Owners and Mitigation Measures**

| Risk                        | Risk Level (High, Moderate, Low) | Risk Owner (s) | Mitigation Measures   |
|-----------------------------|----------------------------------|----------------|---|
| Emerging pests and diseases | High                             | Whole Sector   | Enhance research and surveillance;<br>Establish pest and disease control unit                               |
| Climate Variability         | High                             | Whole Sector   | Adoption of climate smart technology/interventions; Agricultural enterprise insurance                       |
| Occupational Hazards        | Moderate                         | Whole Sector   | Training and capacity building;<br>Provision of personal protective gears;<br>Provision of workplace safety |
| Cyber crimes                | Low                              | Cooperatives   | Install hack-proof systems  |

## **CHAPTER V: MONITORING AND EVALUATION FRAMEWORK**

### **5.1 Introduction**

Monitoring and Evaluation framework is critical to enable tracking the implementation of the programmes identified in the sector plan. This section presents the Monitoring and Evaluation framework that will be put in place and reporting mechanisms that promotes knowledge sharing and learning.

Monitoring of the sector programmes and projects will be a continuous process based on the performance indicators set out in the implementation matrix. Evaluation mechanisms will entail measuring actual performance against set target levels and establishing size of gap or variance if any, identifying the casual factors for the variance, identifying and recommending appropriate remedial measures including a review of the objectives and/ or strategies.

### **5.2 Monitoring, Evaluation and Reporting Structures**

Monitoring and Evaluation will take place at National and County levels. The sector will work with the private sector, NGOs and other stakeholders to ensure there is effective monitoring and evaluation of the implementation of this sector plan. The implementation of this plan will be reviewed continuously guided by progress reports.

Monitoring of the entire process from planning, designing and implementation is important as it keeps the planned activities in check, reduces duplication, allows for remedial measures to be taken and ensures the projects/programmes results delivery on time. The Sector M& E Committee comprising the sectional heads and chaired by the Chief Officer together with the Monitoring and Evaluation Unit in the Directorate of Economic Planning will monitor progress of implementation of projects and programmes. The Committee will carry out annual, mid-term and end-term review of the progress of implementation of planned projects and prepare reports for submission to relevant personnel for action. The Sector has put in place a Monitoring and Evaluation System that is in line with and will complement the County Integrated Monitoring and Evaluation System. To maximize learning and to ensure wider accountability, it will be necessary to share key information with partners, programme beneficiaries and the wider public.

### 5.3 Data Sources and Collection Method

The monitoring and evaluation framework will comprise technical officers from the sector, Public Works, Quality Assurance Officers and representation from the Directorate of Economic Planning. Data collection will be by physical observation of the projects and programmes being implemented, actual verification of items delivered where applicable and survey of stakeholders to ascertain the impact of the projects/programmes.

### 5.4 Types of Reports to be Produced, Frequency and Consumers

Reporting is important as it provides feedback to establish the challenges, successes and weaknesses in the implementation of various projects and programmes, and whether the set objectives have been met or are on course. The Plan will be evaluated annually, after five years and at the end of the plan period. The reports prepared will outline the achievements in comparison to targets, facilitating factors, challenges faced and lessons learnt. The reports will be submitted to the Governor's office for information use and dissemination to stakeholders including the County Assembly, Development partners, Beneficiaries and the Public. Issues requiring policy interventions will be submitted to the County Executive Committee for action. The reports shall be stored manually in the manual files, also electronically and will be posted on the official County website.

The following reports will be prepared and disseminated;

- i) **Annual Review Report (ARR)** – The report will evaluate all the activities undertaken during the year, clearly showing the milestones, challenges and outlining plans for the following year.
- ii) **Mid-term Review Report (MTER)** – The report will be undertaken midway in the implementation of the sector plan to assess the extent to which the implementation is meeting plan objectives and timelines.
- iii) **End-term Review Report (ERR)** – At the end of the Plan period, there will be an external evaluation carried out by an external evaluator. The task will lead to identification of achievements against performance indicators; constraints encountered

during the plan period and make recommendations towards the development of the next plan.

### 5.5 Dissemination, Feedback Mechanisms and Citizens Engagement

After preparation of the reports, there shall be review meetings to assess the report and map a way forward. This will keep the plans’ activities and outputs on track during implementation, and enable the relevant personnel to identify and take necessary actions to address any emerging issues. The reports will be disseminated to stakeholders including the County Assembly and shared on County digital platforms where citizens will be given an opportunity to provide feedback.

### 5.6 Mechanism for Reviewing and Updating the Sectoral Plan

The Monitoring and Evaluation data will be analysed and reports prepared for submission to the Governor for his information and appropriate action. These reports will outline in summary the period achievements, shortcomings, challenges faced and recommendations. Based on these reports, a decision to review or update the Sectoral plan will be made.

The monitoring and evaluation Matrix presented in table 16 will be used to effectively monitor the progress of implementation of programmes in the plan and eventually evaluate them.

**Table 18: The Monitoring and Evaluation Matrix**

| Programme                                  | Outcome  | Key Performance Indicators              | Target              |                      |                     |
|--|--|---|---------------------|----------------------|---------------------|
|  |  |   | Baseline Value 2022 | Five Year Target (s) | Ten Year Target (s) |
| Agriculture extension and research liaison | Increased agricultural production and productivity | Prevalence rate of pests and diseases   | 60                  | 40                   | 10                  |
|  |  | No of crop protection units established | 1                   | 6                    | 13                  |
|  |  | Number of soil testing kits acquired    | 500                 | 1700                 | 2900                |
|  |  | No. of Soil Tests /demos carried out    | 0                   | 3,600                | 7,200               |

| Programme | Outcome | Key Performance   | Target |        |        |
|-----------|---------|---|--------|--------|--------|
|           |         |   |        |        |        |
|           |         | No of agro-forestry nurseries established                               | 2,650  | 22,650 | 42,650 |
|           |         | No. of acreage under farm mechanization                                 | 8,225  | 28,225 | 48,225 |
|           |         | No of staff trained/<br>Capacity build                                  | 200    | 340    | 480    |
|           |         | No. of aggregation centres established                                  | 10     | 30     | 60     |
|           |         | No. of and types of value chain innovations promoted.                   | 6      | 25     | 50     |
|           |         | No. of climate information campaigns/forums conducted                   | 0      | 25     | 50     |
|           |         | No of 25kg bags of planting and top dressing fertilizer(000)distributed | 1,676  | 3,176  | 4,676  |
|           |         | No of 2kg packets of seeds provided(000)                                | 1100   | 1,850  | 3,350  |
|           |         | No of warehouses established  | 2      | 6      | 12     |
|           |         | No of greenhouses established,  | 3      | 20     | 40     |
|           |         | No of fruit trees planted   | 2,000  | 10,000 | 20,000 |
|           |         | No of kitchen gardens established                                       | 300    | 2,800  | 5,300  |
|           |         | No of tissue culture bananas distributed (000)                          | 108    | 250    | 500    |

| Programme                                  | Outcome   | Key Performance   | Target |        |        |
|--|---|---|--------|--------|--------|
|  |   | No of National policies and strategies domesticated;      | 6      | 15     | 30     |
| Livestock development                      | Increased livestock production and productivity | No of breeding technologies adopted                       | 2      | 3      | 5      |
|  |   | No of value chain developed                               | 2      | 4      | 8      |
|  |   | No of acres under pasture and fodder                      | 30,500 | 50,000 | 70,000 |
|  |   | No of Commercial feeds supplied                           | 0      | 21,000 | 50,000 |
|  |   | No of policy/strategy/ regulations domesticated/revie wed | 0      | 8      | 20     |
|  |   | No of disease resistant animals acquired                  | 0      | 1,200  | 2,500  |
|  |   | No of pest and disease surveillance done                  | 60     | 180    | 240    |
|  |   | No. of vaccinations done (000)                            | 389    | 1,729  | 3,089  |
|  |   | No. of cattle dips constructed/rehabil itated             | 40     | 61     | 85     |
|  |   | No of multiplication centres established                  | 2      | 16     | 35     |
| No of dairy goats procured and distributed | 0   | 7,200   | 15,000 |        |        |



| Programme | Outcome    | Key Performance  | Target  |         |           |
|-----------|------------|--|---------|---------|-----------|
|           |            | Acreage under fodder shrubs                              | 438,155 | 700,100 | 1,000,000 |
|           |            | No of bee framers supported                              | 500     | 960     | 1,500     |
|           |            | No of bee demo centres developed                         | 2       | 12      | 24        |
|           |            | No honey testing centres established and operationalized | 0       | 1       | 2         |
|           |            | No. of rabbits distributed                               | 0       | 20,000  | 50,000    |
|           |            | No of hatches supported                                  | 0       | 400     | 800       |
|           |            | No of 25kg bags of pellets distributed                   | 0       | 7,000   | 14,000    |
|           |            | No of bio-digesters established and operational          | 100     | 300     | 500       |
|           |            | No of cows distributed                                   | 1,790   | 2,990   | 4,290     |
|           |            | No. of heifers passed over                               | 700     | 2,750   | 4,800     |
|           |            | No. of pedigree in-calf heifers                          | 117     | 533     | 949       |
|           |            | No. of constructed Smart Dairy Farms                     | 5       | 12      | 12        |
|           |            | Tonnes of fodder grown & harvested                       | 0       | 4,960   | 10,000    |
|           |            | Develop hides and skins development policy               | 0       | 1       | 1         |
|           |            | Licensing hide and skins traders and flayers.            | 340     | 2,000   | 4,000     |
|           |            | Training farmers and extension officers.                 | 0       | 25      | 50        |
| Fisheries | To develop | No. of fingerlings                                       | 9,670   | 17,170  | 24,670    |

| Programme | Outcome  | Key Performance   | Target |        |        |
|-----------|--|---|--------|--------|--------|
|           | fisheries, aquaculture and blue economy infrastructure | supplied('000')   |        |        |        |
|           |  | Number of Aqua Parks established and operational                        | 0      | 12     | 24     |
|           |  | No Marked fisheries resources   | 3,400  | 11,400 | 23,400 |
|           |  | Kgs of Fish feeds Supplied ('000')                                      | 460    | 1,210  | 1,960  |
|           |  | No. of Farmer learning centres established                              | 31     | 127    | 231    |
|           |  | Number of fish ponds rehabilitated and operational                      | 500    | 3,500  | 6,500  |
|           |  | Fish breeding centers established                                       | 1      | 3      | 5      |
|           |  | No. of improved fish fingerlings produced from local hatcheries ('000') | 1,200  | 5,200  | 11,200 |
|           |  | Tonnes of fish feeds produced   | 0      | 2,500  | 5,000  |
|           |  | Number of collection centers established                                | 0      | 2      | 5      |
|           |  | Number of refrigerated trucks purchased                                 | 0      | 1      | 4      |
|           |  | No. of Fish inspectors trained  | 3      | 15     | 27     |
|           |  | No. of rivers stocked   | 4      | 24     | 50     |
|           |  | No. of dams stocked   | 4      | 28     | 52     |
|           |  | No. of cages installed  | 0      | 60     | 150    |

| Programme   | Outcome  | Key Performance   | Target                                |                                  |       |
|---|--|---|---------------------------------------|----------------------------------|-------|
| Irrigation  | Increased capacity to adopt irrigation and drainage innovations technology | No. of irrigation Dams & Pans Constructed & Rehabilitated | 0                                     | 10                               | 20    |
|   |  | Area of land under irrigation (Ha)                        |                                       | 590                              | 1,200 |
|   |  | No. of rehabilitated irrigation Projects                  | 120                                   | 180                              | 240   |
|   |  | No. of feasibility Reports prepared                       | 5                                     | 20                               | 35    |
|   |  | No. of Stalled irrigation Projects completed              | 10                                    | 20                               | 30    |
|   |  | No. of trained irrigation water user associations         | 300                                   | 420                              | 550   |
|   |  | Cooperative Development and Marketing services            | A vibrant county cooperative movement | No. of Cooling units established | 5     |
| No. of cooperatives that comply with governance standards | 64   |   |                                       | 714                              | 1,564 |
| No. of cooperative policies.                              | 0  |   |                                       | 2                                | 4     |
| No. of cooperatives trained/revived                       | 0  |   |                                       | 372                              | 750   |
| Amount disbursed to support small cooperative societies   | 15   |   |                                       | 100                              | 200   |
| No. of audits   | 72   |   |                                       | 650                              | 1,500 |





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