



# **KENYA MEDICAL RESEARCH INSTITUTE**

## **STRATEGIC PLAN**

**2023-2028**

### **Theme**

*"Innovative Human Health Research for Sustainable Health Outcomes"*

### **Motto**

In search of better health



## **VISION**

Global Leader in Research for Human Health

## **MISSION**

To improve the quality of human health through research, innovation, capacity development and service delivery

## **CORE VALUES**

Integrity

Excellence

Innovativeness

Partnership

Ethical

Teamwork

Customer focus

Inclusivity

Patriotism

## FOREWORD



The Board of Directors, Management and Staff of Kenya Medical Research Institute (KEMRI) are pleased to present the Fifth Strategic Plan for the period 2023/24 – 2027/28.

Development of this strategic plan recognises that Health is both a basic human right and a pre-requisite to all forms of human development as enshrined in the Kenya Constitution 2010.

The goal of Kenya's vision 2030 for the health sector is to "provide equitable and affordable health care at the highest affordable standard to her citizens". Good health is expected to play an important role in boosting economic growth, poverty reduction and in the realization of social goals as emphasized under the Sustainable Development Goal 3. The SDG 3 further seeks for more research and development, increased health financing and strengthened capacity of all countries in health risk reduction and management. The above right and goal can only be realized through use of high-quality research-oriented decision making to achieve equitable and accessible health care for all.

KEMRI is mandated to provide solutions for health challenges through conducting research that will result in changes in policy, practice and providing innovative products for diagnosis, treatment and prevention of diseases. This has been demonstrated over the years where the Institute has surpassed its expectation through ground breaking research findings that led to reduction of malaria incidence through research on bed nets and vaccine, treatment and management of tuberculosis and HIV, development of diagnostic kits, response to disease outbreaks and capacity building through postgraduate trainings.

The strategic plan builds on recent achievements realized by the institute including establishment of a centre of excellence in stem cell research which provides a platform for stem cell research and regenerative medicine that will provide innovative solutions in the management of non-communicable diseases. Innovations arising from research work will be patented and commercialized.

This plan lays a firm foundation for development of research products that will support realization of Universal Health Coverage (UHC) and Bottom-Up Economic Transformation Agenda (BETA) through establishment of a Bio-manufacturing Training Hub. The goal of this initiative will be to develop expertise and offer advisory support in bio-manufacturing ecosystem.

In order to realize the objectives set out in this strategic plan, the Institute will seek to strengthen and expand strategic partnerships and collaborations in order to broaden the approach towards addressing existing and emerging health challenges. The

partnership will also provide an opportunity to review and reengineer business processes in order to optimize research output and establish a resilient organization.

I look forward to receiving support from the KEMRI fraternity and stakeholders in implementing this shared vision. I truly acknowledge and appreciate all those who took part in the development of this Strategic Plan.

**Dr. Abdullahi Ali Ibrahim**

**Chairman, KEMRI Board of Directors**

## PREFACE AND ACKNOWLEDGEMENT



Kenya medical research Institute (KEMRI) has an overall mandate of conducting health, biomedical and public health research for human health; build human health research capacity; Collaborate and partner with other local and international research bodies and institutions in carrying out human health research and capacity building; advice the government on health research policies and priorities; undertake scientific and technological innovation, establish incubation Centres for innovation, and link research, policymakers, academia and industry in the health products value chain.

The Strategic Plan 2023-27 is a successor of the strategic plan 2018-23 which has guided the Institute over the last five years in achieving milestones in executing its mandate. Notably, the Institute provided critical support during the Covid 19 pandemic through testing, surveillance and sequencing to identify genome lineage of the virus in circulation. The Institute also conducted studies that led to development of policy briefs that informed policy development, review and implementation.

The Institute seeks to build on this success through development of a robust strategic plan 2023-27. While developing the plan, situation analysis was undertaken using SWOT and PESTEL tools which identified key strategic issues that informed development of strategic goals and strategic objectives. Some of the key issues identified included the need to increase investment in research and development, adoption of new cutting edge technologies, strengthening Knowledge Management and Knowledge Translations, enhancing research partnerships and collaborations, upgrading research and support infrastructure, reengineering business processes and review of institutional legal framework to ensure KEMRI is established through an Act of parliament. In order to address holistically the issues identified, the strategic plan adopted the Balanced Scorecard Approach in defining Key Result Areas (KRA's) and strategic objectives. The Goal for this strategic plan period is;

*"To be the regional hub for health research knowledge, actively translating health research and innovation into sustainable, tangible benefits for both patients and society by the year 2028."*

This goal will be realized through the following strategic objectives;

- i) Strengthen clinical, biomedical, public health and health system research for human health
- ii) Build data science and knowledge management systems
- iii) Undertake scientific and technological innovation
- iv) To strengthen disease surveillance systems

- v) Build human health research capacity
- vi) To strengthen and establish strategic partnership and collaboration
- vii) Enhance Financial Sustainability
- viii) Re-engineer internal business processes
- ix) Build institutional human capital
- x) Establish and upgrade infrastructure
- xi) Establish resilient ICT systems
- xii) Strengthen planning, monitoring and evaluation

Clear resource mobilization and coordination mechanisms have been outlined to ensure successful implementation of this strategic plan.

I acknowledge the input from the Board of Directors, KEMRI Management, staff and other stakeholders who participated in the development of this strategic plan. Special thanks goes to the Directorate of Strategy and Compliance for its role in coordinating development and ensuring successful delivery of the strategic plan. To all our KEMRI staff, let us roll up our sleeves and execute the strategic initiatives mapped out in this plan in order to realize our vision “**Global Leader in Research for Human Health**”

**Prof. Elijah Songok**

**Ag. Director General and Chief Executive Officer**

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## DEFINITION OF CONCEPTS AND TERMINOLOGIES

|                            |   |
|----------------------------|---|
| <b>Data Analytics:</b>     | It's the science of analysing raw data to draw conclusions for decision making  |
| <b>Diagnostic kits:</b>    | An equipment, method or system used to discover what ails a patient.  |
| <b>Data Science:</b>       | It's the study of data to extract useful insight for business or decision making  |
| <b>Key Results Area:</b>   | It's a section or area of business where the organization aim to achieve strong positive outcomes in pursuit of corporate goals   |
| <b>Emerging Issues:</b>    | This refers to recent occurrences /events /phenomena which might impact the sector negatively or positively. They include environmental, policy, legal, technological, economic, political, social and cultural |
| <b>Outcome Indicator:</b>  | The overall product resulting directly from the implementation of activities defined within a procedure   |
| <b>Mainstreaming:</b>      | It's the process of making something start to be considered normal  |
| <b>Outcomes Indicator:</b> | Measure of the benefits that a project or intervention is designed to deliver   |
| <b>Strategic Issues:</b>   | The fundamental policy choices or critical challenges that must be addressed in order for the organization to achieve its vision or foundation upon which strategies are developed                              |

## ACRONYMS AND ABBREVIATIONS

|               |   |   |
|---------------|---|---|
| <b>AIA</b>    | - | Appropriation In Aid  |
| <b>AWPs</b>   | - | Annual Work Plans   |
| <b>CBRD</b>   | - | Centre for Biotechnology Research and Development             |
| <b>CCR</b>    | - | Centre for Clinical Research                                  |
| <b>CDC</b>    | - | Centre for Disease Control                                    |
| <b>CEO</b>    | - | Chief Executive Officer                                       |
| <b>CGHR</b>   | - | Centre for Global Health Research                             |
| <b>CIPDCR</b> | - | Centre for Infectious and Parasitic Diseases Control Research |
| <b>CMR</b>    | - | Centre for Microbiology Research                              |
| <b>CRDR</b>   | - | Centre for Respiratory Diseases Research                      |
| <b>CPHR</b>   | - | Centre for Public Health Research                             |
| <b>CTMDR</b>  | - | Centre for Traditional Medicine and Drugs Research            |
| <b>CVR</b>    | - | Centre for Virus Research                                     |
| <b>DESI</b>   | - | Department of Epidemiology Statistics and Informatics         |
| <b>DG</b>     | - | Director General  |
| <b>DHSS</b>   | - | Demographic Health Surveillance Systems                       |
| <b>EAC</b>    | - | East Africa Community   |
| <b>EAHRC</b>  | - | East Africa Health Research Commission                        |
| <b>ECDTP</b>  | - | European and Developing countries Clinical Trial Partnership  |
| <b>ERP</b>    | - | Enterprise Resource Planning                                  |
| <b>FGDs</b>   | - | Focus Group Discussions                                       |
| <b>FHC</b>    | - | Finance Human Resource Committee                              |
| <b>GoK</b>    | - | Government of Kenya   |
| <b>HR</b>     | - | Human Resource  |
| <b>HQ</b>     | - | Head Quarters   |
| <b>ICD</b>    | - | Institutional Capacity Development                            |
| <b>ICT</b>    | - | Information Communication Technology                          |
| <b>IRB</b>    | - | Institution Review Board                                      |
| <b>JOOTRH</b> | - | Jaramogi Oginga Odinga Teaching and Referral Hospital         |
| <b>ISO</b>    | - | International Organization for standardization                |
| <b>KDHS</b>   | - | Kenya Demographic Health Surveys                              |
| <b>KEMRI</b>  | - | Kenya Medical Research Institute                              |
| <b>KGS</b>    | - | KEMRI Graduate School   |
| <b>KNH</b>    | - | Kenya National Hospital                                       |
| <b>KRAs</b>   | - | Key Results Areas   |
| <b>KUTRH</b>  | - | Kenya University Teaching and Referral Hospital               |
| <b>MOH</b>    | - | Ministry of Health  |
| <b>MoUs</b>   | - | Memorandum of Understanding                                   |
| <b>MTPs</b>   | - | Medium Term Plans   |
| <b>MTRH</b>   | - | Moi Teaching and referral Hospital                            |

|               |   |  |
|---------------|---|--|
| <b>NPHI</b>   | - | National Public Health Institute                                 |
| <b>NTD</b>    | - | Neglected Diseases   |
| <b>PESTLE</b> | - | Political, Economic, Social, Technological, Legal and Ecological |
| <b>QA</b>     | - | Quality Assurance  |
| <b>QC</b>     | - | Quality Control  |
| <b>QI</b>     | - | Quality Insurance  |
| <b>RFID</b>   | - | Radio Frequency Identification                                   |
| <b>SCAC</b>   | - | State Corporations Advisory Committee                            |
| <b>SDGs</b>   | - | Sustainable Development Goals                                    |
| <b>SERU</b>   | - | Scientific and Ethical Review Unit                               |
| <b>SI</b>     | - | Strategic Intervention   |
| <b>SLA</b>    | - | Service Level Agreement  |
| <b>SMRF</b>   | - | Sample Management Repository Facility                            |
| <b>SO</b>     | - | Strategic Objective  |
| <b>SPC</b>    | - | Strategic Plan Committee   |
| <b>SSC</b>    | - | Scientific Sterling Committee                                    |
| <b>STI</b>    | - | Science, Technology and Innovation                               |
| <b>SWOT</b>   | - | Strengths Weaknesses Opportunities Threats                       |
| <b>UHC</b>    | - | Universal Health Coverage  |
| <b>TORs</b>   | - | Terms of References  |

## **EXECUTIVE SUMMARY**

Kenya Medical Research Institute (KEMRI) operates under Legal Notice No. 35 of March 2021. The legal notice spells out the mandate of the Institute as “To conduct health, biomedical and public health research for human health; Build human health research capacity; Collaborate and partner with other local and international research bodies and institutions in carrying out human health research and capacity building; Advice the responsible Ministry in matters pertaining to health research policies and priorities; Undertake scientific and technological innovation involving discovery, transmission and enhancement of knowledge and stimulate the intellectual life in the economic, social, cultural, scientific, and technological development; Establish incubation Centres for innovation, and link research, policymakers, academia and industry in the health products value chain; and other things that are necessary or desirable to carry out its functions.

The KEMRI’s strategic plan 2023-2028 provides a framework that will guide the Institute for the next five years and is built on the progress made in implementation of the Strategic Plan 2018-2023. The new strategic direction has been aligned to support industry players in delivering health aspirations as provided for in the United Nations Sustainable Development Goals (SDG), African Union 2063 Agenda, East African Vision 2050, Kenya Vision 2030, Bottom-Up Economic Transformation Agenda (BeTA) and Fourth Medium Term Plan (MTP IV). In formulating the strategic model, the Institute’s mandate and strategic issues that emerged after scanning of the external and internal environment were taken into consideration.

The Institute vision is “To be a Global Leader in Research for Human Health”, while the mission is “To improve the quality of human health through research, innovation, capacity development and service delivery”. The core values that will guide the strategy implementation are Accountability and Integrity, Innovativeness, Teamwork, Professionalism, Equity and Inclusivity and Customer focus.

The identified strategic issues influenced the formulation of strategic goal, Key Results Areas (KRAs), strategic objectives, strategies and key activities. The strategic goal is to “be the regional hub for health research knowledge, actively translating health research and innovation into sustainable, tangible benefits for both patients and society by the year 2028.” and the KRAs are: -

- i) Research for Health
- ii) Innovation and Product Development
- iii) Disease Surveillance and Response
- iv) Research Capacity Building
- v) Financial Sustainability
- vi) Institutional Strengthening

In order to realize the KRAs above, the following twelve (12) strategic objectives were identified;

1. To strengthen clinical, biomedical, public health and health system research for human health;
2. To build data science and knowledge management systems
3. To undertake scientific and technological innovation;
4. To strengthen disease surveillance systems
5. To build human health research capacity.
6. To strengthen and establish strategic partnership and collaboration
7. To enhance financial sustainability
8. To re-engineer internal business processes
9. To build institutional human capital
10. To establish and upgrade infrastructure; and
11. Establish resilient ICT systems
12. To Strengthen planning, monitoring and evaluation

This strategic plan is organized into eight chapters. Chapter one provides introduction and institutional background and discusses the place of KEMRI in relation to national, regional and international health research agenda. It also discusses the history of KEMRI and methodology adopted in developing this strategic plan. Chapter two details situational and stakeholder analysis by describing the external environmental factors, summary of opportunities and threats as well as internal environmental analysis together with a summary of strength and weaknesses. A review of performance of the previous strategic plan 2018-2022 was also conducted which highlights key achievements, challenges, lessons learnt. The chapter also presents stakeholder analysis and governance and administrative structures. Chapter three focuses on strategic direction by providing the mandate, vision, mission, strategic goal, core values, quality policy statement and Key Result Areas (KRAs). The chapter also presents the conceptual framework and the identified strategic objectives that shall be pursued over the next five years 2023-2028. Chapter four presents the implementation and coordination framework, implementation plan, action plan, annual work plans and budget including the performance contracts. In addition, the chapter details coordination framework by discussing institutional framework, staff establishment, skills sets and competence development, leadership, systems, procedures and risk management framework. Chapter five provides resource requirements and mobilization strategies. In this chapter annual financial requirements are projected for each KRA while discussing resource mobilization and resource management strategies. Finally, Chapter six presents the monitoring, evaluation and reporting framework, performance standards, reporting framework and feedback mechanisms.

An implementation matrix which aligns strategic objectives with strategies, activities, annual targets, budgets and responsible offices has been annexed.

# **CHAPTER ONE**

## **INTRODUCTION AND BACKGROUND**

### **Overview**

This chapter provides the background of Kenya Medical Research Institute (KEMRI), its mandate and functions as well as Global, Regional and National Development Issues. The chapter also provides a detailed analysis of the KEMRI's Development Role vis-à-vis the National Development Agenda.

### **1.1 Strategy as an Imperative to Organizational Success**

In developing strategies for human health research, international standards that will ensure quality research is undertaken and platforms for continuous improvement have been observed. World class health research and quality data plays a central role in development, review and implementation of health policies and practices. These high standards can only be realized through increased strategic partnerships, investments in health research and adoption of best practices. The strategies developed in this plan will ensure Institute's systems and processes are reengineered, automated and digitized in order to achieve efficiency and effectiveness in research, capacity building and service delivery. Institutional capacity has also been assessed and strategies developed to ensure human, infrastructure and financial resources are developed over the plan period.

Collaboration with government agencies and county governments as well as other partners to implement and attain the highest possible level of Universal Health Coverage and Bottom UP economic transformative agenda will be embraced.

### **1.2 The Context of Strategic Planning**

This strategic plan has been developed taking into consideration the national development and health research priorities, regional and international development agenda.

#### **1.2.1 United Nation 2030 Agenda for Sustainable Development**

Kenya operates within the global and the regional environment and thus the need for alignment of the National and Institutes development plans to the global and regional development agenda. Universal health coverage (UHC) has been adopted as Target 3.8 of the Sustainable Development Goals (SDGs), with a clear goal of ensuring that individuals and communities receive the health services they need without suffering financial hardship. This includes provision of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care. Progress towards UHC will ensure progress towards other health related targets, and towards equity and social inclusion. KEMRI is strongly involved in spearheading research in UHC and supporting the government in implementation of UHC programmes.

### **1.2.2 African Union Agenda 2063**

The African Union Agenda 2063 is Africa's blueprint and master plan for transforming Africa into the global powerhouse of the future. It is the continent's strategic framework that aims to deliver on its goal for inclusive and sustainable development and is a concrete manifestation of the Pan-African drive for unity, self-determination, freedom, progress and collective prosperity pursued under Pan-Africanism and African Renaissance

Arising from the Agenda 2063, Africa Health Strategy (2016-2030) was developed and adopted in line with SDGs which recognises the importance of investment in research and innovation for tackling the challenges that the African continent is grappling with. The Strategy recognizes the need to institutionalize mechanisms for defining, producing and utilizing African research in ways that can transform the health sector as well as the African economy and society as a whole. Achieving health goals and targets requires matched investment in research and innovation in order to improve access to medical technologies and products. The strategy further calls for empowerment of local research institutions, setting up of innovation hubs and allocation 1% of the national GDP for research and innovative as envisioned in the Science, Technology and Innovation Strategy for Africa 2014–2024.

KEMRI partners with Africa CDC through the Eastern Africa Regional Coordination Centre in strengthening surveillance and laboratory systems, response to disease outbreaks and other public health emergencies including viral hemorrhagic fevers.

### **1.2.3 East African Community Vision 2050**

The Vision of the East African Community (EAC) is to attain a prosperous, competitive, secure and politically united East Africa. The Mission is to widen and deepen economic, political, social and cultural integration in order to improve the quality of life of the people of East Africa. The EAC made a commitment to improve human health by putting in place programmes and projects that will ensure realization of SDG Goal no 3 which is to "To ensure health lives and promote wellbeing for all ages" and Goal No 13 "Take urgent action to combat climate change and its impacts" through One Health approach to Research.

KEMRI will play a key role in contributing to policies aimed at increasing life expectancy, reduction of communicable and non-communicable diseases and access to health services. To realise this, KEMRI will develop robust platforms for vaccines and drug development and put in place Health and Demographic Surveillance System (HDSS) to serve as a platform for conducting clinical trials, nested studies and disease surveillance.

#### **1.2.4 The Constitution of Kenya**

The Constitution of Kenya 2010, under the Bill of Rights, gives the citizens the right to the highest attainable standards of health in line with the WHO Constitution which declares health a fundamental human right. KEMRI contributes to this constitutional provision of highest attainable level of health through research and innovation, training and capacity building, provision of specialized laboratory and clinical services to the citizens.

#### **1.2.5 Kenya Vision 2030, Bottom up Economic Transformation and Fourth Medium Term Plan**

##### **1.2.5.1 Kenya Vision 2030**

The Kenya Vision 2030 blueprint aims to provide an efficient and high-quality health system with the best standards. This aims to actualize a healthy, productive and globally competitive nation since a healthy population is necessary for improving productivity. The Government of Kenya has continued to invest in the health sector to facilitate the well-being of its citizens by bringing quality health care services closer to the people; ensuring sustainability of the nation's human capital base required for sustainable economic growth.

In order to implement Vision 2030 aspirations, the health sector has provided a policy framework to facilitate the attainment of the highest possible standard of health to meet the aspiration of the Constitution of Kenya. The policy is responsive to the needs of the population and focuses on key areas of health services such as population coverage, access to quality services with adequate financial risk protection. The Kenya Health Policy (KHP) 2014-2030 provides for attainment of the highest possible standards of health in a manner responsive to the health needs of the population. The Health Sector priorities are geared towards achievement of the Sector development agenda, which will be achieved through full implementation of Universal Health Coverage (UHC).

The Institute contributes to achievement of the social pillar of the vision 2030 whose goal is to build a just and cohesive society that enjoys equitable social development in a clean and secure environment. KEMRI's ongoing projects in contributing to the social pillar are;

- i) Establishment of Centre of Excellence for Stem Cells Research, Synthetic Biology and Regenerative Medicine to address the need for new therapeutic and interventional approaches to Non-Communicable Diseases (NCDs);
- ii) Development of Indigenous Technologies for the Manufacture of Niche Products.

##### **1.2.5.2 Bottom up Economic Transformation Agenda (BETA)**

The country in the recent past has been confronted by three challenges that have converged into the perfect economic storm. The first is an external shock of rising inflation and interest rates, occasioned by Covid19 related global supply chain



bottlenecks, the economic stimulus spending in the major economies, and the Ukraine Russia conflict.

To address these challenges, the government adopted the Bottom-Up Economic Transformation Agenda (BETA) whose main objective is to improve the livelihoods and welfare of Kenyans. The agenda focuses on five pillars that are expected to have the highest impact at the bottom of the economy. These are: Agricultural Transformation and Inclusive Growth; transforming the Micro, Small and Medium Enterprise (MSMEs) Economy; Housing and Settlement; Healthcare; and Digital Superhighway and Creative Economy.

According to Kenya Kwanza Manifesto 2022-2027<sup>1</sup>, KEMRI's direct contributions to the healthcare pillar will specifically focus on: -

- i) Delivering Universal Health Coverage;
- ii) Working with the pharmaceutical industries to identify and upscale manufacture of essential supplies competitively;
- iii) Leveraging on our human capital to work towards a regional pharmaceutical manufacturing hub;
- iv) Aim to bring the cost of treatment down (Drugs, consultations, laboratory services and imaging services) through innovative research products;
- v) Establishment of Bio-manufacturing Training Hub to develop expertise and offer advisory support in bio-manufacturing ecosystem.

### **1.2.5.3 Fourth Medium Term Plan of Kenya Vision 2023-2028 of Kenya Vision 2030**

The Medium Term Plan 2023-2028(MTP-IV) adopted the theme "Accelerating socio-economic transformation to a more competitive, inclusive and resilient economy". MTP IV identifies the following key priority projects for implementation by KEMRI;

- i) Development of health technologies, solutions and products through research and innovation;
- ii) Establishment of Centre of excellence in Precision Medicine;
- iii) Automation and Integration of Research Data; and
- iv) Construction of state-of-the-art Research Laboratories.

## **1.3 Sector Policies and Laws**

The Kenya Health Policy 2014–2030 gives direction to ensure significant improvement in the overall status of health in Kenya in line with the Constitution of Kenya 2010, the country's long- term development agenda, Vision 2030 and global commitments. It demonstrates the health sector's commitment, under the government's stewardship,

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<sup>1</sup> <https://www.scribd.com/document/581544827/Kenya-Kwanza-Manifesto-2022>

to ensuring that the country attains the highest possible standards of health, in a manner responsive to the needs of the population.

The Health Policy outlines eight orientations or key action areas among them Research and Development where investments will be made to facilitate the attainment of the policy objectives. The Research and Development area focuses on creation of a culture in which research plays a significant role in guiding policy formulation and action to improve the health and development of the people of Kenya.

In order to realize this policy objective, KEMRI has developed a comprehensive framework under which the Institute will carry out research, capacity building and service delivery in the country's forty-seven Counties. The framework provides seven clusters which play a pivotal role in planning and implementation of research programmes and subsequent uptake of research findings through policy review and implementation.

Through these clusters, KEMRI will establish partnerships and collaborations with both the National and County Governments to address priority local health research agendas and where necessary establish new Research Centres, Units or Stations.

The coordinating stations for the clusters will work with County and National Governments on health issues that are specific and relevant to the county governments. The clusters are as shown in figure 1.1.

#### **1.4 History of KEMRI**

Kenya Medical Research Institute (KEMRI) is a State Corporation established in 1979 through the Science and Technology (Repealed) Act, Cap 250 of the Laws of Kenya operated under the Science, Technology and Innovation Act, 2013 as the national body responsible for carrying out research in human health in Kenya. Subsequently, KEMRI was re-established through Legal Notice No. 35<sup>2</sup> of March 2021.

Prior to the establishment of KEMRI, biomedical research in Kenya was done under the East African Medical Research Council under the auspices of the East African Community which collapsed in 1977. Upon its creation in 1979, KEMRI immediately consolidated research activities of the defunct East African Medical Council.

Within the Health Sector, KEMRI is responsible for providing leadership in health research and development, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options and monitoring and assessing

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<sup>2</sup> <https://www.kemri.go.ke/wp-content/uploads/2021/07/35-KEMRI-Bill-2021.pdf>

health trends as well as dealing with trans-boundary threats and disease outbreaks. The Institute further continues to be responsive to the challenges of emerging and re-emerging diseases, including Non-Communicable Diseases (NCDs), communicable conditions and bio-terrorism.

Currently, KEMRI has fifteen (15) Research Centres with state of the art research facilities and laboratories spread throughout Kenya. These Centres are equipped with highly skilled scientists and technical staffs to enable it conduct competitive research which has led to the institute being ranked as a leading centre of excellence in research for human health both in Africa and globally. The following is a list of Centres and their location.

**Table 1.1 Research Centres of KEMRI**

| <b>No.</b> | <b>Name</b>  | <b>Acronym</b> | <b>Location</b> |
|------------|--|----------------|-----------------|
| 1          | Centre for Clinical Research                                       | CCR            | Nairobi         |
| 2          | Centre for Biotechnology Research and Development                  | CBRD           | Nairobi         |
| 3          | Centre for Public Health Research                                  | CPHR           | Nairobi         |
| 4          | Centre for Virus Research  | CVR            | Nairobi         |
| 5          | Centre for Microbiology Research                                   | CMR            | Nairobi         |
| 6          | Centre for Respiratory Diseases Research                           | CRDR           | Nairobi         |
| 7          | Centre for Traditional Medicine and Drug Research                  | CTMDR          | Nairobi         |
| 8          | Centre for Infectious & Parasitic Diseases Control Research        | CIPDCR         | Busia           |
| 9          | Centre for Global Health Research                                  | CGHR           | Kisumu          |
| 10         | Centre for Geographic Medicine Research – Coast                    | CGMR-C         | Kilifi          |
| 11         | Eastern & Southern Africa Centre of International Parasite Control | ESACIPAC       | Nairobi         |
| 12         | Centre for Vector Disease Control                                  | CVDC           | Kwale           |
| 13         | Centre for Community Driven Research                               | CCDR           | Kirinyaga       |
| 14         | Centre for Disease Control and surveillance                        | CDCS           | Mandera         |
| 15         | Sports Science Research Centre                                     | SSRC           | Eldoret         |

In addition to the above Centres, KEMRI has an established Graduate School of Health sciences that offers specialized postgraduate degrees which are research oriented and geared towards solving national, regional and global health problems.

Other Research Units and field stations managed in collaboration with partners are located in Kericho, Kombewa, Kondele, Siaya, Malindi, Mtwapa, Thika and Taita Taveta.

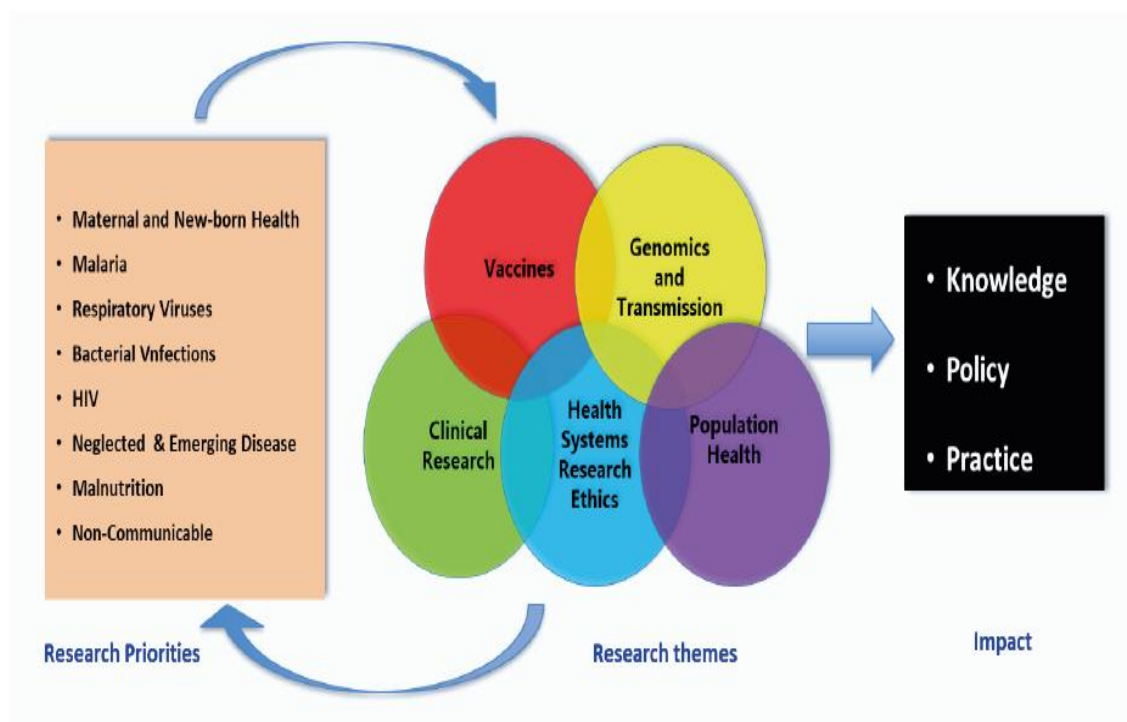
KEMRI has also organized its research activities into seven programmes as shown in the table below.

**Table 1.2: Institute Research Programmes**

| <b>No</b> | <b>Programme Name</b>                             | <b>Objective</b>  | <b>Flagship projects/areas</b>  |
|-----------|---|---|---|
| 1         | Biotechnology                                     | To promote, harness and apply biotechnology for the discovery and development of tools and strategies for use in medicine and health care                             | <ul style="list-style-type: none"> <li>- Vaccine development</li> <li>- Diagnostics</li> <li>- Genetic engineering</li> <li>- Bioinformatics</li> </ul>   |
| 2         | Natural Products and Drug Development             | To identify and develop safe and effective traditional/alternative medicines and drugs for use against human diseases   | <ul style="list-style-type: none"> <li>- Natural products</li> <li>- Conventional medicine</li> <li>- Alternative Medicine</li> </ul>   |
| 3         | Infectious and Parasitic diseases                 | To conduct research aimed at developing tools and technologies for reduction of disease burden due to infectious and parasitic agents                                 | <ul style="list-style-type: none"> <li>- Bacterial, fungal &amp; Viral diseases</li> <li>- Parasitic diseases</li> <li>- HIV/AIDS, TB &amp; Malaria</li> <li>- Neglected tropical diseases</li> </ul>   |
| 4         | Public health and Health Systems                  | To conduct multidisciplinary epidemiology, biostatistical, environmental, occupational, nutritional, social, dental population and health systems and policy research | <ul style="list-style-type: none"> <li>- Epidemiology</li> <li>- Behavioral &amp; Social Sciences</li> <li>- Nutrition</li> <li>- Environmental /occupational health</li> <li>- Oral health</li> <li>- Health care financing, HRD, information, governance and leadership, service delivery</li> </ul>  |
| 5         | Non communicable diseases                         | To conduct basic, clinical, operational, implementation and applied research in all matters related to non-communicable diseases                                      | <ul style="list-style-type: none"> <li>- Life styles diseases- Obesity, diabetes, hypertension, drug and substance abuse, Cardiovascular</li> <li>- Cancers (Breast, Cervix, prostate, throat, stomach, ovaries and skin)</li> <li>- Road traffic accidents, Domestic/Occupational injuries</li> <li>- Mental Health</li> </ul>   |
| 6         | Sexual, Reproductive, Adolescent and child health | To conduct basic, clinical, operational, implementation and applied research in all matters related to Sexual, Reproductive and Child health                          | <ul style="list-style-type: none"> <li>- Maternal health</li> <li>- Child health</li> <li>- Adolescent health</li> <li>- STIs</li> <li>- Gender Based Violence (GBV)</li> <li>- Infertility</li> <li>- Sexual dysfunction</li> <li>- Family planning</li> <li>- Harmful traditional practices</li> <li>- Aging and sexual and reproductive health</li> <li>- Gender &amp; human rights</li> </ul> |

|   |                     |  |   |
|---|---------------------|--|---|
| 7 | One Health approach | One Health fosters a collaborative approach to issues that intersect human, animal and environmental | <ul style="list-style-type: none"> <li>- Coordinate research on zoonotic diseases.</li> <li>- Coordinate research on pastoralist associated diseases</li> <li>- Coordinate research on arid and semi-arid associated diseases</li> <li>- Coordinate research on geographic based disease</li> </ul> |
|---|---------------------|--|---|

The scope of scientific process in KEMRI is as illustrated in the diagram below;



**Figure 1.1 Scope of Scientific Processes in KEMRI**

### 1.5 Methodology of Developing the Strategic Plan

Development of KEMRI strategic plan V was highly participatory and consultative. The process started with appointment of KEMRI Strategic Plan Review Taskforce which then developed the Terms of Reference for engagement of an independent consultant to facilitate review and development of Strategic Plan 2023-27. The strategic plan development process involved:

- i) Assessment of achievements and challenges in the implementation of strategic plan 2018-23
- ii) Desktop review and analysis of key documents including Sustainable Development Goals, Africa’s Agenda 2063, Kenya’s Vision 2030 and Ministry of Health Strategic Plan, among others.

- iii) Development of a questionnaire and data collection on priority areas to be addressed by the strategic plan
- iv) Carrying out Focus Group Discussions (FGDs) in all KEMRI Centres to get the opinion of key staff on challenges and priorities
- v) Carrying out an environmental scanning through SWOT analysis
- vi) Reviewing adequacy of organizational structure
- vii) Drafting of the strategic plan by the consultant in liaison with the Taskforce on strategic plan review
- viii) Holding stakeholder engagement and validation workshops
- ix) Holding Working and validation with the Scientific Steering Committee, KEMRI Executive team and the Board of Directors

## CHAPTER TWO

### SITUATIONAL AND STAKEHOLDER ANALYSIS

#### Overview

Chapter three presents situational analysis which details the external environment, summary of opportunities and threats, internal environment, summary of strengths, weaknesses. In addition; the chapter presents analysis of performance of the previous strategic plan 2018-2023.

#### 2.1 Situational Analysis

External and internal environmental scanning was undertaken to establish forces affecting the operation of the Institute. The Political, Economic, Social, Technological, Ecological, Legal and Ethical (PESTELE) tools was used to scan the macro environment and Strengthen, Weaknesses, Opportunities and Threats (SWOT) tool was used in the analysis of the Internal environment.

##### 2.1.1 External Environment Analysis

The external environment discusses forces in the macro, micro, industry and market environment.

##### 2.1.1.1 Macro-environment

Political, Economic, Social, Technological, Environmental, Legal and Ethical (PESTELE) scan was undertaken with a view to describing the circumstances under which the Institute operates to be able to appreciate the factors that will either support or impede the process of implementing the Plan. A synthesis of the outcome of the PESTEL analysis is presented beneath:

**Table 2.1 PESTELE**

| Category                 | Factors   | Strategic implication  |
|--------------------------|---|--|
| a) Political environment | Change in Government policy                                       | <ul style="list-style-type: none"> <li>• Reorganization of priorities</li> <li>• Changes in funding patterns</li> </ul>  |
|                          | Devolution of health services                                     | <ul style="list-style-type: none"> <li>• Multiple research protocol approvals, increased cost of research and delay in implementing research work</li> <li>• Collaboration with County governments in undertaking health research</li> </ul> |
|                          | Bilateral agreements between Kenya, regional and global countries | <ul style="list-style-type: none"> <li>• Increased partnerships in health research and capacity building</li> <li>• Funding for research infrastructure</li> </ul>   |
| b) Economic environment  | Classification of Kenya as a lower middle income country          | <ul style="list-style-type: none"> <li>• Reduced donor funding</li> </ul>  |
| i) Social                | High rate of unemployment   | <ul style="list-style-type: none"> <li>• Inability to access quality health</li> </ul>   |

|                             |   |  |
|-----------------------------|---|--|
| environment                 |   | care   |
|                             | Kenya's youthful population                                   | <ul style="list-style-type: none"> <li>• Tech-savvy, resourceful in driving innovations and dissemination of information</li> <li>• Emerging challenges such as drugs and substance abuse &amp; mental health</li> </ul>   |
|                             | Sedentary lifestyle and eating habits                         | <ul style="list-style-type: none"> <li>• Increase in prevalence of Non communicable diseases</li> </ul>  |
|                             | Social cultural practices                                     | <ul style="list-style-type: none"> <li>• Resistance by research participants due to cultural beliefs</li> <li>• Resistance to new policy implementation</li> </ul>   |
|                             | Emergence of Teleworking and trainings in post Covid 19 era   | <ul style="list-style-type: none"> <li>• Difficult to control employees working virtually</li> </ul>   |
|                             | Social media  | <ul style="list-style-type: none"> <li>• Real time communication and dissemination of research findings</li> <li>• Employees spending more time online</li> <li>• Dissemination of confidential information that may damage corporate image</li> </ul>                           |
|                             | Increasing enforcement of the rights for marginalized groups  | <ul style="list-style-type: none"> <li>• The requirement for mainstreaming in the workplace</li> </ul>   |
|                             | Increase demand for natural products and alternative medicine | <ul style="list-style-type: none"> <li>• Increase in research on natural products and alternative medicine</li> <li>• Need for protection of indigenous forests and all sources for medicinal herbs</li> <li>• Opportunity for commercialization of research products</li> </ul> |
|                             | Threat of Bio-terrorisms                                      | <ul style="list-style-type: none"> <li>• Threaten health and safety of the population</li> <li>• Need for increased surveillance</li> <li>• Need for sample and pathogen protection</li> </ul>   |
| d)Technological environment | Rapid technological advancement                               | <ul style="list-style-type: none"> <li>• improve efficiency and innovation practices</li> <li>• Rapid obsolescence's of ICT tools and equipment calls for increased resource allocation to catch up with technology</li> </ul>   |
|                             | Internet and digital services                                 | <ul style="list-style-type: none"> <li>• Digitization of health research records</li> <li>• Provision of online services</li> </ul>  |



|                          |  |   |
|--------------------------|--|---|
|                          |  | <ul style="list-style-type: none"> <li>• Big data</li> </ul>  |
|                          | Cyber security   | <ul style="list-style-type: none"> <li>• Potential loss of data</li> <li>• Interruption of business process.</li> </ul>                                   |
|                          | Shift to E-government services   | <ul style="list-style-type: none"> <li>• Ease of access to services through e-government portal</li> </ul>  |
|                          | Emergence of Big data analytics and artificial intelligence in health research | <ul style="list-style-type: none"> <li>• Enhance access to research data</li> </ul>   |
| e) Environmental factors | Climate change and global warming  | <ul style="list-style-type: none"> <li>• Increased research on climate change</li> <li>• Increase in communicable diseases and food insecurity</li> </ul> |
|                          | Environmental Pollution  | <ul style="list-style-type: none"> <li>• Unsafe and unhealthy environment</li> <li>• Increase in communicable diseases</li> </ul>                         |
| f) Legal environment     | Inadequate legal framework   | <ul style="list-style-type: none"> <li>• Limiting scope</li> <li>• uncertainty of future operation</li> </ul>   |
|                          | Data protection Act 2019   | <ul style="list-style-type: none"> <li>• Restrictions on data processing and sharing</li> </ul>   |
| g) Ethical environment   | Research malpractices  | <ul style="list-style-type: none"> <li>• Litigation for plagiarism and disclosure of private information</li> <li>• Negative corporate image</li> </ul>   |

### 2.1.1.2 Micro-environment

KEMRI health research workforce are multi-disciplinary in nature, there are different trade unions representing scientific staff from the various fields and other support staff. Some of the unions include Kenya Medical Practitioners Pharmacists and Dentists Union (KMPDU) a trade union that is actively represents all Kenyan doctors in employment and labour relations with an aim of improving their welfare, Kenya National Union of Nurses (KNUN), Union of National Research Institutes Staff of Kenya (Unrisk) that has been pushing for uniform extraneous, emergency, health risk allowances and other allowances to be given to KEMRI staff across all cadres. This is likely to increase the staff emolument the Union of Kenya Civil Servants (UKCS)

The professional staff in the Institution belong to different professional associations such as the Kenya Medical Association (KMA), Kenya Dentists Association (KDA) and National Nurses Association of Kenya (NNAK), ICPAK, IHRM among others, this ensures that staff are continuously develop and this will help is strategy delivery.

KEMRI deal with a number of suppliers, the most influential suppliers are those supplying and servicing scientific research equipment and maintenance of ICT system security. The dictate prices, specialized reagents to be used in the use and maintenance of scientific and laboratory equipment.

KEMRI has wide customer base as well as huge market potential is huge. There is high demand for research in human health in areas of sports medicine, human infertility, rise in NCD and NTD that requires local solutions, for example there has been calls that the Institute carry out more research in natural products like Mogombere and come up with natural products as quality supplements for sports persons and the athletes as well as the need to establish anti-doping lab which will be one of its kind in the region. County governments have various needs and needs KEMRI staff competence to solve their health related problems through research for human health.

### 2.1.1.3 Industry Environment

Table 3.2 below provides a detailed analysis of competitors in human health research industry.

**Table 2.2 Competitor Analysis**

| <b>Competitor</b>                        | <b>Products /Services</b>   | <b>How they Compete with us</b>   | <b>Competitive Analysis</b>   |
|--|---|---|---|
| Teaching, Research and Referral hospital | <ul style="list-style-type: none"> <li>• Research</li> <li>• Innovations</li> <li>• Capacity building</li> <li>• Health &amp; Consultancy services</li> </ul> | <ul style="list-style-type: none"> <li>• Direct and indirect</li> </ul> | <ul style="list-style-type: none"> <li>• Compete for funds from the exchequer</li> <li>• Compete for grants from internal and external sources</li> <li>• Compete for same skilled manpower (brain drain)</li> <li>• Same customers/ patients</li> </ul>                              |
| Universities                             | <ul style="list-style-type: none"> <li>• Research</li> <li>• Innovations</li> <li>• Capacity building</li> <li>• Health &amp; consultancy services</li> </ul> | <ul style="list-style-type: none"> <li>• Direct and indirect</li> </ul> | <ul style="list-style-type: none"> <li>• Compete for funding from the exchequer</li> <li>• Compete for grants from internal and external sources</li> <li>• Compete for same skilled manpower/ brain drain</li> <li>• Compete for students</li> <li>• Consultancy services</li> </ul> |
| Collaborators and Partners               | <ul style="list-style-type: none"> <li>• Research</li> <li>• Innovations</li> <li>• Capacity building</li> <li>• Grant management</li> </ul>                  | <ul style="list-style-type: none"> <li>• Direct and indirect</li> </ul> | <ul style="list-style-type: none"> <li>• Compete for grants from internal and external sources</li> <li>• Compete for same skilled manpower/ brain drain</li> <li>• Consultancy services</li> </ul>   |

|                                |  |   |  |
|--------------------------------|--|---|--|
|                                | <ul style="list-style-type: none"> <li>• Infrastructure</li> </ul>   |   |  |
| Non-Governmental Organizations | <ul style="list-style-type: none"> <li>• Research</li> <li>• Innovations</li> <li>• Capacity building</li> <li>• Grant management</li> <li>• Infrastructure</li> </ul> | <ul style="list-style-type: none"> <li>• Direct and indirect</li> </ul> | <ul style="list-style-type: none"> <li>• Compete for grants from internal and external sources</li> <li>• Compete for same skilled manpower/ brain drain</li> <li>• Consultancy services</li> </ul>  |
| Other Research Institutions    | <ul style="list-style-type: none"> <li>• Research</li> <li>• Innovations</li> <li>• Capacity building</li> <li>• Health services</li> </ul>                            | <ul style="list-style-type: none"> <li>• Direct and indirect</li> </ul> | <ul style="list-style-type: none"> <li>• Compete for funds from the exchequer</li> <li>• Compete for grants from internal and external sources</li> <li>• Compete for same skilled manpower/ brain drain</li> <li>• Same customers/ patients</li> </ul>                                |
| Private sector players         | <ul style="list-style-type: none"> <li>• Products, technologies and services</li> <li>• Innovations</li> </ul>   | <ul style="list-style-type: none"> <li>• Direct and indirect</li> </ul> | <ul style="list-style-type: none"> <li>• Competing for customers for products, technologies and services</li> <li>• Compete for grants from internal and external sources</li> <li>• Compete for the same skilled manpower/ brain drain</li> <li>• Same customers/ patients</li> </ul> |
| Regional Research Institutions | <ul style="list-style-type: none"> <li>• Research</li> <li>• Innovations</li> <li>• Capacity building</li> </ul>   | <ul style="list-style-type: none"> <li>• Direct and indirect</li> </ul> | <ul style="list-style-type: none"> <li>• Compete for grants from internal and external sources</li> <li>• Compete for same skilled manpower/ brain drain</li> <li>• Consultancy services</li> </ul>  |

#### 2.1.1.4 Market Analysis

KEMRI is responsive to the health needs of the country through development and assessment of new diagnostics and interventions to combat the challenges of emerging and re-emerging diseases including Non-Communicable Diseases (NCDs), Communicable Diseases and bio-terrorism. The Institute through its innovative research approached has developed predictive models to monitor disease trends, outbreaks, identification of possible epidemics and effects of climate change. KEMRI developed and continue to manage Health and Demographic Surveillance Systems (HDSS) targeting population dynamics, validating National census/demographic Health Surveys, health facility utilization, evaluation of new health interventions and priority diseases monitoring within Nairobi, Kisumu, Siaya, Homabay and Kilifi Counties.

Research conducted over time has led to development of home-grown products including diagnostic kits and other products as well as offering specialized laboratory and clinical services across KEMRI centres spread across the country. Through these

centres aggressive marketing strategies will be put in place to enable delivery of products and services to the general public. The Institute will also leverage on the devolved health structures to expand its research activities to all parts of the country in order to bridge evidence gap in policy formulation.

### 2.1.2 Summary of Opportunities and Threats

This section analyses the opportunities and threats faced by the Institute as presented by table 3.3

**Table 2.3 Summary of Opportunities and Threats**

| <b>Environmental Factors</b> | <b>Opportunities</b>  | <b>Threats</b>   |
|------------------------------|---|--|
| Political                    | <ul style="list-style-type: none"> <li>i) Goodwill and support from Government of Kenya</li> <li>ii) Support from County governments</li> <li>iii) Collaboration and partnership in undertaking research</li> </ul>   | <ul style="list-style-type: none"> <li>i) Multiple health research institutions in the country</li> <li>ii) Multiple research approval Institutions</li> </ul>             |
| Economic                     | <ul style="list-style-type: none"> <li>i) Product development (Vaccine, drugs, diagnostic kits etc.)</li> <li>ii) Emerging and reemerging diseases</li> <li>iii) Leveraging on new knowledge and technology transfer</li> <li>iv) Readily available local market for Institutes products</li> <li>v) Regional market in sports medicine in Eritrea, Ethiopia, and Uganda</li> </ul> | <ul style="list-style-type: none"> <li>i) Changing funding priorities by external collaborators and partners</li> <li>ii) Inadequate exchequer research funding</li> </ul> |
| Social                       | <ul style="list-style-type: none"> <li>i) Emerging and reemerging diseases</li> <li>ii) Sport science and sports medicine research</li> </ul>   | <ul style="list-style-type: none"> <li>i) Changing funding priorities by external collaborators and partners</li> </ul>  |
| Technological                | <ul style="list-style-type: none"> <li>i) Adopting and leveraging on new technologies</li> </ul>  | <ul style="list-style-type: none"> <li>i) Data security</li> </ul>   |
| Legal                        | <ul style="list-style-type: none"> <li>i) Opportunity to lobby for enactment of laws and regulations</li> </ul>   | <ul style="list-style-type: none"> <li>i) Inadequate laws</li> <li>ii) Data security</li> </ul>  |
| Ecological                   | <ul style="list-style-type: none"> <li>i) Climate and climate change</li> </ul>   | <ul style="list-style-type: none"> <li>i) Climate and climate change</li> </ul>  |

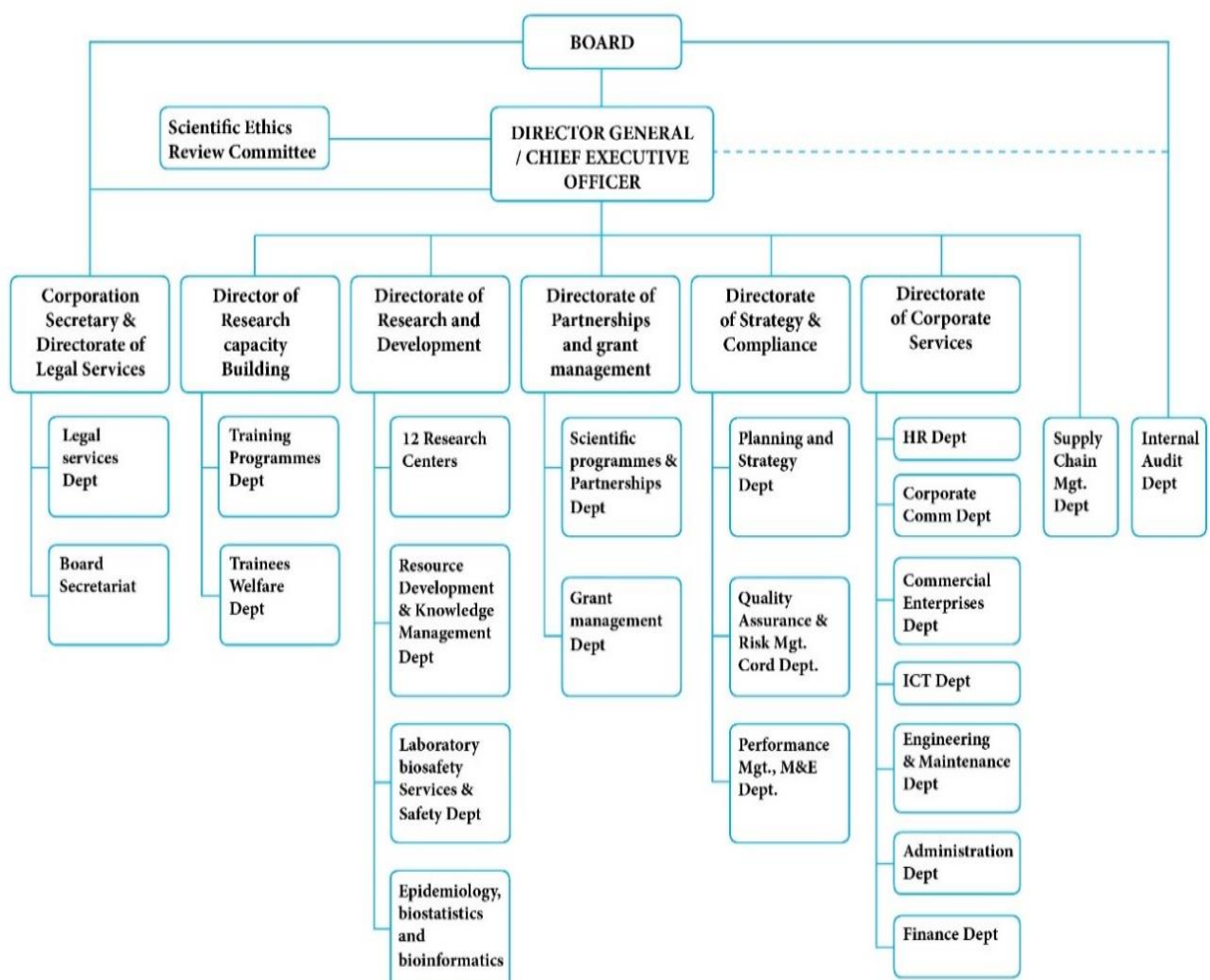
### 2.1.3 Internal Environment Analysis

The internal environment discusses the governance and administrative structure, internal business processes and resources and capabilities a of the Institute

#### 2.1.3.1 Governance and Administration Structures

KEMRI Strategic Plan 2023-2028 requires an effective and responsive governance framework to facilitate delivery of planned aspirations through proper coordination and efficient use of resources to meet the expectations of stakeholders. The approved KEMRI organizational structure defines three tiers consisting of the Director General, Directors and Deputy Directors with the Board of Directors providing oversight. The figure that follows illustrates the organizational structure.

**Figure 2.1: The Organizational Structure**



The duties and functions of the different levels are as described hereunder: -

**a) KEMRI Board of Directors**

KEMRI Board of Directors is the highest decision making organ in the Institute and responsible for setting and overseeing the overall organizational strategy and approving policies. KEMRI Board executes its mandate through committee's four committees namely; Scientific Research and Innovation, Audit and Risk Assurance, Human Resource, Finance and Development committees.

**b) Director General**

The Director General is the Chief Executive Officer of the Institute and is responsible to the Board of Directors for the implementation of the Institute's strategic goals and the management of its resources including giving direction and leadership to the achievement of institute's mandate, the development of its strategy and the attainment of its annual goals and objectives.

**c) Directorates**

The organizational structure identifies six directorates each headed by a Director. The following are the mandates of each directorates: -

**1) Directorate of Research and Development**

The Research and Development directorate is responsible for overall management and coordination of human health research in the Institute as mandated through the Science and Technology Act. The directorate is also responsible for overall coordination of research regulation and knowledge management, Lab management and bio safety to ensure achievement of KEMRI's strategic objectives. The Directorate is responsible for the following key functions;

- i) Steering research through guidance of institute's research strategy;
- ii) Development and implementation of research policies, strategies, Standards, guidelines and procedures;
- iii) Coordination of research review, management and reporting;
- iv) Guide in the development of research proposals;
- v) Promotion of innovation and technology transfer;
- vi) Coordination of research activities and operations through Centres
- vii) Coordination of clinical services, trial sites, hospitals and specialized Services;
- viii) Overseeing disease surveillance and epidemiological platforms;
- ix) Keep custody of health population data and disease trends;
- x) Liaise with the Ministry of Health in emergency disease response in the Nation;
- xi) Ensuring establishment and maintenance of accurate and up to database of all Research assets including research projects and intellectual properties;
- xii) Establish and maintain quality standards in laboratories;
- xiii) Ensuring safety and a conducive research environment;
- xiv) Ensuring compliance to research policy, regulation, standards and Guidelines;
- xv) Keeping custody of research projects and programs undertaken;

- xvi) Facilitating dissemination, translation and implementation of research Findings;
- xvii) Liaising with other departments for research support; and
- xviii) Mentoring and Training research leaders to ensure scientific skills development;
- xix) Coordinate biorisk assessment and response in research area and ensure hazards are identified are controlled and managed;
- xx) Ensure maintenance of an up to date pathogen and chemical asset inventory database;
- xxi) Ensure compliance and quality standards of the laboratories;
- xxii) Initiates develop of policies and strategy for research and development;
- xxiii) Ensure implementation and compliance with policies and strategies for research and development; and
- xxiv) Ensure effective methodological support for biostatistics and informatics for Research Scientists.

## **2) Directorate of Scientific Programmes, Partnerships and Grant Management**

The Scientific Programs, Partnerships and Grants Management Directorate is responsible for the development and enhancement of all current and future collaborative and partnership activities of the Institute with relevant partners and collaborators in research and other income generation activities. The Directorate is responsible for the following functions: -

- i) Coordinate the activities of the Scientific Research Programs;
- ii) Coordinating the activities of Grants Management;
- iii) Coordinating the activities of the Country Cluster Coordinators;
- iv) Promotion, coordination and advancement of all research collaborations and Partnerships;
- v) Liaison with Government Ministries, other research Institutions, the Universities, the National Council for Science and Technology and Innovations (NACOSTI) and other organization on research collaboration activities.
- vi) Promote partnership and collaboration and ensure efficient and effective technical cooperation;
- vii) Coordinate the Planning and execution of national, regional and international collaborative activities of ESACIPAC;
- viii) Developing and reviewing of collaborative MOUs and agreements with partners;
- ix) Developing and reviewing MOUs and Service Level Agreements (SLAs) with county Governments and other relevant partners;
- x) Coordinate routine meetings with collaborators, partners and other stakeholders to thrush out issues of mutual concern;
- xi) Initiate development of policies that will enhance funding;
- xii) Develop annual reports on state of collaboration and partnerships;

- xiii) Develop strategies that Attract research grant income, and other income, from a variety of sources, for research and capacity building efforts towards financial sustainability of the Institute.

### **3) Directorate of Research Capacity Building**

The Directorate is established to provide mentorship and capacity building for research in human health. The Directorate is responsible for the following key functions:-

- i) To coordinate the teaching of academic programs of the graduate school under the KEMRI research themes;
- ii) To ensure that teaching, mentorship and research skills are imparted;
- iii) Establish exchange programs;
- iv) Overseeing the establishment of effective institutional structure for monitoring quality assurance in the academic and research programs;
- v) Oversee the development and regular reviewing the specialized curriculum;
- vi) Ensure proper planning, development, coordination and management of curricula for training;
- vii) Establish endowment funds for scholarships, fellowship and grants;
- viii) Oversee the supervision and coordination of the academic and administration programs of the directorate;
- ix) Ensure student compliance to research policy, regulation, standards and guidelines;
- x) Coordinate student admission, records and maintenance, student financial support and welfare;
- xi) Spearhead training partnerships, collaborations and linking with professional institutions and related bodies in advancing the Institute's interest;
- xii) Develop short skill development courses for employees of KEMRI;
- xiii) Ensure student compliance to research policy, regulation, standards and guidelines;
- xiv) Spearhead partnerships, collaborations and links with professional institutions and related bodies in advancing the Institute's interest;
- xv) Coordination of examinations administration.

### **4) Directorate of Strategy and Compliance**

The Directorate of Strategy and Compliance is responsible for ensuring KEMRI adopts and implements appropriate strategies that will ensure efficient and effective planning, performance management, monitoring and evaluation of programs and projects, Quality assurance and risk management, as well as ensuring adherence to regulatory requirements. The Directorate is responsible for the following key functions

- i) Advising management on policies and strategies relating to planning, resource mobilization, performance management, quality assurance, risk management;
- ii) Coordinate overall long-term and medium-term planning for the Institute to ensure realization of institute's Vision and strategic goals;



- iii) Coordinate development, implementation, monitoring, review and evaluation of Institute's Strategic Plan and annual work plans for effectiveness and efficiency of implementation of planned activities;
- iv) Coordinate the overall Institutes Performance management framework to ensure alignment of performance targets to national and Institute long term plans;
- v) Develop, implement and monitor internal controls and risk management strategy to minimize losses incurred by the institute arising from exposure to risks;
- vi) Co-ordinate formulation and/or review of Institutes development strategies, policies, programs and projects, leading to effective research and innovation, capacity building, policy formulation and service delivery;
- vii) Coordinate programs/projects forecasts, estimates and budgets in liaison with departmental heads and the Finance Department for effective planning and implementation;
- viii) Coordinate identification and implementation of vision 2030 flagship projects geared towards realization of Sustainable Development Goals (SDGs);
- ix) Coordinate and facilitate comprehensive capital/infrastructural needs assessment in consultation with user Centres/departments and prioritizes projects in line with Institute's Strategic Plan, Medium Term Plan and Vision 2030;
- x) Develop, establish and maintain an institute up-to-date Master-database for Research and support activities;
- xi) Guide in the development, implementation and application of modern techniques in Monitoring and Evaluation systems for research and capacity building programs;
- xii) Coordinate operations research and conduct surveys for additional strategic information for decision making;
- xiii) Conduct feasibility studies and carry out assessment of viability, strategic importance and sustainability of all development projects;
- xiv) Guide research teams to prepare monitoring and evaluation schedules and reports;
- xv) Provide custody and secretariat of all capital projects documents for safe keeping and future reference;
- xvi) Preparation and implementation of the Centre's Quality Management System through quality assurance programs;
- xvii) Facilitate identification and evaluation of risks, monitoring risk exposure and advising management accordingly;
- xviii) Implementation of quality management system (QMS) and other business reengineering processes initiatives.

## **5) Directorate of Corporate Services**

The Corporate Services Directorate is responsible for providing leadership and coordination of, Human Resource Management, Information and Communications Technology, Commercial Enterprises services, Engineering and Maintenance, Corporate Communications, Finance and Accounts and Administration. The Directorate is responsible for the following key functions;

- i) Coordinate development of policies, plans and strategies in the functional areas of Human Resource, Finance, Administration, Corporate Communications, Communication Technology and Commercial Enterprises services;
- ii) Develop effective operational policies, procedures, internal controls and systems for identifying, measuring, monitoring and controlling Institute's operations to drive the implementation of the approved strategy;
- iii) Oversee management of the Institute's revenues and expenditure, assets and liabilities and staff payroll;
- iv) Foster a culture that promotes team capability and reflects the values which facilitate performance, professionalism and innovation by staff throughout the institute;
- v) Ensure financial prudence and discipline for Financial Accounting, Planning, budgeting and budgetary controls in compliance with the set legal guidelines;
- vi) Oversee planning, directing and executing all human resources strategies, policies and plans;
- vii) Coordinate provision of Engineering and maintenance services;
- viii) Ensure effective implementation and compliance with all legislative requirements relating to corporate services;
- ix) Coordinate the institute's Management Information Systems and security;
- x) Coordinate technology infrastructure in line with the institute's goals and changing technologies;
- xi) Provide technical, strategic and policy advice on ICT matters and implementation of various ICT work processes, procedures and other administrative related matters;
- xii) Ensure conducive work environment in the institute;
- xiii) Coordinate the establishment and management of income generating programs and activities;
- xiv) Coordinate the provision of physical security; and
- xv) Oversee Development, review and implementation of communications strategy to support the Institute's objectives;
- xvi) Ensure development and implementation of corporate communications plans to enhance the visibility of the Institute;
- xvii) Undertake business case analysis and due diligence as well as prioritization of new initiatives and business opportunities to ensure viability before investment;
- xviii) Ensure appropriate systems and procedures are in place to maximize the safety and security of all staff, units and stakeholders;

- xix) Liaise with other security agencies on security matter;
- xx) Coordinate implementation of general administrative policies and programs;
- xxi) Coordinate Management of the corporate image of the Institute; and
- xxii) Coordinate the Institute's public functions and corporate events.

## **6) Corporation Secretary and Directorate of Legal Services**

This Directorate is responsible to the Board of Directors and the Director General for provision of Board secretariat services and advisory services on Corporate Governance as provided for in the Constitution of Kenya 2010 and the Mwongozo, Code of conduct for State Corporations. In addition, the Directorate is responsible for facilitate legal compliance by providing legal services to the Institute. The functions of the office of Corporation Secretary and Director Legal Services entail

- i) Providing guidance to the Board on their duties, responsibilities and powers and how these should be exercised in the best interest of the Institute;
- ii) Facilitate planning of all KEMRI Board of Management activities to ensure that they aligned to the Institutes' strategies all relevant government directives;
- iii) Coordinate evaluations of performance of board members and board development programs;
- iv) Offer guidance to the Director, KEMRI and top Management in preparation of Board papers;
- v) Providing secretarial services to the Board including ensuring that the minutes of the Board and board committees are promptly prepared and circulated;
- vi) Custody of the seal and a record of its usage;
- vii) Liaise with Parliament and Parliamentary Committees (Parliamentary Investment Committee (PIC) and Parliamentary Committee on Health) in answer of all parliamentary questions, queries and reports touching on the management of the Institute in order to ensure that the Institute meets its responsibility to the stakeholders;
- viii) Offer guidance to the Institute on matters touching on investigations of the Institute by external agencies to ensure that the Institute's image and interest are secure;
- ix) Formulating policy and Providing advice on legal and corporate matters to the Institute through interpretation and writing legal opinions;
- x) Ensuring that Legal Audit Compliance is carried out to confirm legal compliance with national, regional and international legal requirements;
- xi) Developing and reviewing relevant regulatory Legal framework for the better implementation of the Institute's mandate;
- xii) Drafting and reviewing contracts, Service Level Agreements, Memorandum of Understanding, leases and other legal documents to ensure compliance to statutory requirements and the Institute's policies;
- xiii) Coordinating and ensuring representation of the Institute in courts or other judicial authorities;

- xiv) Reviewing and providing advice on legal risk at the Institute;
- xv) Managing litigation and review progress of outstanding litigation;
- xvi) Liaising and managing external lawyers for the Institute;
- xvii) Management of intellectual property rights aspects of the institution;
- xviii) Contract negotiation with external parties;
- xix) Initiation of legal action and defense on behalf of the Board of Management.

**2.1.3.2 Internal Business Processes**

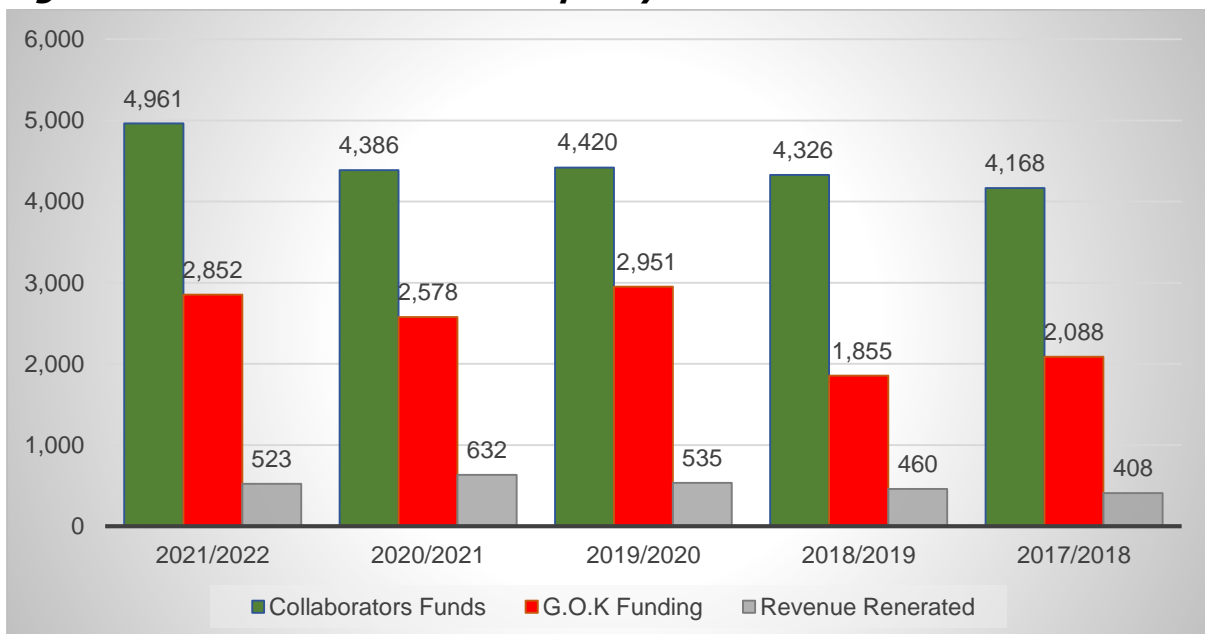
KEMRI will re-engineer its business processes and adopt ICT and digital technologies to improve operational efficiency and data management in research and service delivery. These technologies will be deployed at all service delivery points taking into consideration data protection laws, regulations and policies.

**2.1.3.3 Resource Capabilities**

The Institute boasts of well-established research infrastructure including network of accredited laboratories, clinical trials facilities, Bio-Banks, state of the art research equipment, Sample Management Repository Facility and a center of excellence in Stem cell research for regenerative and precision medicine application. In addition to research activities, the institute established clinics where walk in patients can be treated and routine or specialized diagnostic services offered. KEMRI has also a well-established graduate school facility where specialized Masters and PhD programmes are offered. The realization of these milestones is attributed to the dedicated and agile human resources totalling 856 permanent and pensionable staff and more than 3000 contract staff with diverse skills and competencies.

The figure below shows the financial trends and capacity of the Institute

**Figure 2.3 Financial Trends and Capacity of the Institute**



### 2.1.4 Summary of Strengths and Weaknesses

This section provides a summary of strengths and weaknesses.

**Table 2.4 Strengths and Weaknesses**

| Factor                        | Strengths   | Weaknesses  |
|-------------------------------|---|---|
| Governance and Administration | <ul style="list-style-type: none"> <li>i) Ministry of Health support</li> <li>ii) Strong Corporate brand</li> <li>iii) Existence of institutional policies and guidelines</li> </ul>  | Weak legal framework  |
| Internal Business Processes   | <ul style="list-style-type: none"> <li>i) Innovative culture</li> <li>ii) Automated processes</li> </ul>  | Sub-optimal data management systems   |
| Resources and Capabilities    | <ul style="list-style-type: none"> <li>i) Clinical research facilities</li> <li>ii) Modern and Accredited laboratories</li> <li>iii) KEMRI Graduate school</li> <li>iv) Research data</li> <li>v) Established network of partners and collaborators</li> <li>vi) Highly skilled human resource</li> <li>vii) Geographical spread of KEMRI Centres across the country</li> </ul> | <ul style="list-style-type: none"> <li>i) Inadequate human resource</li> <li>ii) Over dependence on donor funding</li> <li>iii) Inadequate knowledge translation</li> </ul> |

### 2.1.5 Analysis of Past Performance

The KEMRI Strategic Plan 2018-2023 identified five Key Result Areas and five strategic objectives as listed below: -

**Table 2.5: Key Results Areas and Objectives of Strategic Plan 2018-2023**

| S/No | Key Result Area (KRA)                    | Strategic Objectives   |
|------|--|--|
| 1.   | Research and Innovation                  | To strengthen investment in health Research and Innovation   |
| 2.   | Corporate Governance                     | To strengthen corporate governance by transforming and reengineering business processes in order to achieve efficiency and effectiveness in health research and service delivery |
| 3.   | Research Infrastructure                  | To upgrade research infrastructure and automate processes  |
| 4.   | KEMRI Graduate School of Health Research | To attain degree awarding status for KEMRI graduate school of Health sciences  |
| 5.   | Financial Sustainability                 | To enhance and diversify resource mobilization as a step towards financial sustainability  |

### **2.1.5.1 Key Achievements**

During the 2018-2023 plan period, the following were notable achievements in each Key Results Area (KRA).

#### **1. KRA 1: Research and Innovation**

During the plan period, KEMRI provided to the public specialized laboratory services totalling 4,282,296 encompassing COVID-19 PCR tests, HIV Viral Load testing (75% of National tests), Early Infant HIV Diagnosis, HIV Rapid and DNA tests among others. For surveillance of circulating COVID-19 strains in Kenya, genomic sequencing was done for 3,500 SARS-CoV-2 positive samples from 37 Counties across Kenya from samples collected between March 2020 and Jan 2022. The sequencing identified 97 distinct SARS-CoV-2 genome lineages. The 97 lineages include four variants of concern Alpha (B.1.1.7) in 501 samples, Beta (B.1.351) in 183 samples, Delta in 853 samples and Omicron in 363 samples. KEMRI also sequenced samples from other countries including; Comoros (n=34), Sudan (n=105), Ethiopia (n=221), Seychelles (n=702) and Eswatini (n=40). Whole-genome sequence data deposited in the GISAID database to allow access to the global scientific community.

KEMRI was awarded the 16<sup>th</sup> (2020) JICA President award for its contribution to diagnostics and research in human health especially during the COVID-19 pandemic. KEMRI further plays a regional lead in research as it hosts regional reference laboratories for Polio, Arbovirus and Malaria diagnostics and supports establishment of Malaria Diagnostics Centres of excellence in Tanzania, Ghana and Nigeria.

KEMRI conducted a feasibility study on local production of Human Vaccines which led to the establishment of the Kenya Biovax Institute mandated to produce vaccines for local use and export.

Significant progress was made in the establishment of a Centre of excellence in stem cell research, synthetic biology and regenerative medicine. The Centre is expected to undertake advanced stem cell research and regenerative medicine to address the need for new therapeutic and interventional approaches to Non-Communicable Diseases (NCDs). Specific achievements in this area include: -

- i) laboratory upgraded and equipped with the following equipment among others: BDFACs Cell Sorter, Next Generation Sequencer, CO2 Incubator, Class A2 Biosafety Cabinet, Medical Freezer, Centrifuge (refrigerated) and Cryogenic storage Dewars
- ii) Thirteen (13) scientists, 2 PhD and 1 masters student trained on stem cell research
- iii) Four (4) Research studies on stem cell research ongoing
- iv) Establishment of a stem cell biobank is in progress

In order to promote Indigenous Technologies and home-grown innovations, the institute conducted biomedical research on natural products with focus on use of pyrethrum grown in Kenya for its safety for insecticidal and antimicrobial applications. The main Research activities under the Pyrethrum Project included studies on efficacy for prevention and treatment of jiggers. Ujiplus, a fortified porridge flour with deworming properties was approved and licensed for distribution by the Kenya Poisons and Pharmacy Board (PPB).

To boost local capacity in innovation and production of health products, KEMRI developed 12 products with three having been commercialized. The commercialized products include COVID -19 Viral Transport Media with 26,000 utilized in the Health sector, COVID 19 proficiency testing kits and a COVID-19 PCR test kits. The Institute also embarked on development of a fractionated dose regimen vaccine for yellow fever vaccine. The development is in the final stages of evaluation. Other products include:

-

- i) A reverse transcriptase loop amplification isothermal PCR for YFV was developed at KEMRI-PD;
- ii) Domestication of differential diagnosis assays by PCR for YFV, RVFV, DENV, CHIKV, ONNV and WNV using established protocols;
- iii) Development of Enzyme Linked Immunosorbent Assays (ELISA) for YFV e.g. indirect IgG ELISA, IgM capture ELISA and Ag detection ELIS;
- iv) Large-scale production of YFV specific monoclonal antibody 2D12 and its subsequent use in Plaque and Focus Neutralization Assays;
- v) Developed more MAbs that are awaiting field testing and large-scale propagation;
- vi) Evaluation of a Loop-mediated isothermal amplification (LAMP) assay for COVID-19 detection.

The Institute further developed and continues to manage Health and Demographic Surveillance Systems (HDSS) targeting population dynamics, validating National census/demographic Health Surveys, health facility utilization, evaluation of new health interventions and priority diseases monitoring within Kisumu, Siaya, Homabay and Kilifi Counties. It is these HDSS that have facilitated: -

- i) Pilot deployment of malaria vaccine in Siaya and Kisumu;
- ii) Mapping out disease dynamics within communities;
- iii) Mapping distribution of health facilities and their utilization in Kilifi, Kisumu and Siaya. This information is regularly shared with County and National Government for planning;
- iv) Monitoring the COVID 19 transmission dynamics;
- v) Evaluation of the impact of COVID 19 vaccination.

In contributing to increase in scientific knowledge base and to provide key reference materials for formulating evidence-based policies, the institute developed six hundred

and thirty-one (631) new research proposals covering national health research priorities, published one thousand four hundred and thirty-eight (1,438) scientific papers in peer reviewed journals and presented six hundred and one (601) peer reviewed scientific abstracts in national and international scientific conferences.

Arising from the scientific knowledge generated, KEMRI developed seventy-two (72) policy briefs covering management of various diseases including Malaria, Covid-19, Cancer, TB, HIV, and Health Systems. This has led to changes in management of diseases and interventions, review of programmes and prioritization in resource allocation.

The Institute supported the government in the initial stages of UHC in government selected Pilot Counties of Machakos, Kisumu, Isiolo and Nyeri. The Institute has carried out studies in the twelve (12) counties of Bungoma, Homabay, Bomet, Nyandarua, Nyeri, Isiolo, Meru, Machakos, Kitui, TaitaTaveta, Kisumu and West Pokot.

The Institute conducted several clinical trials targeted at vaccine development. Key clinical trials on vaccines development undertaken during the period include: -

- i) The development of malaria vaccine whereby the RTSS Phase 3 was completed and pilot deployment ongoing in Kenya, Malawi and Ghana. There is vaccine evaluation and malaria antigen characterization ongoing for new vaccine candidate discovery and development;
- ii) The Institute carried out phase two Ebola vaccine, phase two concept trial was completed and showed that the vaccine candidate was efficacious;
- iii) Currently KEMRI is in the final stages of evaluation developing a fractionated dose regimen for yellow fever vaccine;
- iv) The Institute took a leading role in the development of HPV vaccine that has been rolled out to vaccinate 14-year-old girls against future cervical cancer.

The Institute undertook the following clinical trials on drug development: -

- i) Malaria drug discovery by mining existing chemical libraries (360 compounds evaluated);
- ii) Evaluation of medicinal plants with anti-malarial potential;
- iii) Clinical trials on new anti-malarial drugs (KAF, Feroquine, KAE);
- iv) Antimalarial drug resistance surveillance and monitoring;
- v) In regard to HIV/AIDS a phase 3b, randomized, open-label study of the antiviral activity and safety of dolutegravir compared to lopinavir/ritonavir both administered with dual nucleoside reverse transcriptase inhibitor therapy in HIV-1 infected adult subjects with treatment failure on first line therapy. Dolutegravir has now been adopted in the country as 2nd line treatment for HIV;
- vi) A Phase IIB, Double-blind, randomized placebo-controlled study to evaluate efficacy, safety and, immunogenicity of GSK biological candidate tuberculosis (TB)



- vaccine GSK 692342 against TB disease in healthy adults aged 18-50 years living in a TB endemic region. The study is now complete and shows promising results;
- vii) A phase 3, double – blind, Randomized, placebo-controlled, multicentre study of GBT440 Administered Orally to patients with Sickle Cell Disease. Completed and proceeded to an open label study GBT 034. The Drug has been registered and is in the market;
- viii) KEMRI has empowered the women through the development of the women condom ring.

The Institute conducted clinical trials in the following diagnostic kits: -

- a) First locally manufactured new rapid diagnostic tests (RDT) development;
- b) Evaluation of new and existing malaria diagnostic tools.

KEMRI continued to provide technical support to the Ministry of Health through representation in technical working groups. These technical working groups include; COVID-19 task force, National Immunization Technical Advisory Group (NITAG), National Laboratory Technical Advisory Committee (NLTAC), Kenya Coordinating Mechanism for Global Fund and operationalization of One Health Research programme. In addition, KEMRI supported the MOH in responding to the outbreaks of dengue, Rift Valley fever, Yellow fever, Chikungunya and surveillance over suspect Ebola outbreaks in the neighbouring regions.

Through collaboration with Japan International Cooperation Agency (JICA) Third Country Training Programme (TCTP), KEMRI trained health practitioners from seven countries namely Ethiopia, Uganda, Eritrea, South Sudan, Rwanda, Burundi and Kenya on laboratory preparedness for building resilience against public health emergencies and response in East African region. The Institute carried staff training on diverse areas including malaria microscopy competency, performance evaluation of a prototype rapid diagnostic test for the diagnostic of schistosomiasis, Miseq FGS sequencing, environmental surveillance, research methodologies, grants management, manuscript writing and monitoring and evaluation.

## **2. KRA 2: Health Research Infrastructure**

KEMRI recognized that developments in healthcare and technology innovation rely heavily on a robust research infrastructure, which enables conduct of high-level scientific research. The key achievements in this area include upgrading of eleven (11) laboratories to accredited standards through funding support from DTRA-USA Government. The support was also extended to construction of a Sample Management and Repository Facility (SMRF) which is now fully operationalized.

New cutting-edge research equipment was acquired. These included next generation sequencers and equipment such as Illumina- Miseq and Oxford nanopore, Roche 454 high through put sequencing platforms and equipping of flu laboratory and P3 lab at KEMRI headquarters.

Upgrade of access roads and installation security access control at KEMRI Headquarters, installation and commissioning of an incinerator in KEMRI Busia centre, upgrading plumbing/sewer systems at headquarters and renovation of staff quarters at KEMRI estate along Mbagathi way were undertaken.

In the area of fleet management, the Institute completed the construction of Vehicle Maintenance Unit at CPHR while twenty-two vehicles were procured to facilitate research and administrative operations. Maintenance and repairs of facilities and equipment was also achieved through continuous annual repairs and maintenance schedules.

Major achievements in ICT include deployment of the ERP solution to automate finance, Human resource, procurement, performance management and fleets management processes for efficiency. ERP phase II which aims to automate research and capacity building processes were initiated and currently ongoing. Three hundred and fifty (350) computers, fifteen servers in primary site and Data Recovery sites and network security system were also acquired and operationalized. Local Area Network and Wide Area Network were upgraded at Headquarter, Kisumu and Busia. Information Security Management Systems (ISMS) standard was implemented.

### **3. KRA 3: Corporate Governance**

Notable achievements in this area include; re-establishment of KEMRI under legal notice No. 35 of March 2021, ISO 9001:2015 recertification and development of twenty-four (24) internal policy documents. In order to ensure compliance with laws and government policy guidelines, the institute conducted a legal audit, implemented Annual Procurement Plans and ensured compliance with the service delivery charter. Annual Work Plans (AWP) based on strategic plan were also developed and implementation monitored and reported on quarterly basis.

The institute during the period commenced review of the Human Resource Policies and procedures Manual, Career Progression guideline, HR strategy and training and development policy. Skills gap analysis to inform training needs (Training needs assessment) and implement the assessment report was also undertaken.

### **4. KRA 4: KEMRI Graduate School of Health Research**

KEMRI continues to pursue award of a charter to enable it award degrees for the various training programmes being undertaken. During the period;

- a) Draft University Charter was submitted to CUE for review towards accreditation of KEMRI as a specialized degree awarding institution;
- b) The procurements of key resources and establishment of infrastructure in support of the charter requirements has been initiated;

- c) Audit by the Commission of University Education was undertaken and implementation of audit recommendations is currently underway;
- d) One hundred and ninety-five MSc and seventy-two PhD students enrolled for various postgraduate programmes.

The Institute also entered into partnership with external stakeholders and established research funding for its students and KEMRI Staff. Some of the partnerships and projects with mentorship programmes include:-

- i) A postdoctoral training program with support of EDCTP. Two trainees are currently in the program;
- ii) Trained twenty-six personnel on research methodology and proposal writing in partnership with Smile Train Africa. Trainees were drawn from Kenya and six African counties;
- iii) Established a COVID19 sequencing and bioinformatics short course in collaboration with WHO and sixteen researchers have so far been trained;
- iv) KEMRI partnered with Nagasaki University on research in tropical diseases from Japan in implementing a student exchange programme targeting student from both institutions. Two students have already been enrolled for the programme;
- v) KEMRI established linkages with Kansas University in research, education and cultural exchange;
- vi) The KEMRI-JICA Third Country Training Program (TCTP) that brings together regional health practitioners and has equipped them with skills to respond to public health emergencies. Training Course Targets African Country participants to train them on Laboratory preparedness for building resilience against public health emergencies in the Eastern African region;
- vii) Universite of Cote-Dazur, France, Partnership training in Biobanking. Two MSc students are to undergo sandwich program.

## **5. KRA 5: Financial Sustainability**

During the strategic plan period, the Institute received total exchequer allocation of **Ksh 10.4B** for recurrent and development expenditure. The institute further entered into partnerships with over ninety partners and collaborators to support research in different research program areas. Through these collaborations, KEMRI attracted external research grants of **Kes 21.6 Billion**.

In identifying local funding calls and lobbying for research funding, the Institute received **Ksh 222M** from Sports Arts and Social Development Fund for establishment of cancer genomics laboratory and **Kshs 77M** from National Research Fund for establishment of Centre of Excellence in stem cell research. The Institute also generated **1,739M** from its internal revenue streams.

### **2.1.5.2 Challenges**

During the 2018-2023 plan period, the Institution experienced the following key challenges: -

- i) Covid-19 pandemic disrupted the executions of the activities of the Institution as planned. KEMR's attention was diverted to find immediate solution to fight against Covid-19;
- ii) Inadequate key staff -The approved staff establishment is 1977 employees while currently the Institution has 850 staff;
- iii) Inadequate research funds - Most research activities are funded by external collaborators whose priorities are predetermined through funding calls;
- iv) Inadequate development funds from the exchequer;
- v) Instability of global markets in view of international conflicts between Russia-Ukraine.

### **2.1.5.3 Lessons Learned**

During the 2018-2023 plan period, the following lessons were drawn from the implementation of the strategic plan. The need to:-

- i) Clearly define health research agenda;
- ii) Review research programme areas and align with the Ministry of Health priorities;
- iii) Review allocation of research funds to focus on programme areas with high impact as opposed to individual projects;
- iv) Establish and operationalize research thematic teams to focus on delivery of key strategic objectives;
- v) Create synergy in setting research priorities and undertaking research between KEMRI and its partners;
- vi) Eliminate duplication of research equipment;
- vii) Tap into unexploited capacity to commercialize research innovation;
- viii) Review and develop the MOUs and legal instruments to safeguard intellectual property and the Institute interests;
- ix) Institutionalize strategy into the corporate culture;
- x) Cascade corporate strategy into Centres/ departmental levels;
- xi) Institutionalize programme based budgeting and robust control measures;
- xii) Strengthen planning, monitoring and evaluation;
- xiii) Reengineer the internal process to achieve efficiency and effectiveness;
- xiv) Strengthen partnership to facilitate research translation and upscale production of research products;
- xv) Strengthen mentorship and succession management;
- xvi) Review and harmonize staff reward mechanisms.

## 2.2 Stakeholder Analysis

Stakeholder analysis was conducted to identify the interests, expectations and responsibilities of the key players toward each other. This involved taking an inventory of all key players that have a stake in this Strategic Plan taking into consideration the various ways they may influence its implementation. This analysis was conducted in order to understand the nature and extent of the functional relationships as well as various stakeholder expectations. The table below gives the summary of the analysis.

**Table 2.6: Stakeholder Analysis**

| Category   | Role  | Stakeholder Expectations   | KEMRI's Expectations   |
|--|---|--|--|
| National Government (National Assembly, National Treasury Ministry of health, ministry of education) | <ul style="list-style-type: none"> <li>• Provision of Legal and policy guidelines</li> <li>• Research funding</li> <li>• Oversight</li> </ul>   | <ul style="list-style-type: none"> <li>• Delivery of the mandate</li> <li>• Participation in policy formulation</li> <li>• Dissemination of research findings</li> <li>• Timely response to disease outbreaks, emergencies and health challenges</li> <li>• Prudent resource management</li> </ul> | <ul style="list-style-type: none"> <li>• Funding of research operations</li> <li>• Laws, policies and guidelines that facilitate research</li> <li>• Facilitate implementation of MoUs and Bilateral agreements</li> </ul>                           |
| County Government  | <ul style="list-style-type: none"> <li>• Provision of Legal and policy guidelines</li> <li>• Funding</li> <li>• Collaboration in research</li> </ul>  | <ul style="list-style-type: none"> <li>• Capacity development</li> <li>• Research findings to inform policy and practice</li> <li>• Timely response to disease outbreaks, emergencies and health challenges</li> </ul>   | <ul style="list-style-type: none"> <li>• Enabling environment to conduct research</li> <li>• Participation in policy development</li> <li>• Collaboration in research</li> </ul>   |
| Board  | <ul style="list-style-type: none"> <li>• oversee the overall strategy and approve policies</li> <li>• Approve the organizational structure.</li> <li>• Approve the annual budgets</li> <li>• Monitor the organization's performance and ensure sustainability.</li> </ul> | <ul style="list-style-type: none"> <li>• Implementation of research agenda</li> <li>• Compliance with policies</li> <li>• Implementation of board resolution</li> <li>• Implementation of strategic plan</li> <li>• Regular reports</li> </ul>   | <ul style="list-style-type: none"> <li>• Approval of policies, budgets and reports</li> <li>• Provide strategic direction</li> <li>• Resource mobilization</li> <li>• Hire senior management</li> <li>• Oversight in resource utilization</li> </ul> |
| Research participants  | <ul style="list-style-type: none"> <li>• Participating in health research</li> </ul>  | <ul style="list-style-type: none"> <li>• Confidentiality of their data</li> </ul>  | <ul style="list-style-type: none"> <li>• Participate and support health research</li> </ul>  |
| Health facilities  | <ul style="list-style-type: none"> <li>• Collaboration in health research</li> </ul>  | <ul style="list-style-type: none"> <li>• Innovations that address health challenges</li> <li>• Involvement in research studies</li> </ul>  | <ul style="list-style-type: none"> <li>• Collaboration in health research</li> </ul>   |
| Regulatory bodies (CUE, NACOSTI)   | <ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Accreditation</li> <li>• Approval of programmes</li> </ul>   | <ul style="list-style-type: none"> <li>• Compliance with Laws, policies, standards and guidelines</li> <li>• Reporting</li> </ul>  | <ul style="list-style-type: none"> <li>• Participation in policy development</li> <li>• Accreditation and approvals</li> </ul>   |

|   |  |  |  |
|---|--|--|--|
| Pharmaceutical industries                   | <ul style="list-style-type: none"> <li>•Collaboration in drug and vaccine development</li> </ul>                                       | <ul style="list-style-type: none"> <li>•Technical expertise in research &amp; drug development</li> </ul>  | <ul style="list-style-type: none"> <li>•Partnership in drug development and commercialization</li> </ul>   |
| Professional bodies                         | <ul style="list-style-type: none"> <li>•Regulate professional conduct</li> </ul>   | <ul style="list-style-type: none"> <li>• Compliance with professional code of conduct</li> </ul>   | <ul style="list-style-type: none"> <li>•Registration, certification and regulation of professionals</li> </ul>   |
| Funding Partners and Collaborators          | <ul style="list-style-type: none"> <li>•Collaborative research</li> </ul>  | <ul style="list-style-type: none"> <li>•Joint research proposals</li> <li>•Prudent use of resources</li> <li>•Accountability and transparency</li> <li>•Timely reports</li> </ul>  | <ul style="list-style-type: none"> <li>•Joint research proposals</li> <li>•Timely project implementation</li> <li>•Adhere to the laws and policies</li> <li>•Skills and knowledge transfer</li> </ul>                        |
| Academia                                    | <ul style="list-style-type: none"> <li>•Collaborative research</li> <li>•Training and capacity building</li> <li>•</li> </ul>          | <ul style="list-style-type: none"> <li>•Collaboration in research</li> <li>• Capacity development through student internship and attachment</li> <li>•Knowledge sharing</li> </ul>   | <ul style="list-style-type: none"> <li>•Collaboration and partnership</li> <li>•Quality graduates</li> <li>•Prompt service delivery</li> <li>•Participation in curriculum development</li> <li>•Knowledge sharing</li> </ul> |
| Semi-Autonomous Government Agencies (SAGAs) | <ul style="list-style-type: none"> <li>•Joint research</li> <li>•Research funding</li> </ul>   | <ul style="list-style-type: none"> <li>•Accountability and transparency</li> <li>•Prudent use of resources</li> <li>•Utilization of research findings for health programs</li> <li>•Timely response to emergencies and health challenges</li> </ul>      | <ul style="list-style-type: none"> <li>•Provisions of quality output</li> <li>•Timely and professional services</li> <li>•Collaboration and partnership in health research</li> </ul>  |
| Suppliers of goods and services             | <ul style="list-style-type: none"> <li>•Timely quality products and services</li> </ul>  | <ul style="list-style-type: none"> <li>•Timely payments for goods and services provided</li> <li>•Transparency in procurement process</li> <li>•Fair treatment</li> </ul>  | <ul style="list-style-type: none"> <li>•Timely quality products and services</li> <li>•Quality goods and services</li> <li>•Competitive pricing</li> <li>•Compliance to laws, regulations and policies</li> </ul>            |
| Employees                                   | <ul style="list-style-type: none"> <li>•Job performance</li> <li>•Compliance with laws, regulation, policies and guidelines</li> </ul> | <ul style="list-style-type: none"> <li>•Provision of resources /working tools</li> <li>•Fair compensation for work</li> <li>•Conducive and safe working environment</li> <li>•Safety and security</li> <li>•Effective staff welfare mechanism</li> </ul> | <ul style="list-style-type: none"> <li>•Quality output</li> <li>•Commitment</li> <li>•Confidentiality</li> <li>•Prudent use and management of resources</li> </ul>   |
| The public/ Citizens & Community            | <ul style="list-style-type: none"> <li>•Beneficiaries of innovative health solutions</li> <li>•Research participants</li> </ul>        | <ul style="list-style-type: none"> <li>•Quality services</li> <li>•Research output will improve their livelihood</li> <li>•Sensitization on health issues</li> <li>•Confidentiality of the respondents</li> </ul>  | <ul style="list-style-type: none"> <li>•Participation and cooperation in research</li> <li>•Honest provision of information</li> <li>•Timely payment for services</li> </ul>   |

|              |   |  |  |
|--------------|---|--|--|
| Media        | <ul style="list-style-type: none"> <li>•Publicity</li> </ul>  | <ul style="list-style-type: none"> <li>•Provision of information for dissemination to the public</li> </ul>  | <ul style="list-style-type: none"> <li>•Information sharing through electronic and print media</li> <li>•Objective reporting</li> </ul>                      |
| Trade Unions | <ul style="list-style-type: none"> <li>•Representing workers interest</li> <li>•Sensitization of workers</li> </ul> | <ul style="list-style-type: none"> <li>•Fair treatment of employees</li> <li>•Negotiation of CBA</li> <li>•Union subscriptions</li> </ul>  | <ul style="list-style-type: none"> <li>•Fair representations</li> <li>•Honesty and transparency</li> </ul>   |
| Customers    | <ul style="list-style-type: none"> <li>•Payment for services</li> <li>•Provision of information</li> </ul>          | <ul style="list-style-type: none"> <li>•Quality and timely services</li> <li>•Quality products/services</li> <li>•Fair pricing</li> <li>•Fair treatment and confidentiality</li> </ul> | <ul style="list-style-type: none"> <li>•Prompt payment of service fees</li> <li>•Comply with rules and regulations</li> <li>•Feedback on services</li> </ul> |

## **CHAPTER THREE STRATEGIC DIRECTION**

### **Overview**

This chapter presents the Institutes' mandate and its vision, mission, and strategic goals, core values, quality policy statement and Key Result Areas (KRA's).

### **3.1 Mandate**

Kenya Medical Research Institute (KEMRI) is a State Corporation established in 1979 through the Science and Technology (Repealed) Act, Cap 250 of the Laws of Kenya operated under the Science Technology and Innovation Act, 2013 as the national body responsible for carrying out research in human health in Kenya. Subsequently, KEMRI was re-established through Legal Notice No. 35 of March 2021<sup>3</sup>. The legal notice spells out the functions of the Institute as follows:-

- i) Conduct health, biomedical and public health research for human health;
- ii) Build human health research capacity;
- iii) Collaborate and partner with other local and international research bodies and institutions in carrying out human health research and capacity building;
- iv) Advise the responsible Ministry in matters pertaining to health research policies and priorities;
- v) Undertake scientific and technological innovation as well as in the discovery, transmission and enhancement of knowledge and stimulate the intellectual life in the economic, social, cultural, scientific, and technological development;
- vi) Establish incubation Centres for innovation, and link research, policymakers, academia and industry in the health products value chain; and
- vii) To do all such things that are necessary or desirable to carry out its functions.
- viii) National diseases surveillance and rapid response for major disease outbreaks

### **3.2 Vision**

To be a Global Leader in Research for Human Health

### **3.3 Mission**

To improve the quality of human health through research, innovation, capacity building and service delivery.

### **3.4 Strategic Goal**

To be the regional hub for health research knowledge, actively translating health research and innovation into sustainable, tangible benefits for both patients and society by the year 2028.

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<sup>3</sup> <https://www.kemri.go.ke/wp-content/uploads/2021/07/35-KEMRI-Bill-2021.pdf>



### 3.5 Core Values

Table 3.1 presents the core values that will guide the Institute in implementation of the strategic plan and its overall operations: -

**Table 3.1 Core Values**

| <b>S/No</b> | <b>Value</b>    | <b>Description</b>   |
|-------------|-----------------|--|
| i)          | Integrity:      | We uphold professionalism, accountability, transparency, open communication and ethical conduct in all our operations;   |
| 3           | Innovativeness: | We endeavour to pioneer in undertaking cutting edge research in human health to develop new knowledge, inventions and products to improve the quality of life  |
| 4           | Ethical         | We adhere to ethical principles in order to protect the dignity, rights and welfare of research participants and the general public. Research ethics govern the standards of conduct for our scientific researchers. |
| 5           | Excellence:     | We aim to deliver quality research output, simple and efficient processes to improve service delivery  |
| 6           | Partnership:    | We shall create an environment that will deliver world class scientific output through collaborative research, capacity building and service delivery initiatives.   |
| 7           | Teamwork:       | We uphold the spirit of working together in KEMRI to benefit from synergy, cohesiveness and prudent use of resources   |
| 8           | Customer focus: | We uphold responsibility to the community, nation and the world  |
| 9           | Inclusivity:    | We uphold diversity, equity, fairness, respect and embrace meritocracy   |

### 3.6 Quality Policy Statement

Kenya Medical Research Institute (KEMRI) is committed to improving the quality of human health through research, capacity building, innovation and service delivery that consistently meets and exceeds the needs and expectations of our customers.

KEMRI Management is committed to enhancing customer satisfaction through the effective application of the quality management system (based on ISO 9001:2015), including processes for improvement of the system and the assurance of conformity to customer and applicable statutory and regulatory requirements. Quality Objectives shall be continuously monitored and reviewed as necessary while the quality policy statement shall be reviewed at least after every three years.

### 3.7 Strategic Issues

Arising from the situation analysis, the following have been identified as the key issues for consideration in developing this strategic plan:

- i) Need to strengthen investment in research and development
- ii) Increase uptake of new technologies, artificial intelligence and other advances in health research
- iii) Upscale data science and data management
- iv) Enhance research translation and knowledge management
- v) Embrace results based management, Monitoring and Evaluation
- vi) Upgrade research and support infrastructure
- vii) Strengthen systems, structures and processes
- viii) Review Institutional Legal framework
- ix) Achieve Financial sustainability
- x) Strengthen Human resource capital
- xi) Review organizational culture
- xii) Automate of business processes
- xiii) Commercialize innovations, products and technologies
- xiv) Strengthen corporate image and publicity

### 3.8 Key Result Areas (KRA)

The Balance Scorecard (BSC) approach was used in the formulation of the Key Result Areas. It is on the basis of KRA that the strategic objectives, strategies and corresponding strategic activities were set as listed in table 3.2.

**Table 3.2 Strategic Issues and KRAS**

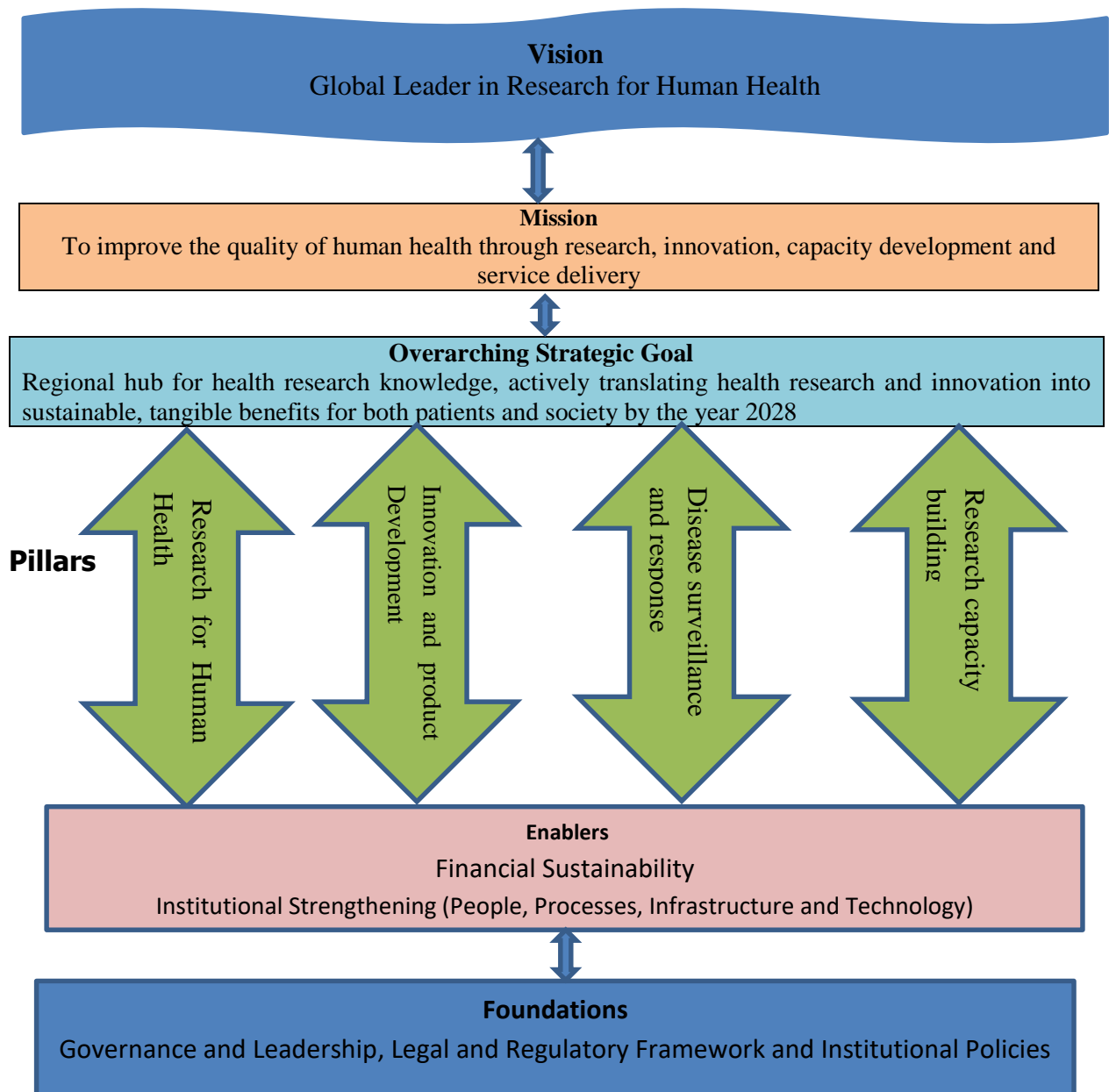
| <b>Strategic issue</b>   | <b>Key Result Areas (KRAs)</b>  |
|--|---|
| i) Investment in research and development<br>ii) Uptake of new technologies, artificial intelligence and other advances in health research<br>iii) Data science and data management<br>iv) Research translation and knowledge management | <b>KRA 1:</b> Research for Human Health<br><b>KRA2:</b> Research capacity building<br><b>KRA 3:</b> Innovation and product development<br><b>KRA 4:</b> Disease surveillance and response |
| i) Financial sustainability<br>ii) Commercialization of innovations, products and technologies<br>iii) Research partnerships and collaborations  | <b>KRA 5:</b> Financial Sustainability  |

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>i) Systems, structures and processes</li> <li>ii) Corporate image and publicity</li> <li>iii) Organizational culture</li> <li>iv) Institutional Legal framework</li> <li>v) Human resource capital</li> <li>vi) Results based management, Monitoring &amp; Evaluation</li> <li>vii) Research and support infrastructure</li> <li>viii) Automated business process</li> </ul> | <p><b>KRA 6:</b> Institutional strengthening</p> |
|---|--|

### 3.9 Strategic Choices

The Institute picked on the following strategic choices which determines its future direction for the strategic plan period.

**Figure 3.1 CONCEPTUAL FRAMEWORK**



**Table 3.3 Strategic Objectives and Strategies**

| <b>KRA</b>                                   | <b>Strategic Objectives</b>   | <b>Strategies</b>   |
|--|---|---|
| <b>1:</b> Research for Human Health          | <b>1:</b> To strengthen clinical, biomedical, public health and health system research for human health | <p><b>1:1:</b> Evaluate the effectiveness and efficiency of the health care systems</p> <p><b>1:2:</b> Conduct Public Health and Health Systems Research to Inform the National UHC Agenda</p> <p><b>1:3:</b> Identify research priorities to inform health research agenda</p> <p><b>1.3</b> Utilize OMICS technologies to characterize biological molecule collections for precision medicine research, disease surveillance and response</p> <p><b>1:4:</b> Enhance research in climate change, environmental and occupational health</p> <p><b>1:5:</b> Strengthen biosafety, biosecurity and biodefence</p> <p><b>1:6:</b> Strengthen research regulatory process and oversight</p> <p><b>1:8:</b> Strengthen research laboratories and clinical laboratory services</p> <p><b>1:9:</b> Enhance Institute’s participation in policy formulation and implementation</p> |
|  | <b>2:</b> To build data science and knowledge management systems  | <p><b>2:1:</b> To establish data protection strategies</p> <p><b>2:2:</b> Enhance knowledge management and knowledge translation process</p>  |
| <b>2:</b> Innovation and product development | <b>3:</b> To undertake scientific and technological innovation  | <p><b>3.1</b> Enhance innovation and technology development in the area of human health</p> <p><b>3.2:</b> Establish incubation Centers</p> <p><b>3.3:</b> Link research to policy makers, academia and industry in the health products value chains</p>  |
| <b>3:</b> Disease surveillance and response  | <b>4:</b> To strengthen disease surveillance system   | <b>4.1:</b> Strengthen capacity for early disease detection and timely response to bio threats, non-communicable and communicable diseases  |
| <b>4:</b> Research capacity building         | <b>5:</b> To build human health research capacity   | <b>5.1:</b> Develop and implement post graduate degree programmes   |
| <b>5:</b> Financial Sustainability           | <b>6:</b> To strengthen and establish strategic partnership and collaboration                           | <p><b>6.1</b> Seek strategic and mutual beneficial partnerships and collaborations to grow health research</p> <p><b>6.2</b> Enhance Institutional end to end grant management processes</p> <p><b>6.3</b> Carry out resource mobilization to support research for health</p>   |
|  | <b>7:</b> To Enhance Financial Sustainability   | <p><b>7.1:</b> Expand and grow revenue</p> <p><b>7.2:</b> Institute Public Private Partnerships (PPPs)</p> <p><b>7.3:</b> Implement cost saving measures</p>  |

|                                      |  |   |
|--------------------------------------|--|---|
| 6:<br>Institutional<br>strengthening | <b>8:</b> To re-engineer internal business processes         | <b>8.1:</b> Review and streamline internal processes<br><b>8.2</b> Improve fleet management<br><b>8.3:</b> Strengthen records management systems<br><b>8.4:</b> Strengthen statutory compliance and legal services<br><b>8.5:</b> Strengthen governance and audit<br><b>8.6:</b> Streamline financial management processes<br><b>8.7:</b> Improve supply chain management<br><b>8.8:</b> Strengthen corporate communication |
|                                      | <b>9:</b> To build institutional human capital               | <b>9.1</b> Attract, engage and retain highly skilled, diverse, inclusive and motivated staff<br><b>9.2:</b> Train and develop human capital<br><b>9.3:</b> Align performance management system to the institute strategic objectives<br><b>9.4:</b> Strengthen employee relations<br><b>9.5:</b> Review organizational design   |
|                                      | <b>10:</b> To establish and upgrade infrastructure           | <b>10.1:</b> Construct and upgrade health research infrastructure   |
|                                      | <b>11.</b> Establish resilient ICT systems                   | <b>11.1</b> Upgrade ICT infrastructure<br><b>11.2:</b> Achieve holistic cyber resilience<br><b>11.3:</b> Initiate use of data analytics to strengthen research outputs and collaboration  |
|                                      | <b>12:</b> To Strengthen planning, monitoring and evaluation | <b>12.1:</b> Mainstream planning, resource allocation and strategy execution<br><b>12.2</b> Integrate monitoring and evaluation in programs and processes<br><b>12.3:</b> Improve quality assurance in research, product development and service delivery   |

## **CHAPTER FOUR**

### **IMPLEMENTATION AND COORDINATION FRAMEWORK**

#### **Overview**

This chapter provides a framework for implementation and coordination of the Institute's strategic plan during the plan period. It features the implementation plan, coordination framework and risk management framework.

#### **4.1 Implementation Plan**

The Board of Directors have the overall role responsibility of ensuring the Strategic Plan is implemented and the desired goals are achieved. The Director General will oversee development of annual work plans and the entire performance management framework and provide regular monitoring reports to the Board.

##### **4.1.1 Action Plan**

The Directorate of Strategy and Compliance will cascade the strategy to directorates, departments/centres and units for alignment and to strengthen the ability to execute strategy. Implementation of the strategy will be embedded within the performance management system including Performance Contracting and performance appraisal systems.

The Implementation Plan will be a critical and important management tool for: -

- i) Resource mobilization, allocating and utilizing resources during plan implementation
- ii) Efficient and effective management and coordination of programs and projects
- iii) Partnership and collaborative engagement
- iv) Monitoring and Evaluation.

##### **4.1.2 Annual Work plan and Budget**

The detailed strategic plan Implementation Plan will be used to extract the Institute Annual Work Plans (AWPs) and annual budgets. Activity based costing shall be used in the development of annual budget.

##### **4.1.3 Performance Contracting**

The annual performance contracts shall be drawn from the strategic plan implementation matrix. An automated system that will provide for negotiations, reporting and performance evaluation will be deployed to all cadres of staff within the institute. Quarterly and annual Monitoring reports will be generated and presented to the Management and Board of Directors for review and to inform performance improvement.

## 4.2 Coordination Framework

Coordination and implementation of the strategic plan shall involve players within and outside KEMRI. The players are categorised as technical, financial and material support, administrative support and those that will provide policy, legislative and oversight role.

### 4.2.1 Institutional Framework

The approved organizational structure shall be used to execute the Strategic Plan at the internal level. KEMRI will also be expected to link up with other key stakeholders in government and development partners. The office of Director General shall have overall responsibility of coordinating implementation of strategic plan and will be supported by Directors and Deputy Directors. Director Strategy and Compliance will ensure that adequate sensitization on the content of the strategic plan is conducted for all staff at least once every year. Champions will be identified in all centres and departments to ensure adequate communication and timely mitigation of any challenges. A comprehensive M&E system with adequate budgetary allocation will be established towards implementation, coordination and oversight.

### 4.2.2 Staff Establishment, Skill Set and Competences

The staff establishment provides the approved jobs and number of posts created for the Institute to ensure optimal and efficient operations.

Successful execution of activities mapped out in this Plan depends on the availability of optimum workforce with the requisite competencies. The institute has an approved current staff establishment of 1,977 with current inpost of 909 as shown in the table below.

**Table 4.1 Approved Staff Establishment, Impost and Variance**

| S/No         | Cadre                      | Approved Establishment | In post FY 2022/23 | Variance    |
|--------------|----------------------------|------------------------|--------------------|-------------|
| 1            | Strategic Management Staff | 47                     | 14                 | 33          |
| 2            | Middle level staff         | 707                    | 423                | 284         |
| 3            | Operational Staff          | 1223                   | 472                | 751         |
| <b>Total</b> |                            | <b>1977</b>            | <b>909</b>         | <b>1068</b> |

In order to realize the objectives, set out in this strategic plan, the institute will make deliberate efforts towards achieving optimum establishment as projected in the table below;

**Table 4.3 KEMRI Staff Projection -2023- 2028**

| <b>Staff Level</b>         | <b>2023/24</b> | <b>2024/25</b> | <b>2025/26</b> | <b>2026/27</b> | <b>2027/28</b> |
|----------------------------|----------------|----------------|----------------|----------------|----------------|
| Strategic Management Staff | 10             | 11             | 11             | 11             | 11             |
| Middle level staff         | 23             | 25             | 28             | 31             | 34             |
| Operational Staff          | 1053           | 1300           | 1521           | 1721           | 1932           |
| <b>Total</b>               | <b>1123</b>    | <b>1336</b>    | <b>1549</b>    | <b>1763</b>    | <b>1977</b>    |

#### **4.2.3 Leadership**

The Board of Directors provides the overall leadership, oversight and strategic direction for the Institute while the Director General will provide leadership in day to day implementation of planned activities. The Director General will be supported by six directors namely: Director Research and Development; Director Scientific Programmes, Partnerships and Grant Management; Director Research Capacity Building; Director Strategy and Compliance; Director Corporate Services and Corporation Secretary and Director of Legal Services.

#### **4.2.4 Systems and Procedures**

The Institute will review its scientific approval, research implementation, service delivery, capacity building, partner’s engagement, financial management and human resource management procedures, policies, manuals and guidelines to ensure it can deliver the identified strategic objectives. Automation of processes will be prioritized to ensure timely and efficient delivery of services. The Institute will continue to maintain ISO certifications and accreditations while pursuing new laboratory accreditations.

#### **4.3 Risk Management Framework**

In today's rapidly evolving world, organizations face a multitude of risks that can significantly impact their operations, reputation, and ability to achieve their objectives. KEMRI recognizes the importance of proactively identifying, assessing, and mitigating risks to ensure the continuity of its critical activities and safeguard the well-being of its staff, stakeholders, and the communities it serves. This plan identifies risks and mitigation measures as shown in Table 4.4.



**Table 4.4. Risk Management Framework**

| <b>Risk</b>  | <b>Risk Likelihood (L/H/M)</b> | <b>Severity (L/H/M)</b> | <b>Overall Risk Level (L/H/M)</b> | <b>Mitigation Measure</b>  |
|--|--------------------------------|-------------------------|-----------------------------------|--|
| Shift in national government policies and priorities | Moderate                       | Moderate                | High                              | <ul style="list-style-type: none"> <li>i) Take active role in MOH policy development</li> <li>ii) Engagement and consult policy makers/ relevant parliamentary committees</li> <li>iii) Prompt response to disease outbreaks and national health concerns</li> </ul>   |
| Support by County Governments                        | High                           | High                    | High                              | <ul style="list-style-type: none"> <li>i) Carry out CSR activities at the County level</li> <li>ii) Targeted training of county personnel to support County Health systems</li> <li>iii) Engage County leadership</li> </ul>   |
| Partner interests                                    | Moderate                       | Moderate                | High                              | <ul style="list-style-type: none"> <li>i) Strategic negotiation during MoU/contract development</li> <li>ii) Adherence to laws and regulations</li> <li>iii) Establish structures for effective communication and engagement</li> </ul>  |
| Aging research infrastructure                        | High                           | High                    | High                              | <ul style="list-style-type: none"> <li>i) Advocate for funding for infrastructure and equipment from the GOK and Counties, sports fund</li> <li>ii) Enhance Philanthropic strategy</li> <li>iii) Engage collaborative partners for financial support</li> </ul>  |
| Partners and Collaborators withdrawing               | Moderate                       | Moderate                | High                              | <ul style="list-style-type: none"> <li>i) Absorb key staff from the collaborators</li> <li>ii) Give Centres more support</li> <li>iii) Improve partner relationship and engagement strategies</li> <li>iv) Enhance resource utilization</li> <li>v) Widen the scope of internal and external partners</li> </ul> |
| Brain drain  | Moderate                       | Moderate                | High                              | <ul style="list-style-type: none"> <li>i) Develop staff recruitment and retention strategy</li> </ul>  |
| Disease outbreaks                                    | Moderate                       | Moderate                | High                              | <ul style="list-style-type: none"> <li>i) Enhance disease surveillance</li> <li>ii) Strengthen disease emergency response unit/committee</li> <li>iii) Enhance collaboration with other research institutions and organizations</li> </ul>   |
| Bio-terrorism  | Moderate                       | Moderate                | High                              | <ul style="list-style-type: none"> <li>i) Train staff on Biosecurity, Biosafety and Biodefence</li> <li>ii) Enhance restricted access to the laboratories</li> </ul>   |

|   |          |          |          |  |
|---|----------|----------|----------|--|
|   |          |          |          | <ul style="list-style-type: none"> <li>iii) Enhance collaborations with security agents</li> <li>iv) Investment in other Biosecurity interventions</li> </ul>  |
| Loss of samples/data                              | Moderate | Moderate | High     | <ul style="list-style-type: none"> <li>i) Establish disaster recovery and ICT security and data recovery mechanism</li> <li>ii) Improve sample management</li> <li>iii) Enhance staff training</li> <li>iv) Establish data backup</li> </ul> |
| Corruption  | Moderate | Moderate | High     | <ul style="list-style-type: none"> <li>i) Enforce Anti-corruption and Anti-Bribery policies</li> <li>ii) Implement Bribery and Anti-corruption mitigation plan</li> </ul>  |
| Inadequate ICT infrastructure and system security | Moderate | Moderate | High     | <ul style="list-style-type: none"> <li>i) Upgrade ICT infrastructure</li> <li>ii) Upgrade data centre</li> <li>iii) Acquire alternate site for backup operations</li> <li>iv) Establish system security</li> </ul>                           |
| E- Waste  | High     | High     | High     | <ul style="list-style-type: none"> <li>i) Buy environmentally friendly electronics</li> <li>ii) Dispose waste in line with existing laws and regulations</li> </ul>  |
| Weak legal framework                              | Moderate | Moderate | Moderate | <ul style="list-style-type: none"> <li>i) Establish KEMRI through an Act of parliament</li> </ul>  |
| Litigations                                       | Moderate | Moderate | High     | <ul style="list-style-type: none"> <li>i) Sensitize staff on internal policies and statutes</li> <li>ii) Adopt alternative dispute resolution mechanisms</li> </ul>  |
| Climate change                                    | Moderate | Moderate | Moderate | <ul style="list-style-type: none"> <li>i) Carry out research and develop predictive models</li> <li>ii) Undertake environmental conservation measures such as tree planting</li> <li>iii) Adopt clean energy</li> </ul>                      |

## CHAPTER FIVE

### RESOURCE REQUIREMENTS AND MOBILIZATION STRATEGIES

#### Overview

The chapter provides detailed discussions on resource requirement, resource mobilization strategies and resource management.

#### 5.1 Financial Requirements

The Institute will require adequate funding to implement the outlined strategic objectives for over the plan period. Programme Based Budgeting will be entrenched to ensure defined objectives in the Plan are adequately funded and realized. The funding for planned activities will be through Government of Kenya, external grants, internally generated revenue and any other source of funding as may be approved by National Treasury. Table 5.1 gives estimated resource requirements for the Plan period.

**Table 5.1 Financial Requirements for Implementing the Strategic Plan**

| Cost Area<br>KRA/ Strategic Objective   | Projected Resource Requirements (Kes. Millions) |             |             |             |             | Totals  |
|---|---|-------------|-------------|-------------|-------------|---------|
|   | 2023/<br>24                                     | 2024/<br>25 | 2025/<br>26 | 2026/<br>27 | 2027/2<br>8 |         |
| <b>KRA 1: Research for Human Health</b>   |   |             |             |             |             |         |
| SO 1: To strengthen clinical, biomedical, public health and health system research for human health | 2757  | 3511.2      | 4078.3      | 4705.3      | 5374.3      | 20426.1 |
| SO 2: To Build Data Science and Knowledge Management Systems  | 401   | 462.1       | 519.4       | 532.7       | 549.6       | 2464.8  |
| <b>KRA 2: Innovation and Product Development</b>  |   |             |             |             |             |         |
| SO 3: To undertake scientific and technological innovation  | 654   | 728.9       | 776.8       | 885         | 1038.5      | 4083.2  |
| <b>KRA 3: Disease surveillance and response</b>   |   |             |             |             |             |         |
| SO 4: To strengthen disease surveillance systems  | 53  | 185         | 70          | 148         | 89          | 545     |
| <b>KRA 4: Research Capacity Building</b>  |   |             |             |             |             |         |
| SO 5: To build human health research capacity   | 93.4  | 112.3       | 132.1       | 147.2       | 149.8       | 634.8   |
| <b>KRA 5: Financial Sustainability</b>  |   |             |             |             |             |         |
| Strategic Objectives 6: To strengthen and establish strategic partnership and collaboration         | 23  | 18          | 21.5        | 8           | 8.5         | 79      |
| Strategic Objectives 7: To enhance financial sustainability   | 80  | 88.5        | 99.5        | 110.9       | 123.5       | 502.4   |
| Strategic Objectives 8: To Reengineer Internal Business processes                                   | 128.2   | 129.5       | 142.8       | 133.8       | 143.5       | 677.8   |
| <b>KRA 6: Institutional Strengthening</b>   |   |             |             |             |             |         |
| SO 9: To Build Institutional Human Capital  | 3555.5  | 3927.5      | 4304.7      | 4593.2      | 5041.5      | 21422.5 |
| SO 10: Strengthen Planning, Monitoring and Evaluation   | 33.5  | 32          | 42.2        | 38.2        | 45.5        | 191.4   |
| SO 11: To Establish and Upgrade Infrastructure  | 2068  | 2566.5      | 2224.5      | 2138.5      | 1659.5      | 10657   |

|                                       |                 |                 |                 |                 |                 |               |
|---------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|
| SO 12: Establish Resilient ICT System | 92              | 111             | 113             | 111             | 113             | 540           |
| <b>Sub Totals</b>                     | <b>9938.6</b>   | <b>11872.5</b>  | <b>12524.8</b>  | <b>13551.8</b>  | <b>14336.2</b>  | <b>62224</b>  |
| <b>Other Budgetary Items</b>          |                 |                 |                 |                 |                 |               |
| Utilities and other operational costs | 871             | 1,002           | 1,152           | 1,325           | 1,524           | 5,874         |
| <b>Grand Totals</b>                   | <b>10,809.6</b> | <b>12,874.5</b> | <b>13,676.8</b> | <b>14,876.8</b> | <b>15,860.2</b> | <b>68,098</b> |

**Table 5.2 Projected Cash Flows/ Budget for the financial years 2023–2028 in Kes (Million)**

| Particulars                                      | Baseline<br>2022/23 | 2023/24      | 2024/25       | 2025/26       | 2026/27       | 2027/28       | Totals        |
|--|---------------------|--------------|---------------|---------------|---------------|---------------|---------------|
| <b>Government of Kenya and Local Partners</b>    |                     |              |               |               |               |               |               |
| GoK- Recurrent                                   | 2,707               | 3,087        | 3,666         | 4,216         | 4,848         | 5,576         | <b>21,393</b> |
| GOK- Capital Expenditure grants                  | 57                  | 100          | 200           | 371           | 408           | 449           | <b>1,528</b>  |
| GOK- Local Research Grants                       | 456                 | 500          | 550           | 605           | 665           | 732           | <b>3,052</b>  |
| Local partners and collaborators                 | -                   | 5            | 10            | 15            | 20            | 25            | <b>75</b>     |
| <b>Sub Total</b>                                 | <b>3,220</b>        | <b>3,692</b> | <b>4,426</b>  | <b>5,207</b>  | <b>5,941</b>  | <b>6,782</b>  | <b>26,048</b> |
| <b>External Grants</b>                           |                     |              |               |               |               |               |               |
| External Research grants                         | 5,331               | 6,451        | 7,096         | 7,805         | 8,586         | 9,445         | <b>39,383</b> |
| External development grants                      | -                   | -            | 600           | 600           | 600           | 600           | <b>2,400</b>  |
| <b>Sub Total</b>                                 | <b>5,331</b>        | <b>6,451</b> | <b>7,696</b>  | <b>8,405</b>  | <b>9,186</b>  | <b>10,045</b> | <b>41,783</b> |
| <b>Internally Generated Revenue</b>              |                     |              |               |               |               |               |               |
| Commercial Enterprises                           | 70                  | 74           | 77            | 85            | 93            | 101           | <b>430</b>    |
| Graduate School fees                             | 17                  | 18           | 19            | 20            | 21            | 22            | <b>100</b>    |
| Corporate consultancy services, SERU/ Attachment | 9                   | 10           | 10            | 11            | 13            | 15            | <b>59</b>     |
| Patient services (staff clinics)                 | 2                   | 2            | 2             | 3             | 3             | 3.5           | <b>13.5</b>   |
| Specialized laboratory services                  | 38                  | 38           | 38            | 39            | 43            | 45            | <b>203</b>    |
| Food handler's certification and lab services    | 9                   | 9            | 9             | 10            | 11            | 12            | <b>51</b>     |
| Hire of facilities and rent                      | 30                  | 30           | 30            | 33            | 36            | 39            | <b>168</b>    |
| Overheads  | 402                 | 486          | 535           | 588           | 647           | 712           | <b>2,968</b>  |
| <b>Subtotal</b>                                  | <b>667</b>          | <b>720</b>   | <b>789</b>    | <b>867</b>    | <b>950</b>    | <b>667</b>    | <b>3,993</b>  |
| <b>Grand Total</b>                               | <b>9,128</b>        | <b>10863</b> | <b>12,911</b> | <b>14,479</b> | <b>16,077</b> | <b>17824</b>  | <b>71,824</b> |

**Table 5.3 Resource Gaps**

| <b>Financial Year</b> | <b>Requirement (Kes Million)</b> | <b>Estimated Resource Allocations (Kes Million)</b> | <b>Variance (Kes Million)</b> |
|-----------------------|----------------------------------|---|-------------------------------|
| Year 1: 2023/2024     | 10809.6                          | 10863   | 53.4                          |
| Year 2: 2024/2025     | 12874.5                          | 12,911  | 36.5                          |
| Year 3: 2025/2026     | 13,676.85                        | 14,479  | 802.15                        |
| Year 4: 2026/2027     | 14876.85                         | 16,077  | 1,200                         |
| Year 5: 2027/2028     | 15,860.20                        | 17824   | 1,964                         |
| <b>Total</b>          | <b>68098</b>                     | <b>71,824</b>                                       | <b>3,726</b>                  |

## 5.2 Resource Mobilization Strategies

The effective implementation of this strategic plan is contingent to availability of the required resources. The expansion of Institutes mandate, emerging and re-emerging diseases and need to expand health infrastructure calls for more financial resources. The Institute will explore the following additional sources of revenue for the operationalization of the Plan:-

- i) Lobbying for increased annual funding by the exchequer;
- ii) Enhance commercialization of research products, move into vaccine development and enhance product innovation;
- iii) Increase proposal writing to attract solicited and unsolicited grants;
- iv) Enhanced provision of health services;
- v) Sustaining existing partners and establishing linkages with new partners and collaborators;
- vi) Identify and lobby local partners and industry players to support research;
- vii) Identify and engage local and international Philanthropist to support research for human health;
- viii) Enrol more students and provide competitive courses by the graduate school to generate revenue.

## 5.3 Resource Management Strategies

The Institute shall ensure proper management of resources by adopting the following strategies: -

- i) Automation and digitization of internal processes
- ii) Proper recruitment and appropriate deployment of skilled workforce;
- iii) Motivating employees to ensure high levels of task engagement;
- iv) Adopt green energy technologies;
- v) Pooling of equipment;
- vi) Having robust monitoring and evaluation system;
- vii) Ensuring competitive procurement process
- viii) Establish research teams and strengthen collaborative research;
- ix) Capacity building on governance and leadership.

## **CHAPTER SIX**

### **MONITORING, EVALUATION AND LEARNING**

#### **Overview**

This chapter presents the institutional framework for monitoring, evaluation and reporting of this Strategic Plan. In addition, the chapter presents learning mechanism to be deployed during strategic management process. A detailed implementation matrix with clearly outlines Key Results Areas, objectives, strategies, activities, outputs, KPIs, targets, expected timelines and resource allocation for the next five years annexed to this plan shall guide M&E activities.

#### **6.1 Monitoring Framework**

Strategic activities associated with the implementation of this Strategic Plan will be closely monitored and tracked on regular basis to ensure they are achieved. Monitoring will also establish whether the strategy implementation is on course and identify areas of challenges that requires to be addressed. The Strategic Plan will be cascaded to and implemented at department and unit levels through Annual Work Plans (AWP).

The data to inform M&E shall be collected through quarterly, semi-annual and annual departmental performance reports. Monitoring will include collection and analysis of data, analysis of progress reports, review meetings, budgetary control, performance systems and reports from special committees. Monitoring data and reports shall be collected on a quarterly basis by all functional departments and collated by the M&E departments.

The Institute will establish Strategic Plan implementation committee to support implementation, monitoring and evaluation. The Directorate of Strategy and Compliance shall facilitated monitoring by:-

- i) Putting in place an Integrated Performance Management System (PMS) that will ensure everyone is accountable for the attainment of set targets and use of resources;
- ii) Developing standard tools and instruments for data collection and reporting;
- iii) Clearly spelling out the documents to be prepared, periods to be covered and details of information to be provided by various departments and units.

#### **6.2 Performance Standards**

The performance standards shall be based on the qualitative and qualitative measures found in the strategy implementation plan which illustrate the performance measures in terms of expected outcomes and Key performance Indicators (KPI) or outputs indicators, targets for each year, timelines for key activities to be achieved and related costs. These standards will help gauge the extent to which each strategic activity will be achieved.

Strategic Theme teams shall be created to oversee execution of activities of KRA according to the set performance targets. The composition of the teams shall be as follows:-

- i) **KRA 1:** Health Research and Innovation- Director Research and Development, Director Capacity Building, Director Partnership and Grants Management, and Director Strategy and Compliance.
- ii) **KRA 2:** Financial Sustainability- Director Corporate Services, Director Capacity Building, Director Scientific Programmes, Partnership and Grants Management and Director Strategy and Compliance.
- iii) **KRA 3:** Internal Business Processes- Director Corporate Services, Director Strategy and Compliance, Director Scientific Programmes, Partnership and Grants Management, HOD Administration, HOD SCM, HOD ICT and HOD HRM
- iv) **KRA 4:** Organizational Capacity Development- Director Research and Development, Director Corporate Services, Director Capacity Building, Director Strategy and Compliance HOD Administration, HOD SCM, HOD ICT and HOD HRM.

### **6.3 Evaluation Framework**

The Institute shall evaluate strategy to establish how well it's been implemented and executed. Annual evaluations shall be linked with individual employee performance targets and to be cumulated at the Directorate or unit level to establish the extent to which collective efforts has influenced strategy implementation. The annual evaluation report shall inform the annual budget and reporting on performance contracting obligations. In addition, two major Strategic Plan evaluation are foreseen during the plan period, these are mid-term evaluation; and end term evaluation. However, an ad hoc evaluation arise in the event that Strategy implementation experience hardships.

During the review process baseline data across all the strategic objectives that showed the Institute situation before interventions, shall help show progress made. A midterm strategy review shall be undertaken in the financial year 2025/2026 to specify the progress made towards achieving set targets and generate recommendations that will be used to improve the strategic plan implementation process for the remaining period. At the end of the strategic plan period an End-term evaluation shall be conducted.

#### **6.3.1 Medium Term Review**

In the third year, the strategic plan midterm review shall be conducted by an external party and a detailed Review Report submitted to the Institute. The evaluations will entail the following:-

- a) Measuring actual performance against target levels;
- b) Establishing variances, if any, and identifying the causal factors;
- c) Identifying areas of challenges that adversely affects implementation;

- d) Determining alternative solutions and recommending appropriate actions or remedial measures to get back to track.

### **6.3.2 End- Term Evaluation/Terminal Review (TR)**

At the end of the strategic plan period, there will be an external evaluation to get a summative report on the extent to which the strategic plan achieved its planned activities. The evaluation will help in drawing lessons that will help in the next phase of strategic management processes

### **6.4 Reporting Framework and Feedback Mechanism**

Information on the execution of the strategy shall be provided on a continuous basis through reports. Monitoring and evaluation will be continuous throughout the five years of strategic plan implementation. There shall be four different reports for M&E evaluation as follows: -

- i) **Quarterly Progress Report (QPR):** To enhance programs and project performance, KEMRI shall adopt a Quarterly Internal Review of Projects (IPRs). This involves specific project and program reviews against quarterly set targets on key performance indicators along budgets and compliance to the strategic plan.
- ii) **Annual Review Report (ARR):** At the end of every financial year, an annual progress report will be prepared that objectively highlights key achievements against set targets, comprising of both physical progress and financial status, constraining factors, lessons learned and recommendations on the way forward. The strategic plan implementation cycle shall provide opportunities for learning from successes and failures alike. Learning forms an integral part of this strategy. The learning shall involve: -

KEMRI will put in place an aggressive dissemination strategy to ensure that strategic plan, quarterly and annual reports on strategy implementation s are widely disseminated to influence effective programme and project management and policy making. Forums like meetings, review workshops, retreats, and seminars will be organized annually for the secretariat and stakeholders as strategy sensitization forum where learning and knowledge sharing opportunities shall be utilized. Other channels such as newsletters, news releases, press conferences, public debates and electronic (e-mail, social media, websites) transmission will also be used as channels of learning.

Wider sharing of strategic plan through Institute website, SharePoint, knowledge portal, group emails, social media etc. to increase knowledge, understanding, generate interest in and support for strategy implementation;

- i) Strategic plan shall be shared with strategic stakeholders externally to create broader opportunities for funding of special programme and projects;



- ii) Feedback of strategy implementation progress reported through quarterly, annual and medium term reviews shall be shared to inform adaptive management and the application of best practices to address identified failures and translate them to opportunities;
- iii) Identification of knowledge and resource gaps that may need to be addressed concurrently during strategy implementation.

The Learning shall take place through management meetings, strategy reflection workshops, and lessons learning events to be organized by the Directorate of Strategy and Compliance. During strategy executions, M&E department shall document what has been achieved, what processes worked, what did not work and why; how will future projects be planned, what hindered delivery of the strategic activities and what advice to give to future strategy executing team based on learned experiences.

### **6.5 Key Assumptions**

The Strategic Plan 2023-2028 has been developed and will be implemented with the following key assumptions: -

- i) Political stability in the country and the region
- ii) Continued budgetary allocation from the national government of Kenya;
- iii) Willingness and support from the research participants
- iv) Continued partnership with County Governments
- v) Enhanced and sustained working relationship with partners and collaborators;
- vi) Resilience ICT infrastructure to respond to dynamic needs and security threats
- vii) Uptake of research findings to inform policy review and development

## ANNEX I: IMPLEMENTATION PLAN

| Strategies   | Strategic Activities  | Expected Output   | Output Indicator                                       | Target for 5 years | Targets/ Timeline |    |    |    |     | Estimated Budget in KES Millions |     |      |      |      | Responsibility |                                  |
|--|---|---|--|--------------------|-------------------|----|----|----|-----|----------------------------------|-----|------|------|------|----------------|----------------------------------|
|  |   |   |  |                    | Y1                | Y2 | Y3 | Y4 | Y5  | Y1                               | Y2  | Y3   | Y4   | Y5   | Lead           | Support                          |
| <b>KRA 1: Research for Health</b>  |   |   |  |                    |                   |    |    |    |     |                                  |     |      |      |      |                |                                  |
| <b>Outcome: Research products that lead to positive health outcomes, policies developed</b>                                  |   |   |  |                    |                   |    |    |    |     |                                  |     |      |      |      |                |                                  |
| <b>Strategic Objectives 1: To strengthen clinical, biomedical, public health and health system research for human health</b> |   |   |  |                    |                   |    |    |    |     |                                  |     |      |      |      |                |                                  |
| 1.1. Identify research priorities to inform health research agenda and conduct research                                      | Conduct research in Non-Communicable Diseases                       | New research proposals developed                                      | No of new studies approved and implemented             | 224                | 40                | 42 | 45 | 47 | 50  | 400                              | 462 | 540  | 611  | 700  | DRD            | DD Centres / Heads of programmes |
|  | Conduct research in Neglected Tropical Diseases                     | New research proposal   | No of new studies approved and implemented             | 40                 | 6                 | 7  | 8  | 9  | 10  | 60                               | 77  | 96   | 117  | 140  | DRD            | DD Centres / Heads of programmes |
|  | Conduct research in Infectious and Parasitic diseases               | New research proposal   | No of new studies approved and implemented             | 450                | 80                | 85 | 90 | 95 | 100 | 800                              | 935 | 1080 | 1235 | 1400 | DRD            | DD Centres / Heads of programmes |
|  | Conduct research on Sexual, Reproductive, Adolescent & Child Health | Research conducted on sexual, Reproductive, Adolescent & Child Health | No of new research proposals developed and implemented | 270                | 50                | 52 | 54 | 56 | 58  | 500                              | 572 | 648  | 728  | 812  | DRD            | DD Centres / Heads of programmes |
|  | Carry out research on antimicrobial Resistance (AMR)                | Research on antimicrobial Resistance (AMR) conducted                  | No of new research studies conducted                   | 30                 | 2                 | 4  | 6  | 8  | 10  | 20                               | 44  | 72   | 104  | 140  | DRD            | DD Centres / Heads of programmes |
|  | Conduct mental health research                                      | No of new studies in mental health                                    | No of new studies approved and implemented             | 30                 | 2                 | 4  | 6  | 8  | 10  | 20                               | 44  | 72   | 104  | 140  | DRD            | DD Centres / Heads of programmes |

| Strategies   | Strategic Activities  | Expected Output  | Output Indicator                                    | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |     |     |     |     | Responsibility |                                  |
|--|---|--|---|--------------------|-------------------|----|----|----|----|----------------------------------|-----|-----|-----|-----|----------------|----------------------------------|
|  |   |  |   |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support                          |
|  | Carry out research in food and nutrition ( National survey)   | Studies on food and nutrition conducted                                | No of studies on food and nutrition conducted       | 20                 | 2                 | 3  | 4  | 5  | 6  | 20                               | 33  | 48  | 65  | 84  | DRD            | DD Centres / Heads of programmes |
| 1.2. Conduct public health and health system research to inform Universal Health coverage (UHC) Agenda | Conduct studies on availability and access to essential health services in the country  | Availability and access studies conducted                              | research studies approved and implemented           | 10                 | 2                 | 2  | 2  | 2  | 2  | 20                               | 22  | 24  | 26  | 28  | DRD            | DD Centres / Heads of programmes |
|  | Conduct studies on financial risk protection in the country   | Financial risk protection studies conducted                            | No of new research studies approved and implemented | 5                  | 1                 | 1  | 1  | 1  | 1  | 10                               | 11  | 12  | 13  | 14  | DRD            | DD Centres / Heads of programmes |
|  | Conduct costing studies to support appropriate costing for various elements of the essential benefit package for UHC in the country | New costing studies conducted  | No of new research studies approved and implemented | 5                  | 1                 | 1  | 1  | 1  | 1  | 10                               | 11  | 12  | 13  | 14  | DRD            | DD Centres / Heads of programmes |
|  | Conduct research tracking and analyze health system resilience in the country   | Studies on tracking and analysis of health system resilience conducted | No of new research studies approved and implemented | 5                  | 1                 | 1  | 1  | 1  | 1  | 10                               | 11  | 12  | 13  | 14  | DRD            | DD Centres / Heads of programmes |
|  | Conduct behavioral and social science research  | Approved studies   | No of new research studies approved and             | 70                 | 10                | 12 | 14 | 16 | 18 | 100                              | 132 | 168 | 208 | 252 | DRD            | DD Centres / Heads of programmes |
|  |   |  |   |                    |                   |    |    |    |    |                                  |     |     |     |     |                |                                  |

| Strategies  | Strategic Activities   | Expected Output                                  | Output Indicator                                    | Target for 5 years | Targets/ Timeline |        |        |        |        | Estimated Budget in KES Millions |    |    |    |    | Responsibility |                                  |
|---|--|--|---|--------------------|-------------------|--------|--------|--------|--------|----------------------------------|----|----|----|----|----------------|----------------------------------|
|   |  |  |   |                    | Y1                | Y2     | Y3     | Y4     | Y5     | Y1                               | Y2 | Y3 | Y4 | Y5 | Lead           | Support                          |
|   | Carry out food handling and safety testing   | Food handlers tested                             | No of food handlers tested                          | 95,000             | 17,000            | 18,000 | 19,000 | 20,000 | 21,000 | 17                               | 18 | 19 | 20 | 21 | DRD            | DD Centres / Heads of programmes |
|   |  | Surveillance studies on food safety conducted    | No of surveillance studies on food safety conducted | 11                 | 1                 | 2      | 2      | 3      | 3      | 10                               | 22 | 24 | 39 | 42 | DRD            | DD Centres / Heads of programmes |
|   | Conduct oral health research   | Approved studies                                 | No of new research studies approved and implemented | 10                 | 2                 | 2      | 2      | 2      | 2      | 20                               | 22 | 24 | 26 | 28 | DRD            | DD Centres / Heads of programmes |
|   | Conduct research on health systems inputs to inform prioritization of UHC investment                           | Research on health systems input                 | No of new research studies approved and implemented | 5                  | 1                 | 1      | 1      | 1      | 1      | 10                               | 11 | 12 | 13 | 14 | DRD            | DD Centres / Heads of programmes |
|   | Conduct research on Health system performance to track UHC implementation                                      | Research on health systems performance conducted | No of new research studies approved and implemented | 5                  | 1                 | 1      | 1      | 1      | 1      | 10                               | 11 | 12 | 13 | 14 | DRD            | DD Centres / Heads of programmes |
| 1.3. Evaluate the effectiveness and efficiency of the health care systems | Carry out population studies to establish population health outcomes, determinants, policies and interventions | Population studies conducted and implemented     | No of new population studies conducted              | 5                  | 1                 | 2      | 3      | 4      | 5      | 10                               | 22 | 36 | 52 | 70 | DRD            | DD Centres / Heads of programmes |

| Strategies   | Strategic Activities   | Expected Output  | Output Indicator   | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |    |     |     |     | Responsibility |                                  |
|--|--|--|--|--------------------|-------------------|----|----|----|----|----------------------------------|----|-----|-----|-----|----------------|----------------------------------|
|  |  |  |  |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2 | Y3  | Y4  | Y5  | Lead           | Support                          |
|  | Carry out research in Health Systems leadership and governance   | Research studies conducted in Health Systems leadership and governance | No of new research studies approved and implemented                        | 15                 | 3                 | 4  | 5  | 6  | 7  | 30                               | 44 | 60  | 78  | 98  | DRD            | DD Centres / Heads of programmes |
|  | Conduct research in health economics   | Approved studies   | research studies approved and implemented                                  | 5                  | 1                 | 1  | 1  | 1  | 1  | 10                               | 11 | 12  | 13  | 14  | DRD            | DD Centres / Heads of programmes |
| 1.4 Utilize OMICS technologies to characterize biological molecule collections for precision medicine research and disease surveillance and response | Undertake surveillance, sequencing and characterization of pools of biological molecules (OMICS and precision medicine Research) | Full genomes, Genes and Biomarkers deposited in open databases         | No of genomes, genes, proteins and metabolites deposited in open databases | 405                | 75                | 80 | 80 | 85 | 85 | 93                               | 99 | 99  | 105 | 105 | DRD            | DD Centres / Heads of programmes |
|  | Carry out research in stem cell  | Stem Cell Pre-clinical applications developed                          | No of Pre-clinical applications developed                                  | 5                  | 1                 | 1  | 1  | 1  | 1  | 91                               | 91 | 100 | 114 | 114 | DRD            | DD Centres / Head programmes     |
|  | Carry out research in Nanotechnology   | Ongoing research studies   | No of ongoing studies  | 5                  | 1                 | 1  | 1  | 1  | 1  | 15                               | 15 | 16  | 16  | 17  | DRD            | DD Centres / Heads of programmes |
| 1.5. Enhance research in climate change, environmental and   | Implement One health approaches to address health threats in human, animal and environment                                       | Research in one health conducted                                       | No of new research proposal developed and implemented                      | 35                 | 3                 | 5  | 7  | 9  | 11 | 30                               | 55 | 84  | 117 | 154 | DRD            | DD Centres / Heads of programmes |

| Strategies   | Strategic Activities  | Expected Output   | Output Indicator   | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |     |     |     |     | Responsibility |                                  |
|--|---|---|--|--------------------|-------------------|----|----|----|----|----------------------------------|-----|-----|-----|-----|----------------|----------------------------------|
|  |   |   |  |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support                          |
| occupational health                                  | Provide evidence based solutions to environmental health hazards                    | Studies on environmental health conducted                       | No of new research studies approved and implemented                  | 5                  | 1                 | 1  | 1  | 1  | 1  | 10                               | 11  | 12  | 13  | 14  | DRD            | DD Centres / Heads of programmes |
|  | Conduct research in climate and climate change                                      | Studies on climate change undertaken                            | No of new research studies approved and implemented                  | 5                  | 1                 | 1  | 1  | 1  | 1  | 10                               | 11  | 12  | 13  | 14  | DRD            | DD Centres / Heads of programmes |
|  | Develop predictive models to forecast health events                                 | Predictive models developed                                     | No of predictive models developed                                    | 3                  |                   | 1  |    | 1  | 1  |                                  | 5   |     | 5   | 5   | DRD            | DD Centres / Heads of programmes |
|  | Conduct environmental and occupational health research                              | Research on environmental and occupational health conducted     | No of new research studies approved                                  | 3                  |                   | 1  | 1  | 1  | 1  |                                  | 11  | 12  | 13  | 14  | DRD            | DD Centres / Heads of programmes |
| 1.6:Strengthen biosafety, biosecurity and biodefence | Carry out studies on Biosafety, Biosecurity and Biodefence                          | Studies on Biosafety/ biosecurity and biodefence conducted      | No of new studies on Biosafety/ biosecurity and biodefence conducted | 5                  | 1                 | 1  | 1  | 1  | 1  | 10                               | 11  | 12  | 13  | 14  | DRD            | DD Centres / Heads of programmes |
|  | Assess and identify initiatives for management and containment of biological agents | Assessment report on containment of biological agents developed | No of assessment reports   | 5                  | 1                 | 1  | 1  | 1  | 1  | 0.5                              | 0.5 | 0.5 | 0.5 | 0.5 | DRD            | DD Centres / Heads of programmes |

| Strategies  | Strategic Activities   | Expected Output   | Output Indicator                                       | Target for 5 years | Targets/ Timeline |      |       |     |     | Estimated Budget in KES Millions |     |     |     |     | Responsibility |                                  |
|---|--|---|--|--------------------|-------------------|------|-------|-----|-----|----------------------------------|-----|-----|-----|-----|----------------|----------------------------------|
|   |  |   |  |                    | Y1                | Y2   | Y3    | Y4  | Y5  | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support                          |
|   | Upgrade and maintain Pathogen Repository management Systems                              | Pathogen repository management systems implementation                           | % Implementation                                       | 100 %              |                   | 60 % | 100 % |     |     |                                  | 10  | 7   |     |     | DRD            | DD Centres / Heads of programmes |
|   |  |   | Licenses Annual subscription                           | 1                  |                   |      | 1     | 1   | 1   |                                  |     | 2   | 2   | 2   | DRD            | DD Centres / Heads of programmes |
|   | Train staff on bio-defense, biosafety and biosecurity                                    | Staff trained   | No of staff trained                                    | 890                | 120               | 150  | 170   | 200 | 250 | 2                                | 2.2 | 2.5 | 2.7 | 3   | DRD            | DD Centres / Heads of programmes |
| 1.7. Strengthen research regulatory process and oversight | Carry out research in Bioethics  | New studies on Bioethics conducted  | No of new studies approved and implemented             | 5                  | 1                 | 1    | 1     | 1   | 1   | 5                                | 5   | 5.5 | 6   | 6.5 | DRD            | Head SERU                        |
|   | Monitor and evaluate implementation of research projects for ethical compliance          | Research projects monitored and evaluated for ethical compliance                | No of research projects monitored and evaluated        | 30                 | 6                 | 6    | 6     | 6   | 6   | 2.5                              | 2.5 | 3   | 3   | 3.5 | DRD            | Head of SERU                     |
|   | Build capacity of scientists on research governance, scientific integrity, and bioethics | Participants trained on research governance, scientific integrity and bioethics | No of participants trained                             | 250                | 50                | 50   | 50    | 50  | 50  | 2.5                              | 2.5 | 2.5 | 2.5 | 2.5 | DRD            | Head of SERU                     |
|   | Establish partnerships and collaborations with other ethics and                          | Ethics and regulatory partners and collaborators                                | No of ethics and regulatory partners and collaborators | 2                  | 2                 | 2    | 2     | 2   | 2   | 1                                | 1   | 1.5 | 1.5 | 2   | DRD            | Head of SERU                     |

| Strategies  | Strategic Activities   | Expected Output   | Output Indicator                                     | Target for 5 years | Targets/ Timeline |      |       |       |       | Estimated Budget in KES Millions |     |     |     |     | Responsibility |                             |
|---|--|---|--|--------------------|-------------------|------|-------|-------|-------|----------------------------------|-----|-----|-----|-----|----------------|-----------------------------|
|   |  |   |  |                    | Y1                | Y2   | Y3    | Y4    | Y5    | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support                     |
|   | regulatory bodies through reliance agreements and MoUs.                        |   |  |                    |                   |      |       |       |       |                                  |     |     |     |     |                |                             |
|   | Set Up and Operationalize Research Integrity Committee                         | Operational Research Integrity Committee                    | No. of RIC meetings held                             | 10                 | 2                 | 2    | 2     | 2     | 2     | 2                                | 2.2 | 2.2 | 2.5 | 2.5 | DRD            | Head of SERU                |
| 1. 8 Strengthen laboratories and clinical laboratory services | Enroll laboratories for external quality assurance                             | Labs enrolled for external quality assurance                | No of labs enrolled                                  | 50                 | 10                | 10   | 10    | 10    | 10    | 20                               | 21  | 22  | 23  | 24  | DRD            | Head of SERU                |
|   | Acquire and maintain ISO certification and accreditations for all laboratories | ISO certification accreditation in all laboratories         | No of Labs certified and accredited                  | 20                 | 20                | 20   | 20    | 20    | 20    | 8                                | 8   | 8   | 8   | 8   | DS&C           | HOD lab, biosafety & safety |
|   | Carry out laboratory equipment servicing and preventive maintenance            | Lab equipment serviced                                      | % compliance with annual preventive maintenance plan | 100 %              | 100%              | 100% | 100 % | 100 % | 100 % | 30                               | 32  | 34  | 36  | 38  | DRD            | HOD lab, biosafety & safety |
|   | Register and maintain laboratory accreditation by KMLTTB                       | Registration of KEMRI labs handling human samples by KMLTTB | No of lab registered                                 | 20                 | 8                 | 8    | 4     |       |       | 9                                | 9   | 3   |     |     | DRD            | HOD lab, biosafety & safety |
|   |  |   | Annual license renewals                              | 20                 |                   | 8    | 16    | 20    | 20    |                                  | 1   | 1.5 | 2   | 2.2 | DRD            | HOD lab, biosafety & safety |
|   | Develop and operationalize laboratory service policy.                          | Laboratory policy approved                                  | Laboratory policy                                    | 1                  | 1                 |      |       |       |       | 1                                |     |     |     |     | DRD            | HOD lab, biosafety & safety |



| Strategies                                       | Strategic Activities  | Expected Output   | Output Indicator  | Target for 5 years | Targets/ Timeline |           |           |           |           | Estimated Budget in KES Millions |     |     |     |     | Responsibility              |  |
|--|---|---|---|--------------------|-------------------|-----------|-----------|-----------|-----------|----------------------------------|-----|-----|-----|-----|-----------------------------|--|
|  |   |   |   |                    | Y1                | Y2        | Y3        | Y4        | Y5        | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead                        | Support                                      |
|  | Register, license clinical and clinical research KEMRI facilities by KMPDC                        | Clinical research and services facilities registered and licensed | No of registered and licensed clinical research and services facilities |                    | 8                 | 7         |           |           | 3         | 3                                | 3   | 3   | 3   | DRD | HOD lab, biosafety & safety |  |
|  | Acquire modern diagnostic and therapeutic technologies/equipment                                  | Diagnostic and therapeutic technologies/equipment acquired        | No of new equipment purchased   | 25                 | 5                 | 5         | 5         | 5         | 5         | 150                              | 159 | 168 | 178 | 188 | DRD                         | Centre Directors HOD lab, biosafety & safety |
|  | Offer specialized diagnostic services   | specialized diagnostic services offered                           | No of specialized diagnostic services offered                           | 6,600,633          | 1,081,167         | 1,189,284 | 1,308,212 | 1,439,033 | 1,582,937 | 324                              | 594 | 654 | 719 | 791 | DRD                         | Centre Directors HOD lab, biosafety & safety |
|  | Carry out lab quality control, quality assurance and quality improvement of services (QA, QC, QI) | Quality audit of customer services                                | No of quality audit reports   | 5                  | 1                 | 1         | 1         | 1         | 1         | 6                                | 6   | 6   | 6   | 6   | DRD                         | Centre Directors HOD lab, biosafety & safety |
|  | Develop and operationalize laboratory service policy  | Laboratory service policy developed                               | Laboratory service policy approved and operational                      | 1                  | 1                 |           |           |           |           | 2                                |     |     |     |     | DRD/DCS                     | HOD lab, biosafety & safety                  |
| 1. 9 Enhance Institute's participation in policy | Carry out strategic research and business intelligence  | Strategic research and business intelligent report                | No of reports   | 3                  | 1                 |           | 1         |           | 1         | 2                                |     | 2.2 |     | 2.4 | DRD                         | DD Centres / Heads of programmes             |

| Strategies  | Strategic Activities   | Expected Output   | Output Indicator  | Target for 5 years | Targets/ Timeline |    |     |     |               | Estimated Budget in KES Millions |               |               |               |                 | Responsibility |                                  |
|---|--|---|---|--------------------|-------------------|----|-----|-----|---------------|----------------------------------|---------------|---------------|---------------|-----------------|----------------|----------------------------------|
|   |  |   |   |                    | Y1                | Y2 | Y3  | Y4  | Y5            | Y1                               | Y2            | Y3            | Y4            | Y5              | Lead           | Support                          |
| formulation and implementation  | Participate in expert committees and Technical Working Groups (TWG) nationally | Expert committees and Technical Working Groups (TWG) involved | No of expert committees and Technical Working Groups (TWG) involved | 100                | 20                | 20 | 20  | 20  | 20            | 2                                | 2.2           | 2.4           | 2.6           | 2.8             | DRD            | DD Centres / Heads of programmes |
|   | Participate in Regional and Global health Committees                           | Regional and Global health Committees involved                | No of regional and global committees involved                       | 27                 | 5                 | 5  | 5   | 6   | 6             | 4                                | 4             | 5             | 5             | 5               | DRD            | DD Centres / Heads of programmes |
|   | Develop evidence briefs, policy briefs and policy cafes                        | Evidence briefs, policy briefs and policy cafes developed     | No of evidence/policy briefs developed                              | 50                 | 6                 | 8  | 10  | 12  | 14            | 1.2                              | 1.6           | 2             | 2.4           | 2.8             | DRD            | DD Centres / Heads of programmes |
|   | Train staff on evidence/policy briefs development                              | Staff trained on development of evidence and policy briefs    | No of staff trained   | 400                | 40                | 50 | 60  | 70  | 80            | 0.5                              | 0.5           | 0.5           | 0.6           | 0.6             | DRD            | DD Centres / Heads of programmes |
| <b>Sub Totals</b>   |  |   |   |                    |                   |    |     |     | <b>3445.4</b> | <b>4363.3</b>                    | <b>4852.3</b> | <b>5669.6</b> | <b>6431.1</b> | <b>24,761.3</b> |                |                                  |
| <b>Strategic Objectives 2: To Build Data Science and Knowledge Management Systems</b> |  |   |   |                    |                   |    |     |     |               |                                  |               |               |               |                 |                |                                  |
| 2.1 Develop data management, analytics and protection strategies                      | Develop and implement data governance policies and procedures                  | Data governance policy and procedures developed and approved  | Approved data governance policy and procedures                      | 1                  | 1                 |    |     |     |               | 3                                |               |               |               |                 | DRD            | HoD DESI                         |
|   | Establish and equip data science center  | Data center established and equipped                          | % level of completion   | 100%               |                   |    | 70% | 90% | 100%          |                                  |               | 30            | 20            | 10              | DRD            | HoD DESI                         |
|   | Establish statistic and informatics unit                                       | Statistic/informatics unit established                        | No of research projects   | 150                | 10                | 20 | 30  | 40  | 50            | 1                                | 1             | 1             | 1             | 1               | DRD            | HoD DESI                         |

| Strategies  | Strategic Activities   | Expected Output   | Output Indicator  | Target for 5 years | Targets/ Timeline |     |     |      |       | Estimated Budget in KES Millions |     |     |     |     | Responsibility |          |
|---|--|---|---|--------------------|-------------------|-----|-----|------|-------|----------------------------------|-----|-----|-----|-----|----------------|----------|
|   |  |   |   |                    | Y1                | Y2  | Y3  | Y4   | Y5    | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support  |
|   |  |   | supported and analyzed by the unit                          |                    |                   |     |     |      |       |                                  |     |     |     |     |                |          |
|   | Undertake data inventory   | Data inventory system established   | % level of completion of data inventory system              | 100 %              |                   | 40% | 60% | 80 % | 100 % |                                  | 10  | 8   | 5   | 5   | DRD            | HoD DESI |
|   | Develop Data Quality Assessment tools  | Data Quality Assessment tools   | No of Data Quality Tools developed                          | 1                  | 1                 |     |     |      |       | 2                                |     |     |     |     | DRD            | HoD DESI |
|   | Build capacity of staff on data science  | Staff competences on data science   | No of staff trained on data science                         | 15                 | 3                 | 3   | 3   | 3    | 3     | 5                                | 5   | 5   | 5   | 5   | DRD            | HoD DESI |
|   | Carry out epidemiological data analysis to inform research and decision making | Predictive models developed   | No of predictive models developed                           | 30                 | 4                 | 5   | 6   | 7    | 8     | 1.4                              | 1.5 | 1.6 | 1.7 | 1.8 | DRD            | HoD DESI |
|   | Explore Big data and AI in health research                                     | Big data and Artificial Intelligence engines                                  | No of big data and Artificial Intelligent engines developed | 22                 | 3                 | 4   | 5   | 5    | 5     | 120                              | 150 | 150 | 150 | 150 | DRD            | HoD DESI |
| 2.2: Enhance Knowledge management and knowledge translation process | Develop Knowledge Management policy & strategy                                 | Knowledge Management strategy, implementation matrix and guidelines developed | Knowledge Management strategy sanitization forums           | 15                 | 5                 | 5   | 5   | 5    | 5     | 2.5                              | 2.5 | 2.5 | 2.5 | 2.5 | DRD            | HoD KM   |

| Strategies | Strategic Activities   | Expected Output                             | Output Indicator                         | Target for 5 years | Targets/ Timeline |     |     |     |     | Estimated Budget in KES Millions |     |     |     |     | Responsibility |  |
|------------|--|---|--|--------------------|-------------------|-----|-----|-----|-----|----------------------------------|-----|-----|-----|-----|----------------|--|
|            |  |   |  |                    | Y1                | Y2  | Y3  | Y4  | Y5  | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support                                  |
|            | Conduct Research in knowledge management and translation and Intellectual property | Research protocols approved and implemented | No of protocols approved and implemented | 5                  | 1                 | 1   | 1   | 1   | 1   | 3                                | 3   | 3   | 3.5 | 3.5 | DRD            | HoD KM                                   |
|            | Build and sustain capacity of scientists on KM and KT                              | KM and KT trainings conducted               | No of scientists trained                 | 250                | 50                | 50  | 50  | 50  | 50  | 0.5                              | 0.5 | 0.6 | 0.6 | 0.7 | DRD            | HoD KM                                   |
|            | Disseminate research outputs to various stakeholders                               | Conferences organized by KEMRI              | No of conferences organized by KEMRI     | 15                 | 3                 | 3   | 3   | 3   | 3   | 24                               | 24  | 24  | 24  | 24  | DRD            | Centres Directors / Heads of programmes/ |
|            |  | Abstracts developed                         | No of abstracts presented                | 1006               | 200               | 220 | 240 | 260 | 280 | 50                               | 54  | 60  | 66  | 72  | DRD            | Centres Directors / Heads of programmes/ |
|            |  | Research publications done                  | No of peer reviewed publications         | 2134               | 350               | 385 | 423 | 465 | 511 | 175                              | 193 | 212 | 233 | 256 | DRD            | Centres Directors / Heads of programmes/ |
|            |  | Seminars organized                          | No of Seminars organized by KEMRI        | 15                 | 3                 | 3   | 3   | 3   | 3   | 3                                | 3   | 3   | 3   | 3   | DRD            | Centres Directors / Heads of programmes/ |
|            |  | Workshops done                              | No of workshops                          | 15                 | 3                 | 3   | 3   | 3   | 3   | 3                                | 3   | 3   | 3   | 3   | DRD            | Centres Directors / Heads of             |

| Strategies  | Strategic Activities  | Expected Output                               | Output Indicator                      | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |       |       |       |       | Responsibility |   |
|---|---|---|---------------------------------------|--------------------|-------------------|----|----|----|----|----------------------------------|-------|-------|-------|-------|----------------|---|
|   |   |   |                                       |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2    | Y3    | Y4    | Y5    | Lead           | Support   |
|   |   |   | Organized in KM                       |                    |                   |    |    |    |    |                                  |       |       |       |       |                | programmes/<br>Centres<br>Directors /<br>Heads of<br>programmes/<br>Centres<br>Directors /<br>Heads of<br>programmes/ |
|   |   | Webinars done                                 | No of webinars Organized              | 120                | 12                | 18 | 24 | 30 | 36 | 1.5                              | 1.6   | 1.7   | 1.8   | 1.9   | DRD            | Centres<br>Directors /<br>Heads of<br>programmes/   |
|   |   | Blogs done                                    | No of blogs created                   | 38                 | 6                 | 6  | 8  | 8  | 10 | 1                                | 1     | 1     | 1.1   | 1.2   | DRD            | Centres<br>Directors /<br>Heads of<br>programmes/   |
|   | Develop new products and patent                               | Products developed and patented               | No of products developed and patented | 1                  |                   | 1  |    | 1  | 1  |                                  | 3     |       | 3.5   | 3.5   | DRD            | HoD KM  |
|   | Advocate for research evidence use/uptake for decision making | Knowledge translation engagement platforms    | No of engagement forums               | 125                | 15                | 20 | 25 | 30 | 35 | 5                                | 6     | 7     | 8     | 9     | DRD            | HoD KM  |
|   | Establish a repository for Knowledge Management products      | Repository for Institute's knowledge products | Repository established                | 1                  |                   |    | 1  |    |    |                                  |       | 4     |       |       | DRD            | HoD KM  |
|   | Implement ISO 30401:2018 standard                             | ISO 30401:2018 Certified                      | ISO certificate                       | 1                  |                   |    | 1  |    |    |                                  |       | 2     |       |       | DRD            | HoD KM  |
| Sub Totals  |   |   |                                       |                    |                   |    |    |    |    | 400.9                            | 459.1 | 519.4 | 529.2 | 549.6 |                |   |
| <b>KRA 2: Innovation and Product Development</b>                                    |   |   |                                       |                    |                   |    |    |    |    |                                  |       |       |       |       |                |   |
| <b>Strategic Objectives 3:</b> To undertake scientific and technological innovation |   |   |                                       |                    |                   |    |    |    |    |                                  |       |       |       |       |                |   |

| Strategies  | Strategic Activities  | Expected Output   | Output Indicator   | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |    |    |    |    | Responsibility |                                  |     |                                  |   |     |                                  |
|---|---|---|--|--------------------|-------------------|----|----|----|----|----------------------------------|----|----|----|----|----------------|----------------------------------|-----|----------------------------------|---|-----|----------------------------------|
|   |   |   |  |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2 | Y3 | Y4 | Y5 | Lead           | Support                          |     |                                  |   |     |                                  |
| 3.1 Enhance innovation and technology development in the area of human health | Undertake diagnostics, Vaccine discovery and development research | Diagnostic kits developed                                   | No of new diagnostic kits developed                        | 5                  | 1                 | 1  | 2  | 2  | 2  | 20                               | 20 | 40 | 45 | 50 | DRD            | DD Centres / Heads of programmes |     |                                  |   |     |                                  |
|   |   | Vaccine discovery and development research                  | No of vaccines developed                                   | 1                  | 1                 | 1  | 1  | 1  | 1  | 10                               | 10 | 10 | 10 | 15 | 0              | 0                                | DRD | DD Centres / Heads of programmes |   |     |                                  |
|   | Undertake drugs and therapeutics research                         | Drugs and therapeutics products developed                   | No of drugs and therapeutic products developed             | 1                  | 1                 | 1  | 1  | 1  | 1  | 10                               | 12 | 12 | 15 | 20 | 0              | 5                                | 5   | 0                                | 0 | DRD | DD Centres / Heads of programmes |
|   |   | Natural products developed                                  | No of natural products proposals developed and implemented | 1                  | 1                 | 1  | 1  | 1  | 1  | 10                               | 10 | 10 | 14 | 16 | 0              | 0                                | 0   | 0                                | 0 | DRD | DD Centres / Heads of programmes |
|   |   | Drugs Repurposed  | No of drugs repurposed                                     | 1                  | 1                 | 1  | 1  | 1  | 1  | 50                               | 50 | 60 | 62 | 65 | DRD            | DD Centres / Heads of programmes |     |                                  |   |     |                                  |
|   | Adopt emerging technologies in health research                    | New technologies adopted                                    | No of new technologies adopted                             | 5                  | 1                 | 1  | 1  | 1  | 1  | 15                               | 17 | 19 | 21 | 23 | DRD            | DD Centres / Heads of programmes |     |                                  |   |     |                                  |
|   | Develop new technologies for disease control, prevention and      | Disease control, prevention and management technologies and | No of technologies and strategies developed                | 3                  | 1                 |    | 1  |    | 1  | 15                               | 15 | 15 | 15 | 16 | 0              | 2                                | 5   | 8                                | 0 | DRD | DD Centres / Heads of programmes |

| Strategies                           | Strategic Activities   | Expected Output                                     | Output Indicator                                   | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |     |     |     |     | Responsibility |                                  |
|--------------------------------------|--|---|--|--------------------|-------------------|----|----|----|----|----------------------------------|-----|-----|-----|-----|----------------|----------------------------------|
|                                      |  |   |  |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support                          |
|                                      | management strategies  | strategies developed                                |  |                    |                   |    |    |    |    |                                  |     |     |     |     |                |                                  |
|                                      | Conduct research on indigenous technologies for Manufacture of Natural Products              | Natural products developed research proposals       | No of natural products studies completed           | 5                  | 1                 | 1  | 1  | 1  | 1  | 100                              | 103 | 105 | 140 | 160 | DRD            | DD Centres / Heads of programmes |
| 3.2 Establish incubation Centers     | Develop incubation strategy and policy   | Incubation strategy developed and approved          | Approved Incubation strategy & policy              | 1                  | 1                 |    |    |    |    | 2                                |     |     |     |     | DRD            | HoD ITTD                         |
|                                      | Build capacity of innovators through training and mentorship                                 | Innovators trained and mentored                     | No of innovators trained/mentor ed                 | 50                 | 10                | 10 | 10 | 10 | 10 | 5                                | 5   | 6   | 6   | 6.5 | DRD            | HoD ITTD                         |
|                                      | Establish, maintain and update database of existing and potential innovations and innovators | Databases of innovations and innovators established | Database of innovations and innovators established | 1                  |                   | 1  |    |    |    |                                  | 1.5 |     |     |     | DRD            | HoD ITTD                         |
|                                      | Establish and maintain incubation platform   | Incubation technology platform established          | No of Incubation platform developed                | 1                  |                   | 1  |    |    |    |                                  | 40  |     |     |     | DRD            | HoD ITTD                         |
|                                      |  |   | No of new technologies produced                    | 3                  |                   |    | 1  | 1  | 1  |                                  |     | 50  | 50  | 50  | DRD            | HoD ITTD                         |
| 3.2: Link research to policy-makers, | Carry out business intelligence to identify potential  | Business intelligent research conducted             | No of business                                     | 5                  | 1                 | 1  | 1  | 1  | 1  | 2                                | 2.2 | 2.4 | 2.6 | 2.8 | DRD &          | DD Centres / Heads of            |

| Strategies   | Strategic Activities  | Expected Output   | Output Indicator                               | Target for 5 years | Targets/ Timeline |         |         |         |         | Estimated Budget in KES Millions |             |             |           |             | Responsibility |                                  |
|--|---|---|--|--------------------|-------------------|---------|---------|---------|---------|----------------------------------|-------------|-------------|-----------|-------------|----------------|----------------------------------|
|  |   |   |  |                    | Y1                | Y2      | Y3      | Y4      | Y5      | Y1                               | Y2          | Y3          | Y4        | Y5          | Lead           | Support                          |
| academia and industry in the health products value chains  | areas of linkage(Assess product market value and end user perspective)                                  |   | intelligent survey reports                     |                    |                   |         |         |         |         |                                  |             |             |           |             |                | programme s                      |
|  | Carry out corporate consultancy services  | Consultancy services provided by KEMRI                                  | No of consultancies conducted                  | 4                  |                   | 1       | 1       | 1       | 1       |                                  | 2.2         | 2.4         | 2.6       | 2.8         | DRD            | DD Centres / Heads of programmes |
|  | Commercialization of technologies, diagnostic kits and product  | Commercial products/technologies  | No of products and technologies commercialized | 5                  | 300,000           | 330,000 | 363,000 | 399,300 | 439,230 | 10                               | 11          | 12          | 13        | 14          | DCS            | HoD CE                           |
| <b>Sub Totals</b>  |   |   |  |                    |                   |         |         |         |         | <b>19</b>                        | <b>61.9</b> | <b>72.8</b> | <b>69</b> | <b>70.5</b> | <b>19</b>      | <b>293.2</b>                     |
| <b>KRA 3: Disease Surveillance and Response</b>  |   |   |  |                    |                   |         |         |         |         |                                  |             |             |           |             |                |                                  |
| <b>Strategic Objectives 4: To strengthen disease surveillance systems</b>  |   |   |  |                    |                   |         |         |         |         |                                  |             |             |           |             |                |                                  |
| 4.1.Strengthen capacity for early disease detection and timely response to bio threats, non-communicable and communicable diseases | Revamp existing HDSS / hospital-based surveillance systems  | HDSS and hospital-based surveillance systems revamped                   | No of HDSS systems and structures revamped     | 1                  |                   | 1       |         |         |         |                                  | 60          | 20          | 23        | 25          | DRD            | DD Centres / Heads of programmes |
|  | Develop and pilot new HDSS/hospital-based surveillances systems to cut across strata of hospital levels | Develop HDSS/hospital-based surveillances systems established & piloted | No of new HDSS established and operational     | 10                 | 2                 | 2       | 2       | 2       | 2       | 53                               | 55          | 70          | 88        | 89          | DRD            | DD Centres / Heads of programmes |



| Strategies   | Strategic Activities   | Expected Output   | Output Indicator   | Target for 5 years | Targets/ Timeline |      |    |    |    | Estimated Budget in KES Millions |            |           |            |           | Responsibility |                                  |
|--|--|---|--|--------------------|-------------------|------|----|----|----|----------------------------------|------------|-----------|------------|-----------|----------------|----------------------------------|
|  |  |   |  |                    | Y1                | Y2   | Y3 | Y4 | Y5 | Y1                               | Y2         | Y3        | Y4         | Y5        | Lead           | Support                          |
|  | Establish satellite laboratories for diseases surveillance and early disease detection | Satellite laboratories established                            | No of satellite laboratories established                             | 2                  |                   | 1    |    | 1  |    |                                  | 50         | 50        | 60         | 60        | DRD            | DD Centres / Heads of programmes |
|  | Create and maintain disease, pathogen, vectors and surveillance systems and dashboards | Disease, pathogen, vector and surveillance system established | No of disease, pathogen, vectors and surveillance system established | 1                  |                   | 1    |    |    |    |                                  | 15         | 15        | 20         | 20        | DRD            | DD Centres / Heads of programmes |
|  | Create and maintain population dynamics dashboards                                     | Population dynamics dashboard developed                       | No of dashboards developed   | 1                  |                   | 1    |    |    |    |                                  | 5          | 3         | 3          | 4         | DRD            | DD Centres / Heads of programmes |
| <b>Sub Totals</b>  |  |   |  |                    |                   |      |    |    |    | <b>53</b>                        | <b>185</b> | <b>70</b> | <b>148</b> | <b>89</b> | <b>545</b>     |                                  |
| <b>KRA 4: Research Capacity Building</b>   |  |   |  |                    |                   |      |    |    |    |                                  |            |           |            |           |                |                                  |
| <b>Strategic Objectives 5: To build human health research capacity</b>                           |  |   |  |                    |                   |      |    |    |    |                                  |            |           |            |           |                |                                  |
| 5.1 Develop and implement post graduate degree programmes and other capacity development courses | Offer academic degree programmes in line with the specialized areas of focus           | Postgraduate academic programmes developed                    | No of PhD academic programmes introduced                             | 4                  |                   |      |    | 4  |    |                                  |            |           |            | 4         | DRCB           | DDTP                             |
|  |  |   | No of MSc programmes introduced                                      | 4                  |                   | 4    |    |    |    |                                  | 4          |           |            |           | DRCB           | DDTP                             |
|  |  | Implement an ERP module to manage student records             | % of completion of rollout of ERP 2 module                           | 100 %              | 50%               | 100% |    |    |    |                                  | 4.5        | 2         |            |           |                | DRCB                             |

| Strategies | Strategic Activities  | Expected Output                                      | Output Indicator                               | Target for 5 years | Targets/ Timeline |      |      |      |      | Estimated Budget in KES Millions |      |    |      |    | Responsibility |               |
|------------|---|--|--|--------------------|-------------------|------|------|------|------|----------------------------------|------|----|------|----|----------------|---------------|
|            |   |  |  |                    | Y1                | Y2   | Y3   | Y4   | Y5   | Y1                               | Y2   | Y3 | Y4   | Y5 | Lead           | Support       |
|            |   | and KGS documents                                    |  |                    |                   |      |      |      |      |                                  |      |    |      |    |                |               |
|            | Develop and align academic programmes to meet evolving health needs | Academic programmes aligned to evolving health needs | No of PhD academic programmes reviewed         | 4                  |                   |      | 4    |      |      |                                  |      | 4  |      |    | DRCB           | DDTP          |
|            |   | Academic programmes aligned to evolving health needs | No of MSc academic programmes reviewed         | 4                  |                   |      |      |      | 4    |                                  |      |    |      | 4  | DRCB           | DDTP          |
|            | Development and maintain an e-learning platform                     | e-learning platform developed                        | No of E-learning platforms developed           | 1                  | 1                 |      |      |      |      | 2                                |      |    |      | 2  | DRCB           | DDTP, ICT     |
|            |   | E-learning platform subscription renewal             |  | 100%               |                   | 100% | 100% | 100% | 100% |                                  | 2    | 2  | 2    | 2  | DRCB           | DDTP, ICT     |
|            | Offer library and journal support to KEMRI staff and students       | Library and journal services offered                 | No of persons utilizing library services       | 2000               | 300               | 350  | 400  | 450  | 500  | 10                               | 10.5 | 11 | 11.5 | 12 | DRCB           | Library, DDTP |
|            |   |  | No of publications in KEMRI Journal            | 250                | 40                | 45   | 50   | 55   | 60   | 2                                | 2.5  | 3  | 3.5  | 4  | DRCB           | Journal, DDTW |
|            | Pursue Graduate School Charter                                      | Charter Awarded                                      | Charter  | 1                  |                   | 1    |      |      |      |                                  | 10   |    |      |    | DRCB           | DDTP          |
|            | Carry out student enrolment   | Postgraduate students enrolled                       | No of adverts and exhibitions in various for a | 10                 | 2                 | 2    | 2    | 2    | 2    | 4                                | 4    | 4  | 4    | 4  | DRCB           | DDTP          |

| Strategies | Strategic Activities | Expected Output                     | Output Indicator   | Target for 5 years | Targets/ Timeline |     |     |    |     | Estimated Budget in KES Millions |     |      |      |      | Responsibility |         |
|------------|----------------------|-------------------------------------|--|--------------------|-------------------|-----|-----|----|-----|----------------------------------|-----|------|------|------|----------------|---------|
|            |                      |                                     |  |                    | Y1                | Y2  | Y3  | Y4 | Y5  | Y1                               | Y2  | Y3   | Y4   | Y5   | Lead           | Support |
|            |                      |                                     | No. of students enrolled in the ongoing collaboration with JKUAT | 330                | 105               | 110 | 115 |    |     | 1                                | 1   | 1    |      |      | DRCB           | DDTP    |
|            |                      |                                     | No. of PhD students enrolled after award of Charter              | 115                | 20                | 20  | 20  | 25 | 30  | 0.5                              | 0.5 | 0.5  | 0.5  | 0.5  | DRCB           | DDTP    |
|            |                      |                                     | No. of MSc students enrolled after award of Charter              |                    |                   |     |     | 70 | 100 |                                  |     |      | 1    | 1    | DRCB           | DDTP    |
|            |                      |                                     | Students pastoral supervision established and maintained         | 1                  | 1                 |     |     |    |     | 1                                | 1   | 1    | 1    | 1    | DRCB           | DDTW    |
|            | Recruit lecturers    | Lecturers and supervisors recruited | No of lecturers and supervisors recruited on part time basis     | 105                | 35                | 35  | 35  |    |     | 5                                | 5   | 5    |      |      | DRCB           | DDTP    |
|            |                      |                                     | No of lecturers and supervisors                                  | 52                 | 8                 | 8   | 12  | 12 | 12  | 25                               | 25  | 37.5 | 37.5 | 37.5 | DRCB           | DDTP    |

| Strategies                              | Strategic Activities   | Expected Output   | Output Indicator                                     | Target for 5 years | Targets/ Timeline |     |     |     |      | Estimated Budget in KES Millions |     |     |     |      | Responsibility |         |
|---|--|---|--|--------------------|-------------------|-----|-----|-----|------|----------------------------------|-----|-----|-----|------|----------------|---------|
|   |  |   |  |                    | Y1                | Y2  | Y3  | Y4  | Y5   | Y1                               | Y2  | Y3  | Y4  | Y5   | Lead           | Support |
|   |  |   | recruited on full time basis                         |                    |                   |     |     |     |      |                                  |     |     |     |      |                |         |
|   | Establish endowment funds for scholarship , fellowships and grants | Scholarship & fellowship programmes created             | No of students awarded scholarships                  | 152                | 20                | 20  | 32  | 40  | 40   | 17                               | 17  | 27  | 34  | 34   | DRCB           | DDTW    |
| No of postdoctoral trainees awarded     |  |   | 56   | 10                 | 10                | 16  | 20  | 20  | 12.5 | 12.5                             | 20  | 25  | 25  | DRCB | DDTW           |         |
|   | Establish alumni and diaspora linkage programmes                   | Diaspora linkage programmes established                 | Diaspora linkage programmes approved and operational | 1                  | 1                 |     |     |     |      | 0.5                              | 0.5 | 0.5 | 0.5 | 0.5  | DRCB           | DDTW    |
|   | Mainstream sandwich programmes with other institutions             | Sandwich programmes with other institutions established | No of MOUs signed with other institutions            | 8                  | 1                 | 2   | 2   | 2   | 2    | 0.3                              | 0.5 | 0.5 | 0.5 | 0.5  | DRCB           | DDTW    |
| Student exchange programmes established |  | No of student exchange programmes                       | 5  | 1                  | 1                 | 1   | 1   | 1   | 0.3  | 0.3                              | 0.3 | 0.3 | 0.3 | DRCB | DDTW           |         |
| Student exchange programmes established |  | No of student exchanged                                 | 5  | 1                  | 1                 | 1   | 1   | 1   | 2    | 2                                | 2   | 2   | 2   | DRCB | DDTW           |         |
| School Engagement Program established   |  | No of students engaged                                  | 500  | 100                | 100               | 100 | 100 | 100 | 100  | 1                                | 1   | 1   | 1   | 1    | DRCB           | DDTP    |

| Strategies        | Strategic Activities                                | Expected Output   | Output Indicator   | Target for 5 years        | Targets/ Timeline |     |     |     |     | Estimated Budget in KES Millions |              |              |              |              | Responsibility |         |
|-------------------|---|---|--|---------------------------|-------------------|-----|-----|-----|-----|----------------------------------|--------------|--------------|--------------|--------------|----------------|---------|
|                   |   |   |  |                           | Y1                | Y2  | Y3  | Y4  | Y5  | Y1                               | Y2           | Y3           | Y4           | Y5           | Lead           | Support |
|                   | Offer specialized market driven short courses       | Specialized market driven courses offered   | No of students trained on specialized market driven short courses  | 920                       | 100               | 140 | 180 | 220 | 280 | 2.8                              | 4            | 4.8          | 5.9          | 7.5          | DRCB           | DDTP    |
|                   | Establishes student linkages with KEMRI scientists  | KGS Students linked to ongoing research projects  | No of students linked to ongoing research projects                 | 250                       | 50                | 50  | 50  | 50  | 50  | 1                                | 1            | 1            | 1            | 1            | DRCB           | DDTW    |
|                   |   | Engagement forums held  | No of seminars organized   | 5                         | 1                 | 1   | 1   | 1   | 1   | 0.5                              | 0.5          | 0.5          | 0.5          | 0.5          | DRCB           | DDTP    |
|                   |   | Students attached to the industry   | No of students attached to the industry                            | 250                       | 10                | 20  | 40  | 80  | 100 | 0.5                              | 0.5          | 0.5          | 0.5          | 0.5          | DRCB           | DDTW    |
|                   |   | External students and scientists linked to KEMRI scientists and facilities                        | No. of external students and scientists linked to KEMRI scientists | 100                       | 50                | 50  | 50  | 50  | 50  |                                  |              |              |              |              | DRCB           | DRTW    |
|                   |   | Support the county governments and the region in capacity development of healthcare practitioners | Satellite offices established and furnished                        | No of offices established | 2                 | 1   |     | 1   |     |                                  |              | 10           |              | 10           |                | DRCB    |
|                   | County governments healthcare practitioners trained |   | No of healthcare practitioners capacity build                      | 430                       | 50                | 80  | 100 | 100 | 100 |                                  | 5            | 5            | 5            | 5            | DRCB           | DDTP    |
| <b>Sub Totals</b> |   |   |  |                           |                   |     |     |     |     | <b>93.4</b>                      | <b>112.3</b> | <b>132.1</b> | <b>147.2</b> | <b>149.8</b> | <b>634.8</b>   |         |

| Strategies   | Strategic Activities  | Expected Output  | Output Indicator  | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |     |     |     |     | Responsibility |                                       |
|--|---|--|---|--------------------|-------------------|----|----|----|----|----------------------------------|-----|-----|-----|-----|----------------|---------------------------------------|
|  |   |  |   |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support                               |
| <b>KRA 5: Financial Sustainability</b><br><b>Outcome:</b> Institute sound financial health<br><b>Strategic Objectives 6:</b> To strengthen and establish strategic partnership and collaboration |   |  |   |                    |                   |    |    |    |    |                                  |     |     |     |     |                |                                       |
| 6.1 Strengthen strategic and mutual beneficial partnerships and collaborations to grow health research   | Define clear areas of collaborations and partnerships                                 | Priority areas of partnership and collaborations defined | Report on prioritized areas of partnership and collaborations | 3                  | 1                 |    | 1  |    | 1  | 0.5                              |     | 0.5 |     | 0.5 | DRCB           | Head of programs & HOD GM             |
|  | Strengthen new strategic alliances local, regional and global                         | New strategic alliances established                      | No of new signed contracts/MoUs                               | 15                 | 3                 | 3  | 3  | 3  | 3  | 0.5                              | 0.5 | 0.5 | 0.5 | 0.5 | DSPGM          | Cluster coordinators                  |
|  |   | Engagement with county governments                       | No of MOUs signed with county government                      | 7                  | 2                 | 3  | 2  |    |    | 10                               | 10  | 10  |     |     | DSPGM          | Cluster coordinators                  |
|  | Undertake periodic reviews of partnership and collaboration agreements                | Partnership and collaboration agreements reviewed        | No of MOUs reviewed   | 10                 | 2                 | 2  | 2  | 2  | 2  | 1                                | 1   | 1   | 1   | 1   | DSPGM          | Head of programs & Head of grants mgt |
|  | Participate in Institute external evaluation  | External evaluation reports                              | No of external evaluation reports                             | 2                  |                   | 1  |    | 1  |    | 3                                |     | 3   |     |     | DSPGM          | Head of programs & Head of grants mgt |
|  | Sensitize partners and collaborators on the institutes policies & research priorities | Partners and collaborators sensitized on the             | No of sensitization forums held                               | 10                 | 2                 | 2  | 2  | 2  | 2  | 2                                | 2   | 2   | 2   | 2   | DSPM           | Head of programs & Head of            |

| Strategies   | Strategic Activities  | Expected Output  | Output Indicator                             | Target for 5 years | Targets/ Timeline |    |    |     |     | Estimated Budget in KES Millions |     |      |     |     | Responsibility |                                       |            |
|--|---|--|--|--------------------|-------------------|----|----|-----|-----|----------------------------------|-----|------|-----|-----|----------------|---------------------------------------|------------|
|  |   |  |  |                    | Y1                | Y2 | Y3 | Y4  | Y5  | Y1                               | Y2  | Y3   | Y4  | Y5  | Lead           | Support                               |            |
|  |   | institutes policies & research priorities                        |  |                    |                   |    |    |     |     |                                  |     |      |     |     |                |                                       | grants mgt |
| 6.2 Enhance Institutional end to end grant management processes    | Develop, review and implement grant management policy, guidelines and standards | Grant management policy developed and approved                   | Grant management policy approved             | 1                  | 1                 |    |    |     |     | 0.5                              |     |      |     |     | DSPGM          | Head of programs & Head of grants mgt |            |
|  |   | Grant management standards and guidelines developed and approved | No of Standards and guidelines               | 1                  | 1                 |    |    |     |     | 0.2                              |     |      |     |     |                |                                       |            |
|  | Map out grant calls and guide scientists in applications                        | Guided grant applications  | No of successful guided grant applications   | 4                  | 6                 | 7  | 10 | 12  | 15  | 1                                | 1   | 1    | 1   | 1   | DSPGM          | Head of programs & Head of grants mgt |            |
|  | Train scientists on grant management  | Scientists trained on grant management                           | No of scientists trained on grant management | 400                | 50                | 75 | 75 | 100 | 100 | 4                                | 3   | 3    | 3   | 3   | DSPGM          | Head of programs & Head of grants mgt |            |
|  | Participate in project closure  | End of project commission reports                                | No of projects closed                        | 67                 | 30                | 27 | 12 | 15  | 20  | 0.5                              | 0.5 | 0.5  | 0.5 | 0.5 | DSPGM          | Head of programs & Head of grants mgt |            |
| Sub Totals   |   |  |  |                    |                   |    |    |     |     | 23.2                             | 18  | 21.5 | 8   | 8.5 |                | 79.2                                  |            |
| <b>Strategic Objectives 7: To enhance financial sustainability</b> |   |  |  |                    |                   |    |    |     |     |                                  |     |      |     |     |                |                                       |            |

| Strategies                  | Strategic Activities   | Expected Output                                     | Output Indicator       | Target for 5 years | Targets/ Timeline |       |       |       |       | Estimated Budget in KES Millions |    |     |     |     | Responsibility |                                       |
|-----------------------------|--|---|------------------------|--------------------|-------------------|-------|-------|-------|-------|----------------------------------|----|-----|-----|-----|----------------|---------------------------------------|
|                             |  |   |                        |                    | Y1                | Y2    | Y3    | Y4    | Y5    | Y1                               | Y2 | Y3  | Y4  | Y5  | Lead           | Support                               |
| 7.1 Expand and grow revenue | Lobby for increased exchequer funding                                  | Recurrent   | Amount received in Ksh | 21613              | 3307              | 3666  | 4216  | 4848  | 5576  | 4                                | 4  | 4   | 5   | 5   | DCS            | DD FA                                 |
|                             |  | Research grants                                     | Amount received in Ksh | 3,052              | 500               | 550   | 605   | 665   | 732   |                                  |    |     |     |     | DCS            | DD FA                                 |
|                             |  | Development grant                                   | Amount received in Ksh | 1,528              | 100               | 200   | 371   | 408   | 449   |                                  |    |     |     |     | DCS            | DD FA                                 |
|                             | Increased corporate research grant application (NRF, Sports Fund etc.) | Enhanced corporate research grants                  | Amount received in Ksh | 1,900              | 300               | 300   | 400   | 400   | 500   | 3                                | 3  | 3   | 3.5 | 3.5 | DRD            | DD Centres                            |
|                             | Increase external research grant                                       | Enhanced research grants                            | Amount received in Ksh | 39,383             | 6,451             | 7,096 | 7,805 | 8,586 | 9,445 | 20                               | 22 | 25  | 28  | 30  | DRD            | DD Centres                            |
|                             | Lobby for external infrastructure development grants                   | Enhanced research infrastructure development grants | Amount received in Ksh | 3600               | 400               | 800   | 800   | 800   | 800   | 5                                | 5  | 5   | 5   | 5   | DG             | DD Centres                            |
|                             | Research overheads   | Increased research overheads                        | Amount received in Ksh | 2968               | 486               | 535   | 588   | 647   | 712   | 3                                | 3  | 4   | 4   | 5   | DRD            | DD Centres                            |
|                             | Commercial Enterprises   | Increased revenues                                  | Amount received in Ksh | 590                | 94                | 104   | 115   | 126   | 151   | 22                               | 26 | 31  | 37  | 45  | DCS            | DD Commercial                         |
|                             | Graduate school  | Increased revenues                                  | Amount received in Ksh | 94                 | 17                | 17    | 18    | 20    | 22    | 5                                | 5  | 5.5 | 6   | 6   | DRCB           | DD Training program & trainee welfare |



| Strategies                         | Strategic Activities   | Expected Output                                 | Output Indicator                                 | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |     |     |      |      | Responsibility |                                  |
|------------------------------------|--|---|--|--------------------|-------------------|----|----|----|----|----------------------------------|-----|-----|------|------|----------------|----------------------------------|
|                                    |  |   |  |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2  | Y3  | Y4   | Y5   | Lead           | Support                          |
|                                    | Corporate consultancy services DNA/ SERU/ Attachment                         | Increased revenues                              | Amount received in Ksh                           | 58                 | 10                | 10 | 11 | 13 | 14 | 3                                | 3   | 3.3 | 3.9  | 4.2  | DRD/ DCS       | DD Centres / Heads of programmes |
|                                    | Patient services (staff clinics)   | Increased revenues                              | Amount received in Ksh                           | 30                 | 3                 | 5  | 7  | 7  | 8  | 0.9                              | 1.5 | 2.1 | 2.1  | 2.4  | DRD/ DCS       | DD Centres / Heads of programmes |
|                                    | Specialized laboratory services  | Increased revenues                              | Amount received in Ksh                           | 22                 | 2                 | 5  | 5  | 5  | 5  | 0.6                              | 1.5 | 1.5 | 1.5  | 1.5  | DRD/ DCS       | DD Centres / Heads of programmes |
|                                    | Catering services (CCR/ CPHR)  | Increased revenues                              | Amount received in Ksh                           | 35                 | 5                 | 6  | 7  | 8  | 9  | 1.5                              | 1.8 | 2.1 | 2.4  | 2.7  | DRD/ DCS       | DD Centres / Heads of programmes |
|                                    | Food handler's certification and lab services                                | Increased revenue                               | Amount received in Ksh                           | 51                 | 9                 | 9  | 10 | 11 | 12 | 2.7                              | 2.7 | 3   | 3.3  | 3.6  | DRD/ DCS       | DD Centres / Heads of programmes |
|                                    | Rent and hire of facilities  | Increased revenues                              | Amount received in Ksh                           | 168                | 30                | 30 | 33 | 36 | 39 | 9                                | 9   | 9.9 | 10.8 | 11.7 | DCS            | DD Centres / Heads of programmes |
| 7.2 Implement cost saving measures | Carry out energy audit and Implement recommendations                         | Adoption of best practices in energy management | Energy audit conducted and implementation        | 1                  | 1                 |    |    |    |    | 3                                |     |     |      |      | DCS            | DD Admin                         |
|                                    | Adopt water saving technologies in the Institute (Install water tap sensors) | Reduced cost of operations                      | Amount saved (KES)                               | 4                  |                   | 1  | 1  | 1  | 1  |                                  | 2   | 2   | 0.1  | 0.1  | DCS            | DD Admin                         |
|                                    | Pool maintenance contracts for similar equipment                             | Contracts with vendors                          | Amount saved from service contracts signed (KES) | 20                 | 3                 | 3  | 4  | 5  | 5  |                                  |     |     |      |      | HOD SCM        | Senior SCM Officers              |

| Strategies                               | Strategic Activities   | Expected Output                                       | Output Indicator                                    | Target for 5 years | Targets/ Timeline |     |     |     |     | Estimated Budget in KES Millions |     |     |     |     | Responsibility |                                       |
|--|--|---|---|--------------------|-------------------|-----|-----|-----|-----|----------------------------------|-----|-----|-----|-----|----------------|---------------------------------------|
|  |  |   |   |                    | Y1                | Y2  | Y3  | Y4  | Y5  | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support                               |
|  | Adopt paperless transaction in internal processes                                      | Digitized internal processes                          | Amount saved (KES)                                  | 18                 | 3                 | 3   | 4   | 4   | 4   | 0.6                              | 0.6 | 0.8 | 0.8 | 0.8 | HOD SCM        | DD Admin                              |
|  | Conduct market survey and implement market prices in procurement of goods and services | Market survey report                                  | Amount saved (KES)                                  | 8                  |                   | 2   | 2   | 2   | 2   |                                  | 0.8 | 0.8 | 0.8 | 1   | HOD SCM        | Senior SCM Officers                   |
|  | Undertake bulk procurement of common user items  | Bulk Procurement undertaken                           | Amount saved (KES)                                  | 15                 | 3                 | 3   | 3   | 3   | 3   | 0.3                              | 0.3 | 0.3 | 0.5 | 0.5 | HOD SCM        | DD Admin                              |
| 7.3 Institute Public Private Partnership | Engage Public Private partnerships   | Signed agreements                                     | Amount received from PPP (KES)                      | 15                 | 3                 | 3   | 3   | 3   | 3   | 0.8                              | 0.8 | 1   | 1   | 1   | DSPG M         | Head of partnership                   |
|  | Engage local philanthropists   | Signed agreements                                     | Amount received from local financiers engaged (KES) | 5                  | 1                 | 1   | 1   | 1   | 1   | 0.5                              | 0.5 | 0.5 | 0.5 | 0.5 | DSPG M         | Head of partnership                   |
|  | Set up endowment fund  | Signed agreements                                     | Amount received (KES)                               | 750                | 50                | 100 | 150 | 200 | 250 | 0.8                              | 0.8 | 1   | 1   | 1   | DSPG M         | Head of partnership                   |
| 7.4 Strengthen resource mobilization     | Develop and implement resource mobilization strategy                                   | Resource mobilization strategy developed and approved | Approved Resource mobilization strategy             | 1                  | 1                 |     |     |     |     | 1.2                              |     |     |     |     | DSPG M         | Head of programs & Head of grants mgt |
|  | Build capacity for scientists in grant writing   | Staff trained   | No of staff trained                                 | 180                | 36                | 36  | 36  | 36  | 36  | 4                                | 4   | 4   | 4.5 | 5   | DSPG M         | Head of programs & Head of grants mgt |

| Strategies  | Strategic Activities   | Expected Output                                     | Output Indicator | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |      |      |      |       | Responsibility |                  |  |
|---|--|---|------------------|--------------------|-------------------|----|----|----|----|----------------------------------|------|------|------|-------|----------------|------------------|--|
|   |  |   |                  |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2   | Y3   | Y4   | Y5    | Lead           | Support          |  |
| <b>Sub-Totals</b>   |  |   |                  |                    |                   |    |    |    |    |                                  | 79.9 | 88.5 | 99.5 | 110.9 | 123.5          | 502.3            |  |
| <b>KRA 6: Institutional Strengthening</b><br><b>Outcome:</b> Operational efficiency and effectiveness<br><b>Strategic Objectives 8:</b> To Reengineer Internal Business processes |  |   |                  |                    |                   |    |    |    |    |                                  |      |      |      |       |                |                  |  |
| 8.1 Review and streamline internal business processes   | Map out current Institution business processes as- is and evaluate their effectiveness | Institution business processes mapped and evaluated | Report           | 1                  |                   | 1  |    |    |    |                                  | 2.2  |      |      |       | DCS            | DD ICT/ DD Admin |  |
|   | Assess and analyze institutional business processes to identify pitfalls               | Assessment done                                     | Report           | 1                  |                   | 1  |    |    |    |                                  | 1.5  |      |      |       | DCS            | DD ICT/ DD Admin |  |
|   | Identify and validate improvement opportunities for the Institute's processes          | Improvements validated and documented               | Report           | 1                  |                   | 1  |    |    |    |                                  | 0.5  |      |      |       | DCS            | DD ICT/ DD Admin |  |
|   | Design, document and develop TO-BE processes   | To be processes designed                            | Report           | 1                  |                   | 1  |    |    |    |                                  | 0.5  |      |      |       | DCS            | DD ICT/ DD Admin |  |
|   | Sensitize staff on TO-BE processes for ownership                                       | Staff sensitized on TO-BE processes                 | Report           | 1                  |                   | 1  |    |    |    |                                  | 0.5  |      |      |       | DCS            | DD ICT/ DD Admin |  |
|   | Monitor and evaluate the implementation of redesigned processes and assess impacts     | Implementation of redesigned processes monitored    | Report           | 1                  |                   |    | 1  |    |    |                                  |      |      | 1.5  |       | DCS            | DD ICT/ DD Admin |  |

| Strategies   | Strategic Activities                                      | Expected Output  | Output Indicator                            | Target for 5 years | Targets/ Timeline |     |      |      |      | Estimated Budget in KES Millions |     |     |     |     | Responsibility |           |
|--|---|--|---|--------------------|-------------------|-----|------|------|------|----------------------------------|-----|-----|-----|-----|----------------|-----------|
|  |   |  |   |                    | Y1                | Y2  | Y3   | Y4   | Y5   | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support   |
| 8.2 Improve fleet management                           | Acquire additional fleet                                  | Additional fleet   | No of vehicles acquired                     | 30                 | 4                 | 6   | 6    | 8    | 8    | 24                               | 42  | 42  | 56  | 56  | DCS            | DD Admin  |
|  | Automate fleet management system                          | Fleet management system deployed                         | Quarterly reports                           | 20                 | 4                 | 4   | 4    | 4    | 4    | 1                                | 1   | 1   | 1   | 1   | DCS            | DD Admin  |
|  | Equip and operationalize motor vehicle maintenance garage | motor vehicle maintenance garage operationalized         | Quarterly reports                           | 16                 |                   | 4   | 4    | 4    | 4    |                                  | 10  | 8   | 8   | 8   | DCS            | DD Admin  |
|  | Install motor vehicle tracking systems                    | Motor vehicle tracking systems installed in all vehicles | No of vehicles installed                    | 120                |                   |     | 50   | 50   | 20   |                                  |     | 5   | 5   | 2.5 | DCS            | DD Admin  |
| 8.3 Strengthen records management systems              | Digitize and automate records management                  | Records Management digitized and automated               | Level of automation (%)                     | 100%               | 40%               | 80% | 100% | 100% | 100% | 12                               | 8   | 8   | 5   | 5   | DCS            | DD Admin  |
|  | Establish and maintain a secret registry                  | Secret registry established                              | Secret registry established                 | 1                  | 1                 |     |      |      |      | 4.5                              |     |     |     |     | DCS            | DD Admin  |
| 8.4 Strengthen statutory compliance and legal services | Carry out biennial Legal and Compliance Audit Audits      | Legal and Compliance Audits conducted                    | No of legal and compliance audits conducted | 2                  |                   | 1   |      | 1    |      |                                  | 4   |     | 5   |     | DLCS           | HOD Legal |
|  | Draft KEMRI Bill  | KEMRI Bill processed through relevant stages             | KEMRI Act of parliament                     | 1                  | 1                 |     |      |      |      | 7                                | 7   |     |     |     | DLCS           | HOD Legal |
|  | Automate Board processes                                  | Automated Board processes                                | % level of automation                       | 100                | 100               | 100 | 100  | 100  | 100  | 3                                | 0.2 | 0.2 | 0.2 | 0.2 | DLCS           | HOD Legal |

| Strategies | Strategic Activities   | Expected Output  | Output Indicator                                  | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |    |    |    |    | Responsibility |           |
|------------|--|--|---|--------------------|-------------------|----|----|----|----|----------------------------------|----|----|----|----|----------------|-----------|
|            |  |  |   |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2 | Y3 | Y4 | Y5 | Lead           | Support   |
|            | Undertake governance audits  | Audits conducted   | No of audits                                      | 2                  |                   | 1  |    |    | 1  |                                  |    | 7  |    | 7  | DLCS           | HOD Legal |
|            | Develop policy documents and tools relevant to the Data Protection Act (DPA)   | Data Protection Policy   | Policy document                                   | 1                  | 1                 |    |    |    |    | 0.5                              |    |    |    |    | DLCS           | HOD Legal |
|            |  | data protection impact assessment tool   | Tool  | 1                  | 1                 |    |    |    |    | 0.5                              |    |    |    |    | DLCS           | HOD Legal |
|            | Appoint a data protection officer  | A data protection officer appointed  | Appointment letter                                | 1                  |                   |    |    |    |    |                                  |    |    |    |    | DG             | HOD Legal |
|            | Align whistle blower policy with DPA   | Whistle blowing policy aligned with DPA  | Revised whistle blowing policy                    | 1                  |                   | 1  |    |    |    |                                  | 2  |    |    |    | DLCS           | HOD Legal |
|            | Align KEMRI research policy with DPA   | KEMRI research policy aligned with DPA   | KEMRI research policy aligned                     | 1                  |                   | 1  |    |    |    |                                  | 2  |    |    |    | DLCS           | HOD Legal |
|            | Develop data access and retention policy for management of administrative data | Data access and retention policy for management of administrative data developed | Data access and retention policy                  | 1                  |                   |    | 1  |    |    |                                  | 2  |    |    |    | DLCS           | HOD Legal |
|            | Appoint of data protection committee   | Data protection committee appointed  | Committee appointed                               | 1                  | 1                 |    |    |    |    |                                  |    |    |    |    | DLCS           | HOD Legal |
|            | Establish of a data protection internal dispute resolution mechanism           | Data protection internal dispute resolution mechanism established                | Internal dispute resolution mechanism established | 1                  | 1                 |    |    |    |    |                                  |    |    |    |    | DLCS           | HOD Legal |
|            | Review case management strategies  | Case management strategies   | Case management strategies                        | 1                  |                   | 1  |    |    |    |                                  | 1  |    |    |    | DLCS           | HOD Legal |

| Strategies                                  | Strategic Activities   | Expected Output                                | Output Indicator  | Target for 5 years | Targets/ Timeline |     |     |     |     | Estimated Budget in KES Millions |     |     |     |     | Responsibility     |                         |
|---|--|--|---|--------------------|-------------------|-----|-----|-----|-----|----------------------------------|-----|-----|-----|-----|--------------------|-------------------------|
|   |  |  |   |                    | Y1                | Y2  | Y3  | Y4  | Y5  | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead               | Support                 |
|   |  |  | approved and operational                                |                    |                   |     |     |     |     |                                  |     |     |     |     |                    |                         |
| 8.5 Streamline finance management processes | Sensitize staff on finance Laws, policies and guidelines       | Staff sensitized                               | No of staff sensitized                                  | 750                | 150               | 150 | 150 | 200 | 200 | 1                                | 1   | 1.5 | 1.5 | 2   | DCS                | HOD HR                  |
|   | Strengthen financial control measures                          | Control measures implemented                   | No of qualified audit opinion                           | 0                  | 0                 | 0   | 0   | 0   | 0   | 0.5                              | 0.5 | 0.5 | 0.7 | 0.7 | HOD Internal Audit | Internal Audit Officers |
|   | Decentralize finance services and functions (Kisumu and Busia) | Finance functions decentralized to Centres     | No of Centres with fully decentralized finance function | 2                  | 1                 |     | 1   |     |     | 1                                |     | 1   |     |     | DCS                | HOD F&A                 |
|   | Review and fully automate financial processes                  | Processes reviewed and automated               | Annual Reports  | 5                  | 1                 | 1   | 1   | 1   | 1   | 1                                | 1   | 1.5 | 1.5 | 2   |                    |                         |
| 8.6 Improve Supply Chain Management         | Maintain and update inventory of assets                        | Asset inventory updated                        | Quarterly reports                                       | 20                 | 4                 | 4   | 4   | 4   | 4   | 1                                | 1   | 1   | 1   | 1   | HOD SCM            | Senior SCM Officers     |
|   | Develop and implement Asset and disposal policy                | Asset disposal policy approved and operational | Quarterly reports                                       | 20                 | 4                 | 4   | 4   | 4   | 4   | 1                                | 1   | 1.5 | 1.5 | 2   | HOD SCM            | Senior SCM Officers     |
|   | Hold supplier engagement forums                                | Supplier engagement forums held                | No of supplier engagement forums held                   | 1                  | 1                 | 1   | 1   | 1   | 1   | 0.3                              | 0.4 | 0.5 | 0.6 | 0.7 | HOD SCM            | Senior SCM Officers     |
|   | Establish warehouses for storage of                            | Warehouses established                         | No of warehouses  | 3                  | 1                 | 1   | 1   |     |     | 7                                | 7   | 7   |     |     | HOD SCM            | Senior SCM Officers     |

| Strategies                             | Strategic Activities  | Expected Output  | Output Indicator                            | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |     |     |     |     | Responsibility |                     |
|--|---|--|---|--------------------|-------------------|----|----|----|----|----------------------------------|-----|-----|-----|-----|----------------|---------------------|
|  |   |  |   |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support             |
|  | equipment and materials   |  |   |                    |                   |    |    |    |    |                                  |     |     |     |     |                |                     |
|  | Tag assets using RFID   | Asset tagged   | Annual reports                              | 5                  | 1                 | 1  | 1  | 1  | 1  | 1                                | 1   | 1   | 1   | 1   | HOD SCM        | Senior SCM Officers |
| 8.7 Strengthen corporate communication | Implement corporate communications policy and procedures  | Corporate communications policy developed and approved | Quarterly reports                           | 20                 | 4                 | 4  | 4  | 4  | 4  | 2                                | 2   | 2   | 2   | 2   | DCS            | HOD Corp Comm       |
|  | Develop and implement communications strategy (2023-2027)   | Communications strategy developed and approved         | Quarterly reports                           | 20                 | 4                 | 4  | 4  | 4  | 4  | 2                                | 2   | 2   | 2   | 2   | DCS            | HOD Corp Comm       |
|  | Establish media platform for research information sharing   | Media platforms establish                              | No. of platforms established                | 5                  | 1                 | 1  | 1  | 1  | 1  | 4                                | 4   | 4   | 4   | 4   | DCS            | HOD Corp Comm       |
|  | Translate research and scientific information into user-friendly IEC materials for the general public and media | User-friendly IEC materials for the public and media   | No of IEC material developed                | 5                  | 1                 | 1  | 1  | 1  | 1  | 6                                | 6   | 6   | 6   | 6   | DCS            | HOD Corp Comm       |
|  |   | Disability access materials developed                  | No of disability access materials developed | 5                  | 1                 | 1  | 1  | 1  | 1  | 2                                | 2   | 2   | 2   | 2   | DCS            | HOD Corp Comm       |
|  | Build capacity of staff and students in communication and media engagement                                      | Staff and students trained                             | No of trainings conducted                   | 10                 | 2                 | 2  | 2  | 2  | 2  | 1                                | 1   | 1   | 1   | 1   | DCS            | HOD Corp Comm       |
|  | Enhance visibility through  | Bulletins developed                                    | No of bulletins                             | 180                | 36                | 36 | 36 | 36 | 36 | 0.4                              | 0.4 | 0.4 | 0.4 | 0.4 | DCS            | HOD Corp Comm       |

| Strategies | Strategic Activities   | Expected Output  | Output Indicator                         | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |    |    |    |    | Responsibility |               |
|------------|--|--|--|--------------------|-------------------|----|----|----|----|----------------------------------|----|----|----|----|----------------|---------------|
|            |  |  |  |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2 | Y3 | Y4 | Y5 | Lead           | Support       |
|            | dissemination of major research milestones   | Print media Publications                                       | No of Printed Publication                | 20                 | 4                 | 4  | 4  | 4  | 4  | 2                                | 2  | 2  | 2  | 2  | DCS            | HOD Corp Comm |
|            |  | Documentaries  | No of documentaries                      | 5                  | 1                 | 1  | 1  | 1  | 1  | 3                                | 3  | 3  | 3  | 3  | DCS            | HOD Corp Comm |
|            |  | Newspaper supplements  | No newspaper supplements                 | 1                  | 1                 | 1  | 1  | 1  | 1  | 3                                | 3  | 3  | 3  | 3  | DCS            | HOD Corp Comm |
|            | Enhance Institute social media presences for visibility  | Social media activities  | No of social media activities undertaken | 10                 | 10                | 10 | 10 | 10 | 10 | 4                                | 4  | 4  | 4  | 4  | DCS            | HOD Corp Comm |
|            | Use available technology such as Virtual Reality (VR) VR & Artificial Intelligence (AI) to reach all intended public | Virtual Reality (VR) VR & Artificial Intelligence (AI) adopted | Quarterly Reports                        | 20                 | 4                 | 4  | 4  | 4  | 4  | 10                               | 10 | 10 | 10 | 10 | DCS            | HOD Corp Comm |
|            | Engage in Corporate Social Responsibility activities   | CSR activities conducted                                       | No of CSR activities undertaken          | 20                 | 4                 | 4  | 4  | 4  | 4  | 12                               | 12 | 12 | 12 | 12 | DCS            | HOD Corp Comm |
|            | Develop and implement the corporate Branding policy  | Policy reviewed and approved                                   | Approved policy                          | 1                  | 1                 | 1  | 1  | 1  | 1  | 1                                | 1  | 1  | 1  | 1  | DCS            |               |
|            | Develop and implement corporate branding strategy  | Strategy developed and approved                                | Quarterly reports                        | 20                 | 4                 | 4  | 4  | 4  | 4  | 5                                | 5  | 5  | 5  | 5  | DCS            | HOD Corp Comm |



| Strategies  | Strategic Activities  | Expected Output                                      | Output Indicator                                 | Target for 5 years | Targets/ Timeline |      |      |      |      | Estimated Budget in KES Millions |              |              |              |              | Responsibility |               |
|---|---|--|--|--------------------|-------------------|------|------|------|------|----------------------------------|--------------|--------------|--------------|--------------|----------------|---------------|
|   |   |  |  |                    | Y1                | Y2   | Y3   | Y4   | Y5   | Y1                               | Y2           | Y3           | Y4           | Y5           | Lead           | Support       |
|   | Develop Media Monitoring and trend analytics system to measure impact | Media monitoring and trend analytic system developed | Quarterly Reports                                | 20                 | 4                 | 4    | 4    | 4    | 4    | 1                                | 1            | 1            | 1            | 1            | DCS            | HOD Corp Comm |
|   | Develop and sustain automated customer experience system              | Automated customer experience developed              | Quarterly Reports                                | 20                 | 4                 | 4    | 4    | 4    | 4    | 1                                | 1            | 1            | 1            | 1            | DCS            | HOD Corp Comm |
|   | Review and monitor compliance with Institute service delivery charter | Service delivery charted reviewed and approved       | Quarterly compliance reports                     | 20                 | 4                 | 4    | 4    | 4    | 4    | 0.8                              | 0.8          | 1            | 1            | 1.2          | DCS            | DD Corp Comm  |
|   | Carry out customer satisfaction survey                                | Customer satisfaction survey conducted               | Customer satisfaction survey reports             | 3                  | 1                 |      | 1    |      | 1    | 3                                |              | 3.1          |              | 3.3          | DCS            | DD Corp Comm  |
|   | Establish mechanisms for addressing customer/public complaints        | Customer/public complaints documented and resolved   | Proportion of complaints documented and resolved | 100%               | 100%              | 100% | 100% | 100% | 100% | 0.2                              | 0.2          | 0.3          | 0.3          | 0.4          | DCS            | DD Corp Comm  |
| <b>Sub Totals</b>   |   |  |  |                    |                   |      |      |      |      | <b>128.2</b>                     | <b>129.5</b> | <b>142.8</b> | <b>133.8</b> | <b>143.5</b> | <b>677.8</b>   |               |
| <b>Strategic Objectives 9: To Build Institutional Human Capital</b>                   |   |  |  |                    |                   |      |      |      |      |                                  |              |              |              |              |                |               |
| 9.1 Attract, engage and retain highly skilled, diverse, inclusive and motivated staff | Recruit and deploy competent staff                                    | Staff recruited and deployed                         | No of staff in post                              | 1977               | 939               | 1124 | 1364 | 1614 | 1977 | 3080                             | 3375         | 3679         | 3879         | 4179         | DCS            | HOD HR        |
|   | Carry out employee  | Employee induction and engagement framework          | No of induction programmes                       | 10                 | 2                 | 2    | 2    | 2    | 2    | 2                                | 2            | 2            | 2            | 2            | DCS            | HOD HR        |

| Strategies                          | Strategic Activities  | Expected Output                                 | Output Indicator                             | Target for 5 years | Targets/ Timeline |     |     |     |     | Estimated Budget in KES Millions |     |     |     |     | Responsibility |         |
|-------------------------------------|---|---|--|--------------------|-------------------|-----|-----|-----|-----|----------------------------------|-----|-----|-----|-----|----------------|---------|
|                                     |   |   |  |                    | Y1                | Y2  | Y3  | Y4  | Y5  | Y1                               | Y2  | Y3  | Y4  | Y5  | Lead           | Support |
|                                     | induction programmes  |   |  |                    |                   |     |     |     |     |                                  |     |     |     |     |                |         |
|                                     | Carry out team Building activities  | Team building activities conducted              | No of team building activities               | 25                 | 5                 | 5   | 5   | 5   | 5   | 5                                | 5   | 5   | 5   | 5   | DCS            | HOD HR  |
|                                     | Develop and integrate employee wellness programs                          | Employee wellness programs implemented          | No employee wellness programs approved       | 10                 | 2                 | 2   | 2   | 2   | 2   | 3                                | 3   | 3   | 3   | 3   | DCS            | HOD HR  |
|                                     | Review and harmonize staff salaries and allowances                        | Salaries and allowances reviewed and harmonized | Approved letter                              | 1                  | 1                 |     |     |     |     | 4                                |     |     |     |     | DCS            | HOD HR  |
|                                     | Provide comprehensive medical cover                                       | Staff medical cover in place                    | Contract Signed                              | 5                  | 1                 | 1   | 1   | 1   | 1   | 180                              | 207 | 238 | 273 | 314 | DCS            | HOD HR  |
|                                     | Implement mortgage and car loan policies                                  | Mortgage and car loan policies implemented      | Proportion (%) of staff benefiting           | 50%                | 10%               | 20% | 30% | 40% | 50% | 150                              | 200 | 250 | 300 | 400 | DCS            | HOD HR  |
|                                     | Develop and implement a succession and retention plan                     | Succession planning strategy developed          | Annual reports on implementation of the plan | 5                  | 1                 | 1   | 1   | 1   | 1   | 1                                | 0.5 | 0.5 | 0.5 | 0.5 | DCS            | HOD HR  |
| 9.2 Train and develop human capital | Carry out skills gap and training needs analysis and implement the report | Skills gap analysis and TNA conducted           | Report                                       | 3                  | 1                 |     | 1   |     | 1   | 2.5                              |     | 2.5 |     | 2.5 | DCS            | HOD HR  |

| Strategies  | Strategic Activities  | Expected Output   | Output Indicator                                    | Target for 5 years | Targets/ Timeline |     |      |      |      | Estimated Budget in KES Millions |    |      |      |    | Responsibility |         |
|---|---|---|---|--------------------|-------------------|-----|------|------|------|----------------------------------|----|------|------|----|----------------|---------|
|   |   |   |   |                    | Y1                | Y2  | Y3   | Y4   | Y5   | Y1                               | Y2 | Y3   | Y4   | Y5 | Lead           | Support |
|   |   | Staff trained based on skills gap analysis report         | No of staff trained                                 | 1384               | 657               | 787 | 955  | 1130 | 1384 | 25                               | 35 | 45   | 55   | 60 | DCS            | HOD HR  |
|   | Develop and implement human capital development plan                                    | Human capital plan developed and implemented              | % level of annual planned activities implementation | 100                | 100               | 100 | 100  | 100  | 100  | 6                                | 6  | 6    | 6    | 6  | DCS            | HOD HR  |
|   | Develop organizational culture and talent management strategy                           | Organizational culture strategy developed and implemented | % Annual planned activities implementation          | 100                | 100               | 100 | 100  | 100  | 100  | 4                                | 4  | 4    | 4    | 4  | DCS            | HOD HR  |
|   | Partner with training and certification institutions for specialized skills development | Staff trained   | No. of staff trained                                | 320                | 60                | 60  | 60   | 70   | 70   | 18                               | 18 | 18   | 21   | 21 | DCS            | HOD HR  |
|   | Develop and implement leadership and governance programmes                              | Leadership and governance program                         | No of staff trained                                 | 350                | 50                | 60  | 70   | 80   | 90   | 4                                | 4  | 4    | 4    | 4  | DCS            | HOD HR  |
| 9.3 Align performance management system to the institute strategic objectives | Review and develop integrated Results Based Performance Management System               | Automated RBPMS   | % of automation                                     | 70%                | 80%               | 90% | 100% | 100% | 100% | 1                                | 1  | 0.25 | 0.25 | 3  | DCS            | HOD HR  |

| Strategies                        | Strategic Activities  | Expected Output                                      | Output Indicator  | Target for 5 years | Targets/ Timeline |     |     |     |     | Estimated Budget in KES Millions |    |    |    |    | Responsibility |         |
|-----------------------------------|---|--|---|--------------------|-------------------|-----|-----|-----|-----|----------------------------------|----|----|----|----|----------------|---------|
|                                   |   |  |   |                    | Y1                | Y2  | Y3  | Y4  | Y5  | Y1                               | Y2 | Y3 | Y4 | Y5 | Lead           | Support |
|                                   | Build capacity of staff on performance management                   | Staff trained  | No of staff trained   | 10                 | 250               | 250 | 250 | 250 | 250 | 3                                | 3  | 3  | 3  | 3  | DCS            | HOD HR  |
|                                   | Develop programmes for coaching, counselling and mentoring of staff | Coaching and mentorship framework developed          | No of coaches and mentees in the program                              | 100                | 20                | 20  | 20  | 20  | 20  | 3                                | 3  | 3  | 3  | 3  | DCS            | HOD HR  |
|                                   | Provide tools and resources necessary for timely service delivery   | Working tools and resources provided                 | Reports on no of working tools and resources procured and distributed | 5                  | 1                 | 1   | 1   | 1   | 1   | 50                               | 50 | 40 | 30 | 30 | DCS            | HOD HR  |
|                                   | Establish and implement a reward and sanction framework             | Reward and sanction framework developed and approved | Annual reports on reward and sanctioning                              | 5                  | 1                 | 1   | 1   | 1   | 1   | 4                                | 4  | 4  | 4  | 4  | DCS            | HOD HR  |
| 9.4 Strengthen employee relations | Hold employee engagement forums                                     | Employee engagement forums conducted                 | No of employee engagement forums conducted                            | 10                 | 2                 | 2   | 2   | 2   | 2   | 1                                | 1  | 1  | 1  | 1  | DCS            | HOD HR  |
|                                   | Conduct employee satisfaction and workplace environment surveys     | Employee satisfaction survey conducted               | % satisfaction  |                    |                   | 70% |     | 80% |     |                                  | 3  |    | 3  |    | DCS            | HOD HR  |

| Strategies  | Strategic Activities                                  | Expected Output                                      | Output Indicator                        | Target for 5 years | Targets/ Timeline |     |     |      |      | Estimated Budget in KES Millions |               |                |                |               | Responsibility  |                 |
|---|---|--|---|--------------------|-------------------|-----|-----|------|------|----------------------------------|---------------|----------------|----------------|---------------|-----------------|-----------------|
|   |   |  |   |                    | Y1                | Y2  | Y3  | Y4   | Y5   | Y1                               | Y2            | Y3             | Y4             | Y5            | Lead            | Support         |
|   | Develop employee assistance programmes                | Employee assistance programme developed              | Quarterly reports on employees assisted | 20                 | 4                 | 4   | 4   | 4    | 4    | 1                                | 1             | 1              | 1              | 1             | DCS             | HOD HR          |
|   | Implement disability mainstreaming programmes         | Disability mainstreaming strategies implemented      | Quarterly reports                       | 20                 | 4                 | 4   | 4   | 4    | 4    | 1                                | 1             | 1              | 1              | 1             | DCS             | HOD HR          |
|   | Implement gender mainstreaming programmes             | Gender mainstreaming strategies implemented          | Quarterly reports                       | 20                 | 4                 | 4   | 4   | 4    | 4    | 1                                | 1             | 1              | 1              | 1             | DCS             | HOD HR          |
| 9.5 Review Organizational Design  | Review of staff establishments and grading structure  | Approved staff establishment and grading structure   | Document                                | 1                  | 1                 |     |     |      |      | 2                                |               |                |                |               | DCS             | HOD HR          |
|   | Review career progression guidelines                  | Approved career progression guidelines               | Document                                | 1                  | 1                 |     |     |      |      | 2                                |               |                |                |               | DCS             | HOD HR          |
|   | Review of human resource policy and procedures manual | Approved human resource policy and procedures manual | Document                                | 1                  | 1                 |     |     |      |      | 2                                |               |                |                |               | DCS             | HOD HR          |
| <b>Sub Totals</b>   |   |  |   |                    |                   |     |     |      |      | <b>3555.5</b>                    | <b>3927.5</b> | <b>4304.75</b> | <b>4593.25</b> | <b>5041.5</b> | <b>21,422.5</b> |                 |
| <b>Strategic Objectives 10: To Establish and Upgrade Infrastructure</b> |   |  |   |                    |                   |     |     |      |      |                                  |               |                |                |               |                 |                 |
| 11.1 Construct, upgrade and equip research infrastructure               | Construct research facilities in Kwale                | Research facilities constructed                      | % level of completion                   | 100%               | 14%               | 20% | 75% | 100% |      | 50                               | 100           | 100            | 100            |               | DCS<br>DRD      | HOD Eng & Maint |
|   | Establish research and                                | Research facilities constructed                      | % level of completion                   | 100%               | 17%               | 50% | 67% | 83%  | 100% | 100                              | 100           | 100            | 100            | 100           | DCS<br>DRD      | HOD Eng & Maint |

| Strategies | Strategic Activities  | Expected Output   | Output Indicator      | Target for 5 years | Targets/ Timeline |     |      |      |       | Estimated Budget in KES Millions |         |         |         |         | Responsibility  |                 |
|------------|---|---|-----------------------|--------------------|-------------------|-----|------|------|-------|----------------------------------|---------|---------|---------|---------|-----------------|-----------------|
|            |   |   |                       |                    | Y1                | Y2  | Y3   | Y4   | Y5    | Y1                               | Y2      | Y3      | Y4      | Y5      | Lead            | Support         |
|            | incubation facilities in Kirinyaga                                      |   |                       |                    |                   |     |      |      |       |                                  |         |         |         |         |                 |                 |
|            | Drill water borehole in KEMRI Kirinyaga, Taveta and Busia               | Boreholes drilled   | % level of completion | 3                  | 100%              |     |      |      |       |                                  | 15      |         |         |         | DCS<br>DRD      | HOD Eng & Maint |
|            | Construct multi-storey research and training facilities in Nairobi, CMR | Multi- storey research and training facilities in CMR constructed | % level of completion | 100 %              | 25 %              | 25% | 25%  | 25%  | 25%   | 30<br>0                          | 30<br>0 | 27<br>0 | 20<br>0 | 10<br>0 | DCS<br>DRD      | HOD Eng & Maint |
|            | Establish Sports Health Research facilities in KEMRI Uasin Gishu        | Sports Health Research facilities established                     | % level of completion | 100 %              |                   | 20% | 50 % | 75 % | 100 % | 10                               | 20<br>0 | 40<br>0 | 40<br>0 | 40<br>0 | DCS<br>&<br>DRD | HOD Eng & Maint |
|            | Install solar energy infrastructure in Nairobi, Kisumu and Busia        | Solar energy installed in HQ                                      | % level of completion | 100 %              |                   | 20% | 40 % | 60 % | 100 % |                                  | 50      | 70      | 10<br>0 | 50      | DCS<br>DRD      | HOD Eng & Maint |
|            | Establish research facilities in Taveta                                 | Research facilities designed and constructed                      | % level of completion | 100 %              |                   | 25% | 50 % | 75 % | 100 % |                                  | 25      | 50      | 50      | 30      | DCS             | HOD Eng & Maint |
|            | Upgrade research laboratories in Busia                                  | Laboratories in Busia upgraded                                    | % level of completion | 100 %              |                   | 25% | 50 % | 75 % | 100 % |                                  | 10      | 25      | 25      | 25      | DCS             | HOD Eng & Maint |
|            | Upgrade research laboratories in CRDR                                   | Laboratories in CRDR upgraded                                     | % level of completion | 100 %              |                   | 25% | 50 % | 75 % | 100 % |                                  | 50      | 50      | 10<br>0 | 10<br>0 | DCS             | HOD Eng & Maint |

| Strategies | Strategic Activities   | Expected Output  | Output Indicator      | Target for 5 years | Targets/ Timeline |     |       |       |       | Estimated Budget in KES Millions |     |     |     |    | Responsibility |                 |
|------------|--|--|-----------------------|--------------------|-------------------|-----|-------|-------|-------|----------------------------------|-----|-----|-----|----|----------------|-----------------|
|            |  |  |                       |                    | Y1                | Y2  | Y3    | Y4    | Y5    | Y1                               | Y2  | Y3  | Y4  | Y5 | Lead           | Support         |
|            | Enhance disability mainstreaming infrastructure (lifts, ramps, washrooms)                            | Disability mainstreaming washrooms Ramps & lifts enhanced  | % level of completion | 100 %              | 20%               | 40% | 50 %  | 75 %  | 100 % | 16                               | 20  | 25  | 15  | 20 | DCS            | HOD Eng & Maint |
|            | Construct and equip health and wellness center   | Health and wellness center constructed and equipped        | % level of completion | 100 %              |                   |     | 25 %  | 50 %  | 100 % |                                  |     | 50  | 100 | 50 | DCS & DRD      | HOD Eng & Maint |
|            | Rehabilitate access roads and drainage infrastructure in Nairobi Centers                             | Access roads and drainage infrastructure rehabilitated     | % level of completion | 100 %              |                   | 20% | 50 %  | 75 %  | 100 % |                                  | 20  | 50  | 25  | 25 | DCS & DRD      | HOD Eng & Maint |
|            | Upgrade animal house facility in Nairobi   | Animal house facility                                      | % level of completion | 100 %              | 10%               | 40% | 100 % | 5     | 20    | 20                               | 60  |     |     |    | DCS & DRD      | HOD Eng & Maint |
|            | Install security access control, emergency exits and surveillance systems in all KEMRI installations | Security access control and surveillance systems installed | % level of completion | 100 %              |                   | 50% | 75 %  | 100 % |       | 50                               | 40  | 40  |     |    | DCS & DRD      | HOD Eng & Maint |
|            | Install Liquid Nitrogen Plants in Nairobi and CGHR Kisumu  | Liquid nitrogen plants installed                           | % level of completion | 100 %              |                   | 50% | 100 % |       |       | 100                              | 100 |     |     |    | DCS & DRD      | HOD Eng & Maint |
|            | Design & construct Bio bank and cold   | Bio Bank and cold room facility designed & constructed     | % level of completion | 100 %              | 50                | 80  | 80    | 27    |       | 50                               | 150 | 150 | 100 | 50 | DCS & DRD      | HOD Eng & Maint |

| Strategies | Strategic Activities  | Expected Output   | Output Indicator      | Target for 5 years | Targets/ Timeline |     |      |       |       | Estimated Budget in KES Millions |       |       |       |       | Responsibility |                 |
|------------|---|---|-----------------------|--------------------|-------------------|-----|------|-------|-------|----------------------------------|-------|-------|-------|-------|----------------|-----------------|
|            |   |   |                       |                    | Y1                | Y2  | Y3   | Y4    | Y5    | Y1                               | Y2    | Y3    | Y4    | Y5    | Lead           | Support         |
|            | room facility in Nairobi  |   |                       |                    |                   |     |      |       |       |                                  |       |       |       |       |                |                 |
|            | Implement energy saving measures  | energy saving   | % level of completion | 100 %              |                   |     |      | 50 %  | 100 % |                                  |       |       | 15 0  | 15 0  | DCS            | HOD Eng & Maint |
|            | Construct research and administration block at KEMRI HQ   | Research and administration block at KEMRI HQ constructed | % level of completion | 100 %              | 31%               | 63% | 75 % | 85 %  | 100 % | 775                              | 85 0  | 30 0  | 31 3  | 31 3  | DCS & DRD      | HOD Eng & Maint |
|            | Upgrade clinical trials and bioequivalence facilities in Nairobi  | Clinical trials and bioequivalence facilities constructed | % level of completion | 100%               | 25%               | 50% | 70 % | 90 %  | 100 % | 50                               | 50    | 40    | 40    | 20    | DCS & DRD      | HOD Eng & Maint |
|            | Upgrade research laboratories in Kisian Kisumu  | Laboratories upgrades and equipped                        | % level of completion | 100%               | 30%               | 60% | 75 % | 90 %  | 100 % | 30                               | 30    | 15    | 15    | 10    | DCS & DRD      | HOD Eng & Maint |
|            | Establish center of excellence in precision medicine  | Centre of excellence in in precision established          | % level of completion | 100%               | 47%               | 67% | 83 % | 100 % | 100 % | 30 1                             | 20 0  | 10 0  | 39    |       | DCS & DRD      | HOD Eng & Maint |
|            | Establish of center of excellence in stem cell research, synthetic biology and regenerative medicine in Nairobi | Stem cell research center of excellence established       | % level of completion | 100%               | 50%               | 70% | 80 % | 90 %  | 100 % | 15 0                             | 37. 5 | 37. 5 | 37. 5 | 37. 5 | DCS & DRD      | HOD Eng & Maint |



| Strategies   | Strategic Activities   | Expected Output                                    | Output Indicator                            | Target for 5 years | Targets/ Timeline |     |     |     |      | Estimated Budget in KES Millions |             |             |             |             | Responsibility |                 |
|--|--|--|---|--------------------|-------------------|-----|-----|-----|------|----------------------------------|-------------|-------------|-------------|-------------|----------------|-----------------|
|  |  |  |   |                    | Y1                | Y2  | Y3  | Y4  | Y5   | Y1                               | Y2          | Y3          | Y4          | Y5          | Lead           | Support         |
|  | Establish mental health research center                                    | Mental health Research center established          | % level of completion                       | 100%               | 0%                | 0%  | 50% | 75% | 100% |                                  |             | 100         | 50          | 50          | DCS & DRD      | HOD Eng & Maint |
|  | Strengthen Cancer registry   | Cancer registry strengthened                       | % level of completion                       | 100%               |                   |     | 50% | 75% | 100% |                                  |             | 100         | 50          | 50          | DCS & DRD      | HOD Eng & Maint |
|  | Construct P3 laboratories  | P3 laboratories                                    | % level of completion                       | 100%               | 1                 |     | 1   |     | 1    | 56                               | 84          | 82          | 29          | 29          | DCS & DRD      | HOD Eng & Maint |
|  | Established specialized human Nutrition Laboratory (food and biochemistry) | Specialized human Nutrition laboratory constructed | % level of completion                       | 100%               | 20%               | 50% | 70% | 90% | 100% | 20                               | 50          | 70          | 90          | 100         | DCS & DRD      | HOD Eng & Maint |
|  | Procure mobile laboratories  | Mobile laboratories procured                       | No of mobile laboratory procured and in use | 2                  |                   | 1   |     | 1   |      |                                  | 25          |             | 25          |             | DCS & DRD      | HOD Eng & Maint |
| <b>Sub Totals</b>  |  |  |   |                    |                   |     |     |     |      | <b>2068</b>                      | <b>2566</b> | <b>2224</b> | <b>2138</b> | <b>1659</b> | <b>10657</b>   |                 |
| <b>Strategic Objectives 11: Establish Resilient ICT System</b> |  |  |   |                    |                   |     |     |     |      |                                  |             |             |             |             |                |                 |
| 12.1 Upgrade ICT tools   | Acquire ICT equipment to increase the staff to computer ratio              | ICT equipment procured                             | % increase of staff issued with computers   | 100%               | 20%               | 40% | 60% | 80% | 100% | 15                               | 15          | 15          | 15          | 15          | DCS            | HOD ICT         |
|  | Set up and upgrade LAN and WAN   | LAN and WAN set up and upgraded                    | No of new centers set up and upgraded       | 15                 | 3                 | 3   | 3   | 3   | 3    | 6                                | 6           | 6           | 6           | 6           | DCS            | HOD ICT         |
|  | Upgrade existing server firm   | Server environment upgraded                        | % increase in the no of                     | 100%               |                   | 100 |     |     |      | 7                                |             |             |             |             | DCS            | HOD ICT         |

| Strategies                             | Strategic Activities  | Expected Output   | Output Indicator  | Target for 5 years | Targets/ Timeline |    |    |      |       | Estimated Budget in KES Millions |    |    |    |    | Responsibility |                               |
|--|---|---|---|--------------------|-------------------|----|----|------|-------|----------------------------------|----|----|----|----|----------------|-------------------------------|
|  |   |   |   |                    | Y1                | Y2 | Y3 | Y4   | Y5    | Y1                               | Y2 | Y3 | Y4 | Y5 | Lead           | Support                       |
|  | environment at primary site   |   | servers upgraded  |                    |                   |    |    |      |       |                                  |    |    |    |    |                |                               |
|  | Adopt software leases/frameworks contracts for maintenance of ICT equipment | Framework contract for end user equipment developed       | Signed contract   | 5                  | 1                 | 1  | 1  | 1    | 1     | 5                                | 5  | 5  | 5  | 5  | DCS            | HOD ICT                       |
|  | Set up a Library management Information Systems                             | Library Management Information Systems (LMIS) established | % level of completion                                       | 100 %              |                   |    |    | 60 % | 100 % |                                  |    |    | 5  | 5  | DCS            | HOD ICT                       |
|  | Set up alternate data center to support redundancy and resilience           | Data center established                                   | Contract signed   | 1                  |                   | 1  |    |      |       |                                  | 7  | 7  | 7  | 7  | DCS            | HOD ICT                       |
|  | Automate research protocol approval process                                 | Protocol approval process automated                       | Quarterly reports on protocols processed through the system | 20                 | 4                 | 4  | 4  | 4    | 4     | 5                                | 5  | 5  | 5  | 5  | DRD            | DD Centres / Heads of program |
|  | Deploy laboratory information management system                             | Laboratory information Management system deployed         | Contract signed and system deployed                         | 1                  |                   | 1  |    |      |       |                                  | 20 | 20 | 15 | 15 | DRD            | Head of SERU                  |
| 12.2 Achieve holistic cyber resilience | Procure and enhance end point security infrastructure                       | End point security infrastructure put in place            | Quarterly reports   | 20                 | 4                 | 4  | 4  | 4    | 4     | 6                                | 6  | 6  | 6  | 6  | DCS            | HOD ICT                       |

| Strategies                          | Strategic Activities   | Expected Output  | Output Indicator  | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |    |    |    |    | Responsibility |         |
|-------------------------------------|--|--|-------------------|--------------------|-------------------|----|----|----|----|----------------------------------|----|----|----|----|----------------|---------|
|                                     |  |  |                   |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2 | Y3 | Y4 | Y5 | Lead           | Support |
|                                     | Implement a Web Application Firewall for web facing applications         | Web Application Firewall for web facing applications implemented | Quarterly reports | 20                 | 4                 | 4  | 4  | 4  | 4  | 8                                | 8  | 8  | 8  | 8  | DCS            | HOD ICT |
|                                     | Implement a Database Activity Monitoring system                          | Database Activity Monitoring System installed                    | Quarterly reports | 20                 | 4                 | 4  | 4  | 4  | 4  | 8                                | 8  | 8  | 8  | 8  | DCS            | HOD ICT |
|                                     | Implement a Privileged Access Management system.                         | Privileged Access Management (PAM) system procured               | Quarterly reports | 20                 | 4                 | 4  | 4  | 4  | 4  | 6                                | 6  | 6  | 6  | 6  | DCS            | HOD ICT |
|                                     | Implement Security as a Service (SaaS)                                   | Security as a Service (SaaS) implemented                         | Quarterly reports | 20                 | 4                 | 4  | 4  | 4  | 4  | 5                                | 5  | 5  | 5  | 5  | DCS            | HOD ICT |
|                                     | Implement a Network Access Control (NAC) system                          | Network Access Control (NAC) system implemented                  | Quarterly reports | 20                 | 4                 | 4  | 4  | 4  | 4  | 6                                | 6  | 6  | 6  | 6  | DCS            | HOD ICT |
|                                     | Put in place a Business Continuity Management System (BCMS)              | ISO 22301 acquired and implemented                               | Certificate       | 1                  | 1                 | 1  | 1  | 1  | 1  | 2                                | 2  | 2  | 2  | 2  | DCS            | HOD ICT |
| 12.3 Initiate use of data analytics | Acquire data warehousing, data mining, analytics and visualization tools | Data analytics solutions implemented                             | Quarterly reports | 20                 | 4                 | 4  | 4  | 4  | 4  | 10                               | 10 | 10 | 10 | 10 | DCS            | HOD ICT |

| Strategies   | Strategic Activities  | Expected Output   | Output Indicator  | Target for 5 years | Targets/ Timeline |      |      |      |      | Estimated Budget in KES Millions |            |            |            |            | Responsibility |  |
|--|---|---|---|--------------------|-------------------|------|------|------|------|----------------------------------|------------|------------|------------|------------|----------------|--|
|  |   |   |   |                    | Y1                | Y2   | Y3   | Y4   | Y5   | Y1                               | Y2         | Y3         | Y4         | Y5         | Lead           | Support                                    |
|  | Institute strategic alliances with Institutions with robust systems in data analytics | MOUs signed with Institutions with robust systems in data analytics | No of MOUs signed with Institutions with robust systems in data analytics | 5                  | 1                 |      | 2    |      | 2    | 1                                |            | 2          |            | 2          | DCS            | HOD ICT                                    |
|  | Train staff on data literacy and data culture   | Staff trained on data literacy and data culture                     | No of employees sensitized  | 1500               | 100               | 200  | 300  | 400  | 500  | 2                                | 2          | 2          | 2          | 2          | DCS            | HOD ICT                                    |
| <b>Sub Totals</b>  |   |   |   |                    |                   |      |      |      |      | <b>92</b>                        | <b>111</b> | <b>113</b> | <b>111</b> | <b>113</b> | <b>540</b>     |  |
| <b>Strategic Objectives 12: Strengthen Planning, Monitoring and Evaluation</b> |   |   |   |                    |                   |      |      |      |      |                                  |            |            |            |            |                |  |
| 10.1 Mainstream planning, resource allocation and strategy execution           | Carry out Mid-term and end term review of the Strategic Plan                          | Medium term and end term reviews conducted                          | Reports   | 2                  |                   |      | 1    |      | 1    |                                  |            | 4          |            | 4          | DS&C           | Head of Strategy & Planning<br>Head of M&E |
|  | Identify policy gaps and develop/review Institute policies documents                  | Institute policies developed/reviewed                               | No of policies developed/reviewed   | 30                 | 5                 | 2    | 16   | 5    | 2    | 2                                | 2          | 4          | 3          | 3          | DS&C           | Head of Strategy & Planning                |
|  | Develop Institute Annual Work Plans (AWP)   | Approved annual work plans  | AWP plans developed   | 5                  | 1                 | 1    | 1    | 1    | 1    | 1                                | 1          | 1          | 1          | 1          | DSC            | Head of Strategy & Planning                |
|  | Implement annual Performance Contracting for all cadres                               | Annual Performance Contracting for all cadres implemented           | Proportion of staff with signed performance contracts                     | 100%               | 100%              | 100% | 100% | 100% | 100% | 5                                | 5          | 5          | 5          | 5          | DS&C           | Head of Strategy & Planning                |

| Strategies   | Strategic Activities  | Expected Output  | Output Indicator                    | Target for 5 years | Targets/ Timeline |     |     |     |     | Estimated Budget in KES Millions |    |     |     |     | Responsibility |                             |
|--|---|--|-------------------------------------|--------------------|-------------------|-----|-----|-----|-----|----------------------------------|----|-----|-----|-----|----------------|-----------------------------|
|  |   |  |                                     |                    | Y1                | Y2  | Y3  | Y4  | Y5  | Y1                               | Y2 | Y3  | Y4  | Y5  | Lead           | Support                     |
|  | Develop projects concept notes  | Concept notes developed and approved                                       | No of concept notes developed       | 10                 | 2                 | 2   | 2   | 2   | 2   | 3                                | 3  | 3   | 4   | 4   | DS&C           | Head of Strategy & Planning |
|  | Undertake feasibility studies for priority development projects       | Feasibility studies conducted  | No of feasibility studies conducted | 10                 | 2                 | 2   | 2   | 2   | 2   | 4                                | 4  | 5   | 5   | 5   | DS&C           | Head of Strategy & Planning |
|  | Track implementation of Institute flagship projects                   | flagship projects tracked and reported                                     | Quarterly reports                   | 20                 | 4                 | 4   | 4   | 4   | 4   | 1                                | 1  | 1   | 1   | 1   | DS&C           | Head of M&E                 |
| 10.2 Integrate monitoring and evaluation in programs and processes | Implementing the M&E Policy   | M&E Policy implemented   | Quarterly reports                   | 20                 | 4                 | 4   | 4   | 4   | 4   | 1                                | 1  | 1   | 1   | 1   | DS&C           | Head of M&E                 |
|  | Establish a robust and integrated Institute M&E System                | Robust and integrated Institute M&E system established                     | Quarterly reports                   | 20                 | 4                 | 4   | 4   | 4   | 4   | 2                                | 2  | 3   | 3   | 3   | DS&C           | Head of M&E                 |
|  | Monitor & evaluate implementation of research projects and programmes | Implementation of research projects and programmes monitored and evaluated | No projects /programmes evaluated   | 180                | 25                | 30  | 35  | 40  | 50  | 6                                | 8  | 9   | 11  | 13  | DS&C           | Head of M&E                 |
|  | Capacity build on M&E officers on end to end M&E system               | M&E officers capacity build on M&E system                                  | No of staff trained on M&E system   | 24                 | 5                 | 5   | 7   | 7   | 10  | 1                                | 1  | 1.2 | 1.2 | 1.5 | DS&C           | Head of M&E                 |
|  | Train and sensitize staff on  | Staff trained and sensitize on M&E   | No of staff trained and             | 840                | 150               | 150 | 170 | 170 | 200 | 2                                | 2  | 2   | 2   | 2   | DS&C           | Head of M&E                 |

| Strategies  | Strategic Activities   | Expected Output   | Output Indicator                           | Target for 5 years | Targets/ Timeline |    |    |    |    | Estimated Budget in KES Millions |           |             |             |             | Responsibility |                  |  |
|---|--|---|--|--------------------|-------------------|----|----|----|----|----------------------------------|-----------|-------------|-------------|-------------|----------------|------------------|--|
|   |  |   |  |                    | Y1                | Y2 | Y3 | Y4 | Y5 | Y1                               | Y2        | Y3          | Y4          | Y5          | Lead           | Support          |  |
|   | M&E framework, tools and system  | framework, tools and system   | sensitized on M&E                          |                    |                   |    |    |    |    |                                  |           |             |             |             |                |                  |  |
|   | Undertake M&E. benchmarking with local and international institutions and apply best practices | M&E. benchmarking with local and international institutions conducted | No of benchmarking conducted               | 5                  | 1                 | 1  | 1  | 1  | 1  | 1.5                              | 1.5       | 2           | 2           | 2           | DS&C           | Head of M&E      |  |
|   | Disseminate M&E reports  | M&E reports disseminated  | No of dissemination reports                | 20                 | 4                 | 4  | 4  | 4  | 4  | 1                                | 1         | 1           | 1           | 1           | DS&C           | Head of M&E      |  |
| 10.3 Improved quality assurance in research, product development and service delivery | Acquire and maintain ISO certifications and Accreditations                                     | ISO certified and accredited  | No. of ISO certifications & accreditations | 2                  | 2                 | 2  | 2  | 3  | 3  | 6                                | 6         | 6           | 6           | 6           | DCS DS&C       |                  |  |
|   | Establish and implement Enterprise Risk Management framework                                   | Enterprise risks framework established                                | Quarterly reports                          | 20                 | 4                 | 4  | 4  | 4  | 4  | 4                                | 4         | 4           | 4           | 4           | DRD, DS&C      | Head of Risk Mgt |  |
| <b>Sub-Totals</b>   |  |   |  |                    |                   |    |    |    |    | <b>33.5</b>                      | <b>32</b> | <b>42.2</b> | <b>38.2</b> | <b>45.5</b> | <b>191.4</b>   |                  |  |

## **ANNEX II: STRATEGIC PLAN DEVELOPMENT TASKFORCE**

| <b>S/No</b> | <b>STRATEGIC PLAN STEERING COMMITTEE MEMBERS</b> | <b>DESIGNATION</b> |
|-------------|--|--------------------|
| 1.          | Mr. Edwin Bett                                   | Chairman           |
| 2.          | Mr. Anthony Wachira                              | Member             |
| 3.          | Dr. Evans Amukoye                                | Member             |
| 4.          | Dr. Bernhards Ogutu                              | Member             |
| 5.          | Mr. Mahsen T. Abud                               | Member             |
| 6.          | Dr. Zipporah Bukania                             | Member             |
| 7.          | Prof. Wallace Bulimo                             | Member             |
| 8.          | Dr. Lubano Kizito                                | Member             |
| 9.          | Dr. Samson Muuo                                  | Member             |
| 10.         | Dr. Stephen Wandiga                              | Member             |
| 11.         | Dr. Sam Kinyanjui                                | Member             |
| 12.         | Mr. John Musau                                   | Member             |
| 13.         | Mr. Anthony Kamigwi                              | Secretary          |

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