Republic of Kenya

KENYA VISION 2030

National Commission for Science, Technology and Innovation

Science, Technology, and Innovation for National Prosperity and Public Good

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

STRATEGIC PLAN
(2023/2024 – 2027/2028)

STRATEGIC PLAN
(2023/2024 – 2027/2028)

Vision:
A Dynamic and Transformational Science, Technology, and Innovation System/Sector

Mission:
To regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto

Key Results Areas (KRA)

- Regulation, Advisory & Promotion
- Surveillance & Compliance
- Planning, Partnership & Resource Mobilization
- Institutional Capacity & Corporate Positioning

Strategic Objectives

- To Regulate, Assure Quality, Advise, and promote STI
- To ensure compliance through surveillance, monitoring, evaluation, and learning
- To undertake Planning, Partnerships and Resource Mobilization
- To enhance Institutional Capacity, and Corporate Positioning,

TABLE OF CONTENTS

Board of the National Commission for Science, Technology and Innovation (NACOSTI)

FOREWORD

It is my great pleasure to present the 2023-2028 Strategic Plan of the National Commission for Science, Technology and Innovation (NACOSTI). The Strategic Plan is aligned to the long-term development blueprint for the country, Kenya Vision 2030, which aims to transform Kenya into a newly industrializing, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment. Science, technology and innovation is one of the foundations of the three pillars of the vision namely, economic, social and political. Accordingly, investments in science, technology and innovation is essential for social and economic development and is critical in the transformation to a knowledge economy. The Government of Kenya recognized the role of research, science, technology and innovation through enactment of relevant policy and legal frameworks and establishment of institutions.

This Strategic Plan focuses on Science, Technology and Innovation for national prosperity and public good. The plan has been aligned to the *Bottom Up Economic Transformation Agenda 2022 – 2027.* During the implementation of this Plan, the Commission seeks to enhance the application of research, science, technology and innovation in priority sectors namely agriculture, Micro small and medium enterprise economy, housing and settlement, healthcare and digital superhighway and creative economy.

On behalf of the Board, I sincerely thank all those who participated in the formulation of the strategic plan for their contribution and commitment. The collective contribution of the teams will go along way in ensuring that Kenya makes progress towards a vibrant Science Technology and Innovation sector.

Chairperson, Board of the Commission

PREFACE

The National Commission for Science, Technology and Innovation is a State Cooperation established by the Science, Technology, and Innovation Act No. 28 of 2013. The Commission regulates and assures quality in the Science, Technology and Innovation Sector and advises the Government in matters related thereto. The Commission's fourth strategic plan has been developed during a time when the global economy is recovering from the effects of the Covid-19 pandemic. The pandemic disrupted lives across countries and communities, and science technology and innovation is playing a critical role in the recovery process.

The Commission's Strategic Plan 2023 - 2027 has been developed through a collaborative and consultative process involving internal and external stakeholders. The review of the previous strategic plan provided information on achievements and challenges. In developing this plan, the Commission has focused on its mandate, recognized its strengths, weaknesses, opportunities and threats, and considered the government's development agenda. The various initiatives identified under the Key Result Areas (KRAs) will be implemented through annual work-plans as cascaded from the Board to all levels within the Commission.

I wish to thank the Board, Management, Staff and all stakeholders who contributed towards the preparation of this Strategic Plan. I look forward to the support of stakeholders, and partnerships during implementation of the Strategic Plan.

Prof. Walter Oyawa, PhD
Director General

LIST OF TABLES AND FIGURES

No table of figures entries found.

CONCEPTS AND TERMINOLOGIES

Accreditation - refers to the establishment of the status, legitimacy or appropriateness of an institution, programme of research.

Commission - means the National Commission for Science, Technology and Innovation established under section 3 of the Science, Technology and Innovation (STI) Act;

Eminent scientist - person who has made distinguished contributions in the field of science;

Evaluation - the process of collecting and analyzing information about a research project or programme !o ascertain whether it is on track to reach the stated objectives, and whether or not the project or programme achieved or contributed to the desired impact;

Incubation - the maintenance of enabling environmental conditions for the purpose of facilitating the growth or development of infant technologies ideas or industries;

Industrial park - an area designed and zoned for manufacturing and associated activities;

Innovation - the application of new solutions that meet new requirements, inarticulate needs, or existing market needs. Innovation includes;

(i) a technovation model, utility model or industrial design within the meaning of the Industrial Property Act, 2001 (Cap. 509);
(ii) a product, process, service or idea which is novel;
(iii) an improved use of a new product, service or method in industry, business or society; or
(iv) indigenous or traditional knowledge by community of beneficial properties of land, natural resources, including plant and animal resources and the environment;
(v) any other non-patentable creations or improvements which may be deemed as deserving promotion and protection or sui generis intellectual property rights and "innovator" shall be construed accordingly;

Innovation park - an area designed and zoned for innovation;

Intellectual property - creation of the mind, inventions literary and artistic works and symbols, names, images and designs used in commerce and for which exclusive rights are recognized;

Invention - a new and useful art, process, machine, manufacture or composition of matter, living or inanimate, or any invention or discovery which is or may be patentable or otherwise protectable or any novel variety of plant which is or may be protectable;

Licence - a licence issued under the science, technology and innovation Act, and includes a permit;

Licensee- the holder of a licence or permit;

Monitoring - supervising research activities in progress at a research institution to ensure they are proceeding according to plan in order to meet the set objectives;

Quality - a measure of excellence as a distinctive attribute of the study design, methodology, conduct and other attributes of research project or programmes at a research institution meeting the set objectives;
Relevance - scientifically or socially beneficial research to socio-economic development;

Research - any investigation or inquiry which aims to collect and collate data or information, academic or non-academic, in areas of humanities or pure sciences or technology that will lead to new knowledge or information. Research is also defined as the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusion;

Researcher - a person licenced under the science, technology and innovation act to conduct research.

Research institution - any organization, centre or place whether public or private in which research of any kind is conducted or undertaken by any person, consortium or institute, and which is registered under the Science, Technology and Innovation Act;

Research system - research, science, technology or innovation

Science - the systematic study of the structure and behaviour of the physical and natural world through observation, experimentation, and the testing of theories against the evidence obtained. It is the pursuit and application of knowledge and understanding of the natural and social world following a systematic methodology based on evidence.

Science park - includes a technology park, science fair, and any other area designed and zoned for scientific or technological research and related activities;

Scientific research - refers to any investigation or research or inquiry or interview that aims to collect data or information, academic or non-academic, in areas of humanities or pure sciences or engineering or technology or for purpose of marketing survey or opinion polls that will lead to new knowledge or information;

Technology - the application of knowledge to meet the goals, goods and services for sustainable development;

Traditional knowledge - the wisdom developed over generations of holistic traditional scientific utilization of the lands, natural resources, and environment;

ABBREVIATIONS AND ACRONYMS

ICGEB	-	International Centre for Genetic Engineering and Biotechnology
AFRA	-	African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology
AU	-	African Union
BWC	-	Biological Weapons Convention
CBC	-	Competency Based Curriculum
CSR	-	Corporate Social Responsibility
CTBTO	-	Comprehensive Nuclear-Test-Ban Treaty Organization
DG		Director General
DASL		Directorate of Advisory, Standards and Licensing
DCME		Directorate of Compliance, Monitoring and Evaluation
DCS		Directorate of Corporate Services
ERP	-	Enterprise Resource Planning
GDP	-	Gross Domestic Product
GoK	-	Government of Kenya
HoD	-	Head of Department
HR	-	Human Resource
IA	-	Internal Audit
ICT	-	Information Communication Technology
ISERC	-	Institutional Scientific and Ethical Review Committee
IP	-	Intellectual Property
ISO	-	International Organization for Standardization
KPIs	-	Key Performance Indicators
KRAs	-	Key Result Areas
M&E	-	Monitoring and Evaluation
MERL	-	Monitoring, Evaluation, Reporting and Learning
MTEF	-	Medium Term Expenditure Framework
MTP	-	Medium Term Plan

NACOSTI	-	National Commission for Science, Technology and Innovation
NIMES	-	National Integrated Monitoring and Environmental System
NMK	-	National Museums of Kenya
PBB	-	Programme-Based Budgeting
PC	-	Performance Contract
PESTELE	-	Political, Economic, Social, Technological, Environmental, Legal and Ethics
PPP	-	Public Private Partnership
QMS	-	Quality Management System
RSTI	-	Research, Science, Technology and Innovation
SDGs	-	Sustainable Developments Goals
STI	-	Science, Technology and Innovation
STEM	-	Science, Technology, Engineering and Mathematics
STEAM	-	Science, Technology, Engineering, Arts and Mathematics
STISA	-	Science, Technology and Innovation Strategy for Africa
SWOT	-	Strengths, Weaknesses, Opportunities and Threats

EXECUTIVE SUMMARY

The development of the fourth Strategic Plan for the National Commission for Science, Technology and Innovation took cognizance of its mandate as stipulated in the Science, Technology and Innovation Act, 2013. The Strategic Plan has been aligned to national development agenda as well as to Kenya's international, and regional obligations as outlined in the global Sustainable Development Goals Agenda, Africa Agenda 2063, the Kenya Vision 2030 (with special reference to MTP IV), the Bottom-Up Economic Transformation Agenda (BETA), and other prevailing legal and policy documents. In line with the Government's Bottom-Up Economic Transformation Agenda (BETA), the Strategic Plan seeks to make transformational positive impact towards bringing down the cost of living, eradicating hunger, creating jobs, improving the country's foreign exchange balance as well as inclusive growth through prioritization of research, science, technology and innovation mechanisms for; Agricultural Transformation; transforming the Micro, Small and Medium Enterprise (MSMEs) Economy; Housing and Settlement; Healthcare; Digital superhighway and creative economy; and Environment and climate change. The implementation of the programmes prioritised in these sectors will focus on an end-to-end investment in key value chains that include: Leather; Livestock (Dairy and Pastoralism Economy); Garments and Textiles; Industrial Production (Building Materials and Pharmaceuticals); and Crops (Edible Oils, Rice, Tea, Coffee), among others. *(Speech by CS-National Treasury- March 2023).* Further, it is envisaged that the infusion and mainstreaming of Science, Technology and Innovation into programmes and projects of MDAs would fast-track the achievement of national and international goals and obligations.

The Commission's mission which is "***To regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto"*** and the core values of ***Customer focus, Professionalism, Teamwork, Integrity, Leadership and Fairness*** underpin its vision of ***"A dynamic and transformational Science, Technology and Innovation System/Sector"***. The Commission is committed to the highest standards of corporate governance in the implementation of this Strategic Plan.

The Strategic Plan is organized into five Chapters. **Chapter One** presents the Introduction that gives the Background information of the Commission including its historical development, as well as the mandate/functions of the Commission as stipulated in the Science, Technology and Innovation Act, 2013 (Rev. 2014). The chapter further outlines the role of the Commission in the realization of international, regional and national obligations/development issues including: the SDGs, Africa 2063 aspirations, MTP IV of Vision 2030, the Bottom Up Economic Transformation Agenda, and emerging issues.

Chapter Two expounds on the situational and environmental analyses undertaken using the Strengths, Weaknesses, Opportunities and Threats (SWOT) and Political, Economic, Social, Technological, Environmental, Legal and Ethics (PESTELE) models. It also provides a stakeholder analysis indicating their expectations and the Commission's expectations. Strategic issues such as fundamental policy choices, critical challenges/ga or opportunities for the Commission are also included.

Chapter Three presents the Strategic Model of the Commission, which includes the Vision Statement, Mission Statement, Motto, Core Values, Key Result Areas (KRAS), and Strategic Objectives and Strategies. To support the realization of the mission, four Key Result Areas (KRAs) have been identified, viz,:

1. Regulation, advisory and promotion;
2. Surveillance and compliance;
3. Planning, partnership and resource mobilization; and
4. Institutional Capacity.

To operationalize the achievement of these KRAs, eight strategic objectives are being pursued:

1. To regulate and assure quality of research, science, technology and innovation in the country;
2. To develop advisories on science, technology and innovation;
3. To promote science, technology and innovation for socio-economic development;
4. To strengthen compliance with the policy and regulatory framework;
5. To strengthen Monitoring and Evaluation of research, science, technology and innovation;
6. To strengthen planning for the Commission;
7. To strengthen capacity for resource mobilization;
8. To promote co-operation and synergies between the various agencies involved in science, technology and innovation; and
9. To strengthen institutional capacity.

Chapter Four highlights the implementation and coordination mechanism which identifies what the Commission must do before, during and post implementation. Risk factors which may affect the implementation of the Strategic Plan have been identified and appropriate mitigating factors recommended. It also outlines the Commission's resource capacity by highlighting the staffing levels, governance structures, organizational structure and presents the financial projections for the Strategic Plan.

Chapter Five highlights the monitoring, evaluation, reporting and learning framework.

CHAPTER ONE: INTRODUCTION

1.0 Overview

This Chapter provides a brief introduction by presenting background information as well as the mandate and functions of the National Commission for Science, Technology and Innovation is stipulated in the establishing Act, namely, the Science, Technology and Innovation Act of 2013 (Rev. 2014). The Chapter also provides the process of developing the Strategic Plan, as well as the Global, Regional and National Development Issues that are pertinent to the development of a Strategic Plan. Further, the Commission's Development Role in International, Regional and National obligations/issues is also illustrated herein.

1.1 Background

The National Commission for Science, Technology and Innovation (NACOSTI) is a state corporation established under the Science, Technology and Innovation Act, 2013 (Revised 2014). The mandate of the Commission is **to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto**. NACOSTI is the successor to the National Council for Science and Technology that was established under the Science and Technology Act, Cap 250 of the Laws of Kenya in 1977. The Act established the National Council for Science and Technology (NCST), a semi-autonomous agency, to advise on, coordinate and promote matters of research, science and technology.

1.2 Mandate/Functions

Mandate

The objective of the Commission is to regulate and assure quality in the science, technology and innovation sector and advise the government in matters related thereto.

Functions

The functions of the commission are stipulated in section 6(1) of the Act as follows:

a) develop, in consultation with stakeholders, the priorities in scientific, technological and innovation activities in Kenya in relation to the economic and social policies of the Government, and the country's international commitments;
b) lead inter-agency efforts to implement sound policies and budgets, working in collaboration with the county governments, and organizations involved in science and technology and innovation within Kenya and outside Kenya;
c) advise the national and county governments on the science, technology and innovation policy, including general planning and assessment of the necessary financial resources;
d) liaise with the National Innovation Agency and the National Research Fund to ensure funding and implementation of prioritized research programmes;
e) ensure co-ordination and co-operation between the various agencies involved in science, technology and innovation;
f) accredit research institutes and approve all Scientific research in Kenya;
g) assure relevance and quality of science, technology and innovation programmes in research institutes;
h) advise on science education and innovation at both basic and advanced levels;

i) in consultation with the National Research Fund Trustees, sponsor national scientific and academic conferences it considers appropriate;
j) advise the Government on policies and any issue relating to scientific research systems;
k) promote increased awareness, knowledge and information of research system;
l) co-ordinate, monitor and evaluate, as appropriate, activities relating to scientific research and technology development;
m) promote and encourage private sector involvement in scientific research and innovation and development;
n) annually, review the progress in scientific research systems and submit a report of its findings and recommendations to the Cabinet Secretary;
o) promote the adoption and application of scientific and technological knowledge and information necessary in attaining national development goals;
p) develop and enforce codes, guidelines and regulations in accordance with the policy determined under this Act for the governance, management and maintenance of standards and quality in research systems; and
q) undertake, or cause to be undertaken, regular inspections, monitoring and evaluation of research institutions to ensure compliance with set standards and guidelines.

Powers

In the performance of its functions under this Act, the Commission shall have powers to—

a) apply for the grant or revocation of patents;
b) institute such action in respect of the patent as it may deem appropriate for the security of the country;
c) acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country;
d) collaborate with similar scientific institutions or organizations operating outside Kenya; and
e) demand and receive annual reports from research institutions.

Guiding Principles

Further, in the performance of its functions under this Act the Commission shall be guided by the following principles—

a) the promotion of socio-economic development in line with the country's development agenda;
b) achievement of manpower development and skills acquisition;
c) promotion of knowledge creation, storage and dissemination;
d) development of research, and innovation and the application of innovation to development; and
e) contribution to community service.

1.3 Process of Developing the Strategic Plan

The fourth Strategic Plan (2023-2027) has been prepared based on the government policy guidelines on Strategic Planning. The strategic planning process involved a consultative and participatory approach. The process ensured the involvement of key stakeholders including Ministries, Departments and Agencies (MDAs), academia and the private sector. The challenges and lessons learnt during the implementation of the Strategic Plan 2018-2022 were taken into consideration in the development of the Strategic Plan.

The review was undertaken through a process involving the following stages:

(a) Top Management initiated the strategic planning process by holding meetings to analyze the current status of the commission based on the previous strategic plan 2018-2022
(b) Top Management set and agreed on the commission's strategic direction (vision, mission, core values, goals, Key Result Areas (KRAs) and strategic objectives).
(c) Formation of a technical committee to develop the Commission's strategic plan
(d) Desk review of the Commission's relevant documents;
(e) Development of a working document;
(f) Submission of first draft Strategic Plan;
(g) Validation workshop by stakeholders;
(h) Presentation of second draft Strategic Plan to the Board of Directors for adoption;
(i) Finalization of Strategic Plan with the Board's input; and
(j) Launch of the Strategic Plan 2023-2027.

1.4 Global, Regional and National Development Issues

Global issues

Global issues transcend national boundaries and cannot be resolved by any one country acting alone. The global issues may be contextualized or framed through three broad socio-economic development settings, viz: Eradication of poverty in all its forms and dimensions; Accelerating structural transformations for peaceful sustainable development; and Building resilience to crisis and shocks. Accordingly, global issues include safeguarding peace, protecting human rights, establishing the framework for international justice and promoting economic and social progress further compounded with new challenges, regional conflicts, big data, dual use of technology, and climate change. Through the United Nations framework, joint global efforts are currently geared towards;

(i) ending poverty taking note that the COVID-19 pandemic could increase global poverty by as much as half a billion people, or 8% of the total human population. It's estimated that approximately 700 million people still live on less than US$1.90 per day, a total of 1.3 billion people are multi-dimensionally poor, including a disproportionate number of women and people with disabilities and 80 percent of humanity lives on less than US$10 per day. Increasingly, middle-income countries account for a large part of this trend;
(ii) assuring food and nutrition security taking note that the food security and nutritional status of the most vulnerable population groups is likely to deteriorate further due to the health and socio-economic impacts of the COVID-19 pandemic;
(iii) promoting and protecting good health worldwide;
(iv) providing fresh water taking notte that, due to bad economics or poor infrastructure, millions of people (most of them children) die from diseases associated with inadequate water supply, sanitation and hygiene;
(v) availing clean, affordable energy taking note that prosperity is directly linked to reliable, safe, and affordable energy to power everything from lights to vehicles to factories to hospitals. 840 million people worldwide have no access to electricity, and 2.9 billion people use solid fuels to cook or heat their homes, exposing their families to grave health hazards and contributing to vast deforestation worldwide;
(vi) seeking the sustainable use of oceans/seas which is some 72 per cent of the earth's surface. Not only has the oceans always been a prime source of nourishment for the life it helped generate, but from earliest recorded history it has served for trade and commerce, adventure and discovery;

(vii) addressing the multifaceted challenges faced by young people (such as access to education, health, employment and gender equality);

(viii) ensuring gender equality, while observing that gender equality is essential to achieve peaceful societies, with full human potential and sustainable development. It may be emphasized that women and girls represent half of the world's population and, therefore, also half of its potential.

(ix) supporting economic and social development in Africa as well as promoting peaceful co-existence. It is emphasized that the disempowering nature of social, economic, and political exclusion results in ineffective, unaccountable, non-transparent institutions and processes that hamper the ability of states to address persistent structural inequalities.

(x) mitigating climate change challenges such as; shifting weather patterns that threaten food production, rising sea levels that increase the risk of catastrophic flooding. It is to be noted that the impacts of climate change are global in scope and unprecedented in scale. Healthy ecosystems are at the heart of development, underpinning societal well-being and economic growth. Through nature-based solutions, such as the sustainable management and protection of land, rivers and oceans, countries may: avail adequate food and water for its citizenry; create resilient systems to mitigate climate change and disasters; shift to green economic pathways; and sustain work for billions of people through forestry, agriculture, fisheries and tourism.

(xi) deliberate programs to support children's right to health, education and protection;

(xii) understanding and planning for the world's ever-increasing population, as well as the ageing population, where the number of older persons, those aged 60 years or over, has increased substantially in recent years in most countries and regions. It is to be noted that the estimated world population has rapidly increased from around 2.6 billion people in 1950, to 5 billion in 1987, to 6 in 1999, to 7 billion in 2011, to 7.9 billion in 2020, and to 8 billion in 2022

(xiii) maintaining the fight against HIV, taking note that new HIV infections have fallen by 35% since 2000 (by 58% among children) and AIDS-related deaths have fallen by 42% since the peak in 2004. The global response to HIV has averted 30 million new HIV infections and nearly 8 million AIDS-related deaths since 2000.

(xiv) understanding and responding to migration needs, occasioned by mass exodus/migration where more people than ever before are now live in a country other than the one in which they were born. It is estimated that around 258 million people live outside their countries of origin and 68.5 million are displaced.

(xv) promoting peaceful use of Atomic Energy

(xvi) responsible use of Big Data for inclusive Sustainable Development

(xvii) enhancing cybersecurity through well-structured innovation systems

(xviii) protecting children and youth online through various programmes and initiatives.

Regional Issues

Regional development in a rapidly changing world has presented a scenario of aggressive regional competition through the deployment of technology, smart innovation and entrepreneurship. Issues like resilience, going green, digitalization and smart specialization are the order of the day within regional co-operation frameworks. **Smart specialization** is a method to identify opportunities or response to challenges for regional development and innovation through an analysis of demographic development, strengths and weaknesses of the labour force and local business environment. Smart specialization requires the involvement from all relevant local and regional stakeholders, and the building of trust among each other.

Digitalization of systems is fast becoming the norm in developed countries as it is seen to play a key role in the delivery of sustainable cities and regional services, and also represents a wealth of opportunities when it comes to skills development, education, and the creation of new businesses and industries with promising growth potential. Furthermore, an initiative on skills policy is currently being prepared.

Both smart specialization, and digitalization require skills policies and frameworks that respond to real regional issues such as unemployment, successful integration of immigrants in the labour market, as well as education and training to meet the demand for highly specialized, skilled and productive labour. The mismatch between demand and supply of skills in the labour market is an issue in many regions, albeit in different ways. Therefore, a regional approach to skills challenges and policies is necessary.

National Issues

Kenya has made significant political and economic reforms that have contributed to sustained economic growth, social development, and political stability gains over the past decade. However, major development challenges in Africa still include poverty, inequality, youth unemployment, climate change, continued weak private sector investment, and the vulnerability of the economy to internal and external shocks. Kenya's economy achieved broad-based growth averaging 4.8% per year between 2015-2019, significantly reducing poverty from 36.5% in 2005 to 27.2% in 2019 (World bank report). In 2020, the COVID-19 pandemic shock hit the Kenyan economy hard, disrupting international trade and transport, tourism, and urban services activity. Fortunately, the agricultural sector, a cornerstone of the economy, remained resilient, helping to limit the contraction in GDP to only 0.3%. In 2021, the economy staged a strong recovery, with the economy growing at 7.5% although some sectors, such as tourism, remained under pressure. GDP growth is projected at 5.5% in 2022 and the poverty rate has resumed its trend decline after rising earlier in the pandemic. Although the economic outlook is broadly positive, it is subject to elevated uncertainty, including through Kenya's exposure (as a net fuel, wheat, and fertilizer importer) to the global price impacts of the war in Ukraine. It is anticipated that the government's bottom-up economic transformation agenda, which prioritizes agriculture, healthcare, housing, digitization of services, and manufacturing, will have significant positive impacts on socio-economic development, and cushion the country against the severe effects of climate change and unforeseen disasters.

In achieving national goals, the science, technology and innovation sector will continue to actively play its role as the transformation platform and/or pathway. Science, technology and innovation (STI) have been the main drivers of socioeconomic development, economic growth and industrialization throughout history. No country has successfully moved up the development ladder and achieved structural transformation without industrialization; but neither has any country achieved successful development without technological learning and upgrading and the development of innovative capabilities. Science, technology and innovation are indispensable ingredients in the development process and essential for catching up with more developed economies. With connectivity infrastructure, enabling environment and private sector engagement, science, technology and innovation have the potential to respond to systemic issues and support the attainment of the Sustainable Development Goals (SDGs).

1.5 The Commission's Development Role in International, Regional and National Development Agenda and Frameworks/obligations

The role of the Commission in realizing the Sustainable Development Goals, the African Union Agenda 2063, the Kenya Vision 2030, MTP IV and the Government Development Agenda is outlined below:

Sustainable Development Goals

The Government of Kenya is committed to the attainment of the United Nation's Sustainable Developments Goals (SDGs) as agreed upon by the international community. There is a total of 17 SDGs which aim to enhance the quality of life of the world's citizens. Each goal has a specific target to be achieved over the next 10 years.

- Goal No. 1: End poverty in all its forms everywhere
- Goal No. 2: End hunger, achieve food secu rity and improved nutrition and promote sustainable agriculture
- Goal No. 3: Ensure healthy lives and promote well-being for all at all ages
- Goal No. 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal No. 6: Ensure availability and sustainable management of water and sanitation for all
- Goal No. 7: Ensure access to affordable, reliable, sustainable and modern energy for all
- Goal No. 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal No. 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal No. 11: Make cities and human settlements inclusive, safe, resilient and sustainable
- Goal No. 12: Ensure sustainable consumption and production patterns
- Goal No. 13: Take urgent action to combat climate change and its impacts
- Goal No. 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- Goal No. 14: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

The Commission will contribute towards the attainment of these goals through research, science and technology development.

Further, the Commission will lead the implementation of resolutions adopted by the UN Economic and Social Council on 21 July 2022 (on the recommendation of the Commission on Science and Technology for Development). Chief among the resolutions was the recommendation that Governments, individually and collectively, to closely link science, technology, innovation and strategies of sustainable development by prominently featuring capacity-building in information and communications technologies and science, technology and innovation in national development planning.

International Obligations/Treaties/Conventions

The Commission, through the Director General, is the designated national focal point of a number of Kenya's international Obligations/Treaties/Conventions. In this regard, the Commission has been able to mobilize resources and opportunities for the science, technology and innovation sector that include research grants, research/technology facilities, scholarships, networking, conferences/symposiums/workshops, academic visits, among others. The international treaties, councils, and conventions that the Commission coordinates as national focal point include;

- ❑ the Biological Weapons Convention (BWC) whose headquarters is in Geneva-Switzerland
- ❑ the International Centre for Genetic Eng. & Biotechnology (ICGEB), based in Trieste, Italy
- ❑ AFRA (African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology). It's part of the International Atomic Energy Agency (IAEA)
- ❑ the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), whose headquarters is in Vienna, Austria.
- ❑ The East African Science and Technology Commission (EASTECO), whose headquarters is in Kigali, Rwanda. DG.
- ❑ the International Science Council (ISC), whose headquarters is in Paris, France.

African Union Agenda 2063

The African continent represents 20 percent of the earth's surface and is home to 1.3 billion people, likely reaching 2.53 billion people by 2050. It boasts 60 percent of the world's arable lands, 30 percent of the world's reserve of minerals, and the youngest population of any continent. Yet, despite these riches, Africa produces only 3 percent of global GDP, accounts for less than 3 percent of international trade (mainly primary commodities and natural resources), contributes just 2 percent of world research output, accounts for on ly 1.3 percent of research spending, and produce s 0.1 percent of all patents. A lack of a science and technology culture, and lack of strategic investment in science and technology to transform the resources has had far-reaching consequences and undermined Africa's economic transformation.

The African Union (AU) Agenda 2063 recognizes science, technology and innovation as multi-functional tools and enablers for achieving continental development goals. The Agenda further emphasizes that Africa's sustained growth, competitiveness and economic transformation requires sustained investment in new technologies and continuous innovation in areas such as agriculture, clean energy, education and health.

The AU Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024) places science, technology and innovation at the epicentre of Africa's socio-economic development and growth. The strategy is firmly anchored on six distinct priority areas that contribute to the achievement of the AU Vision. These priority areas are: Eradication of Hunger and Achieving Food Security; Prevention and Control of Diseases; Communication (Physical and Intellectual Mobility); Protection of our Space; Live Together– Build the Society; and Wealth Creation.

In line with STISA 2024, the Commission will undertake a number of activities to ensure its realization. These will include; promotion of collaboration and partnerships for research and technology development, institutionalization of intellectual property policies in universities and research institutions and establishment of a knowledge sharing platform on national research system.

Most recently, the 2nd Africa-wide Science, Technology, and Innovation High Level Conference, co-organized by the African Union Development Agency-NEPAD (AUDA-NEPAD) and the Government of Rwanda in April 2022 resolved that;

- African governments, policy makers, and regional economic communities need to enhance strong political will to further integrate Science, Technology, and Innovation (STI) in Africa for sustainable economic growth through increased funding for STI.
- Science, Technology, and Innovation (STI) should be viewed as an enabler for development, with the most important criteria for measuring its impact and effectiveness in Africa must be based on carefully selected, context-specific development indicators that value and incorporate the number of jobs generated, poverty reduction metrics, reductions in inequality and the social interactions.

In tune with above listed resolutions, the Commission will strive to enhance science, technology and innovation diplomacy so as to escalate the role of science, technology and innovation for enhanced national security, public safety, and inclusive sustainable development.

Kenya Constitution 2010

Article 11 of the Constitution of Kenya, 2010, emphasizes the importance of science and technology in the knowledge based economic development of the country. The constitution further emphasizes the recognition of the indigenous inventions and technologies. Article 40(5) of the Constitution requires the state to support, promote and protect intellectual property.

The Commission is on course in implementing the provisions of the Constitution through the realization of its mandate and functions, including regulation of the science, technology and innovation sector, and provision of advisory services. In particular, licensing of research by the Commission ensures that research being undertaken within the country is first and foremost beneficial to the country, and does not adversely affect; National

Security, Lives of Kenyans/Public Safety, Culture and IP Rights of communities, Nature, and the Environment.

Science, Technology and Innovation (STI) Act, 2013 (Rev. 2014)

Science, Technology, and Innovation Sector is regulated through the STI Act 2013 (Rev. 2014), which was enacted for three key purposes;

(i) to facilitate the promotion, co-ordination and regulation of the progress of science, technology and innovation in the country;
(ii) to assign priority to the development of science, technology and innovation;
(iii) to entrench science, technology and innovation into the national production system and for connected purposes.

In this context, it is expected that the Science, technology and innovation (STI) sector will be the main enabler and driver of socioeconomic development, enhanced national security, and industrialization. The sector will thus promote digital economy, MSMEs economy, food and nutrition security , public safety, climate change mitigation, disaster response, among others.

As provided by the STI Act, the Commission will continue to vigorously implement its mandate and functions to: facilitate the promotion, co-ordination and regulation of the progress of science, technology and innovation in the country; assign priority to the development of science, technology and innovation; and entrench science, technology and innovation into the national production system and for connected purposes. In this regard, the Commission has been designated as the special agency to coordinate the mainstreaming of science, technology, and innovation in programmes and projects of Ministries, Departments and Agencies (MDAs)

Kenya Vision 2030

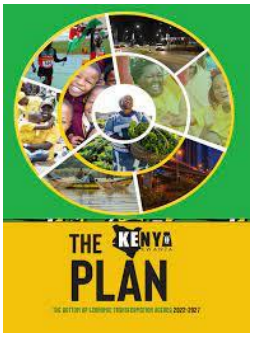
The Kenya Vision 2030 articulates the national development agenda for the country. The Vision is motivated by a collective aspiration for a better society by the year 2030 in order to create a globally competitive and prosperous nation with a high quality of life. The aim of the Vision is to transform Kenya into a newly-industrialized, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment. The Vision is anchored on three pillars: Economic, Social and Political. Science, Technology and Innovation is one of the foundations of the Vision 2030. The Vision is implemented through five-year Medium-Term Plans.

Visions 2030 recognizes the key role played by Science, Technology and Innovation (STI) in wealth creation and building human capital required for the transition to a knowledge driven economy. The vision recognizes that a strong foundation and basic understanding of Science, Technology and Innovation (STI), and its universal importance is needed to make certain breakthroughs or commercialize applications that will ensure the prosperity of the country.

In line with the provisions of Vision 2030, the Commission will continuously endeavor to create appreciation and awareness on the importance of science, technology and innovation in Kenya and its implication in everyday life, among policymakers and the general public. A key goal will be to impart a culture of creativity, innovativeness, and continuous learning in Kenya, which is supportive of Science, Technology and Innovation (STI) uptake and utilization.

Currently, the fourth Medium Term Plan (MTP IV) for 2023-2027 of Kenya Vision 2030 is under preparation to succeed the Third MTP 2018-2022 which is coming to an end in June 2023. The fourth Medium Term Plan (MTP IV) of the Kenya Vision 2030 seeks to build upon the gains of the three previous Plans. This Plans seeks to accelerate science, technology, and innovation uptake for socio-economic transformation to a more competitive, inclusive, and resilient economy. These will be realized through strengthening of governance system, human capital development, infrastructure development and commercialisation of outputs. The development of this Plan included a review of the Science, Technology and Innovation (STI) sector performance in the previous Plans, examining the current trends in STI development and benchmarking on global best practices. This was achieved through engagement with stakeholders in academia and research, industry, National and County Government, development partners and civil society.

Bottom Up Economic Transformation Agenda 2022 – 2027



The Bottom-UP Economic Transformation Plan, 2022 – 2027, is the manifesto of the Kenya Kwanza administration that will be implemented over the next five years. The plan is cognizant of the prevailing domestic challenges as well as external factors such as rising global inflation and interest rates. Long term impact of the COVID 19 pandemic, and the Russia-Ukraine conflict among other geopolitical dynamics. The rationale of the bottom-up approach to economic transformation has been informed by the existing dichotomy where only about (15% (3 million) of the national workforce are engaged in formal employment while the remaining 85% (16 million) are engaged in informal sector mostly under the Micro, Small and Medium Enterprises (MSMEs). Despite this reality, little effort has been made to support the bottom of the pyramid which supports livelihoods for the majority.

The bottom-up plan is anchored on five key pillars: (1) Agriculture-Agricultural Transformation and Inclusive Growth, (2) MSME Economy-Transforming the Micro, Small, and Medium Enterprises,, (3) Housing and Settlement – Affordable Housing and Settlement, (4) Healthcare-Universal Healthcare, and (5) Digital and Creative Economy- Digital Superhighway and Creative Economy. The priority interventions proposed in the plan are expected to contribute toward six broad objectives including lowering the cost of living, eradicating hunger, managing unemployment, improving fiscal performance, stabilizing foreign exchange, and ensuring inclusive economic growth. It is estimated that Kshs. 2.67 trillion is required to fully implement the manifesto within the five years, and approximately Kshs 473 billion is required in the first year.

Science, Technology and Innovation (STI) will be a key enabler and driver of the Bottom-UP Economic Transformation Plan, 2022 – 2027. In this regard and line with the provisions of the Science, Technology and Innovation (STI) Act, the Commission has approved a 12-point Priorities in scientific, technological and innovation activities in Kenya in relation to the economic and social policies of the Government, and the country's international commitments as below.

Table 1.1 Science, Technology and Innovation (STI) Priorities in Kenya *(Proposed)*

	SCIENCE, TECHNOLOGY AND INNOVATION (STI) PRIORITIES IN KENYA
1)	R&D Strengthening, R&D Priorities, R&D Financing and R&D Infrastructure
2)	STI Education, Communication, Talent Development, and Next-generation Workforce
3)	STI Inclusivity, Advocacy, Diplomacy, and Policy Reviews
4)	Fostering Technology Protection, Diffusion, and Commercialization through Strategic Investments in Manufacturing, Infrastructure, MSMEs, Start-ups, Technology Parks, and Smart Technologies
5)	Health Security, and Substance Abuse Mitigation (including Pharmaceuticals/Traditional medicine Production)
6)	STI for Food Security, Nutrition, Smart Agriculture, and harnessing of indigenous knowledge and technologies
7)	The Fifth Industrial Revolution, Digital Economy, Data Governance, and Emerging/Frontier Technologies
8)	STI for SDGs, Climate Change Mitigation, and Harnessing of the Blue Economy/Aquatic Resources
9)	STI for National Security, Public safety and Emergency Response
10)	STI Mainstreaming in MDAs through transformational reforms in Policy, Governance, Legal, Institutional, technical, and Service-Delivery frameworks
11)	Strategic Multi-Agency, Multi-Sectoral, and International Cooperation and Partnerships
12)	STI for Sustainable Urbanization, County Development, and Resilient Communities, (including smart cities, Circular Economy, Eco-Housing, water & sanitation, and Sustainable Transport-Energy-Habitat Systems)

1.6 Policy, Legal and Regulatory Framework

In carrying out its mandate, the Commission is guided by, among others, the following policy, legal and regulatory framework:

a) The Constitution, Kenya;
b) Vision 2030;
c) The Science, Technology, and Innovation Act, 2023 (Rev. 2014)
d) Legal Notices No. 106
e) Legal Notices No. 107
f) Legal Notices No. 108
g) Fourth Medium Term Plan (MTP IV) 2023-2027;
h) National Education Sector Strategic Plan (NESSP);
i) Sustainable Development Goals (SDGs);
j) Africa's Agenda 2063;
k) The National Integrated monitoring and Management system;
l) National Spatial Plan, 2015-2045;
m) The National Disaster Risk Management Policy;
n) The Medium-Term Expenditure Framework (MTEF) budget;
o) The Executive Order(s) on Organizational of the National Government;
p) Employment Act No. 11 of 2007;
q) Public Financial Management Act, 2015
r) Income Tax Act (Cap 470) Laws of Kenya;
s) Public Audit Act No. 12 of 2003;

t) Public Officer Ethics Act No. 4 of 2003;
u) Public Procurement and Disposal Act No. 3 of 2015;
v) Work Injuries Benefits Act No. 13 of 2007
w) The Commission's Annual Performance Contract;
x) Commission's Internal policies, among others

CHAPTER TWO: SITUATIONAL ANALYSIS

2.0 Introduction

The Commission has a unique role to play within the STI ecosystem in Kenya. This chapter present a broad overview of key achievements, challenges and lessons learnt from the 2018-2022 Strategic Plan period. An internal and external analysis using the Strengths, Weaknesses, and Political, Economic, Socio-cultural, Technological, Infrastructural, Environmental and Legal (PESTIEL) analysis was carried out to generate the Opportunities and Threats. A stakeholder analysis was also undertaken for inclusion in the implementation of the strategy.

2.1 Review of the implementation of the Previous Strategic Plan

2.1.1 Key Achievements

Table 2.1: Key Achievements

Key Result Area No. 1: Regulation of Research		
S/No.	**Strategic Objectives**	**Achievement**
1.	1.1 To assure relevance and quality of research	1.Strengthen policy and regulatory framework by completing development of standards and guidelines together with the guidelines. 2.Enhanced compliance with regulatory requirements by monitoring and evaluating research institutes and monitoring research projects. 3.Increased number of Research institutions registered to 23. Six(6) others were recommended. 4.Increased research projects granted 29,629 research permits Licensed 23,047 research projects by 31st January 2023 5.Thirteen (13) Institutional Ethics Review Committees were accredited.
	1.2 To enhance coordination and cooperation of research and development	There was improvement in the implementation of international commitments in science and technology
Key Result Area 2: Advisory Services for Research, Science and Technology		
S/No.	**Strategic Objectives**	**Achievement**
2.	To advise on research, science and technology programmes	1.Developed and launched the National Research Priorities and a draft STI priorities. 2. Advised on implementation of research, science and technology programmes in AFRA, ICGEB, CTBTO and BWC

Key Result Area No. 1: Regulation of Research		
S/No.	**Strategic Objectives**	**Achievement**
	To mainstream research, science and technology into planning processes	1.Research, Science, Technology has been mainstreamed in Ministries, Departments and Agencies (MDAs)
		2.STI mainstreaming will result into more resources for research, science and technology
Result Area 3: Knowledge Management		
S/No.	**Strategic Objectives**	**Achievement**
3.	To facilitate acquisition and sharing of knowledge on research, science and technology	1. Strengthened research coordination mechanism by developing a draft strategy on county engagement framework. (draft or approved) 2. Disseminated research and technology outputs.(no of fora)
	To facilitate utilization of knowledge on research, science and technology	1. Institutionalized knowledge management by developing Knowledge management policy and knowledge management strategy.
		2. Promoted intellectual property management institutionalizing framework for management of Intellectual Property
Key Result Area 4: Institutional Capacity		
S/No.	**Strategic Objectives**	**Achievement**
4.	To Strengthen the Institutional Capacity	1. Enhance Corporate Image by establishing Corporate office and developing communication strategy, branding policy and procedures manual.
		2. Enhance human capacity by implementing affirmative; Harmonizing terms and conditions of service; developing performance management tool ; Reviewed HR documents and provided for employee's welfare; Enhanced internal processes and controls through development of Draft Risk Management Framework and approval of audit charter

Key Result Area No. 1: Regulation of Research		
S/No.	**Strategic Objectives**	**Achievement**
		3. Enhance infrastructural capacity by Leverage ICT for business processes through review of ICT strategy and improved infrastructure
	To Improve mobilization and prudent utilization of resources	Enhance resource mobilization by developing and implementing the draft resource mobilization strategy
		Ensure prudent utilization of resources by Comply with all statutory requirements and identified and implemented saving measures.

2.1.2 Challenges

During the Plan period, the Commission faced several challenges. Table 2.2 outlines key challenges faced and their respective interventions which have been planned for in the 2018-2022 Plan period.

Table 2.2 Key challenges and Interventions

Key Result Area No. 1: Regulation of Research		
S/No.	**Challenges**	**Interventions**
1.	Inadequate monitoring, evaluation and reporting system	1. Establishment of the Directorate of Strategy, Planning and Compliance 2. Develop an effective monitoring, evaluation, reporting and learning system
2.	Low levels of awareness of regulatory regime	Awareness creation
Key Result Area 2: Advisory Services for Research, Science and Technology		
	Challenges	**Interventions**
1.	Inadequate framework to engage county government	Develop and implement the county engagement programme
2.	Limited capacity to generate advisories	• Enhance capacity for advisory development • Operationalize the research advisory committees using section 27 of the STI Act 2013
3.	Limited linkage of RST to national development agenda	Strengthen mainstreaming RST to all sectors of the economy

Key Result Area No. 1: Regulation of Research		
S/No.	**Challenges**	**Interventions**
4.	Limited demonstration of the contribution of STI to national development	Demonstrate the contribution of STI to national development
Result Area 3: Knowledge Management		
	Challenges	**Interventions**
1.	Lack of an electronic system for facilitating sharing of Research Science, Technology and Innovation	There is need to develop digital Information Management platform
2.	Limited sharing of research output	Develop framework of sharing output and strengthen sharing platform
3.	Lack of inventory of R&D programmes and projects and research outputs	Establish a knowledge sharing platform
4.	Limited awareness on commercialization of research outputs	1. Promote partnerships between academia and industry. 2. Promote development and implementation of institutional IP policies.
Key Result Area 4: Institutional Capacity		
	Strategic Objectives	**Achievement**
1.	Low staffing levels	Undertake phased out recruitment
2.	Inadequate skills	Develop and implement capacity building initiatives
3.	Lack of succession plan	Develop and implement a succession plan
4.	Limited institutional capacity to mobilize resources	1. Develop and implement resource mobilization strategy. 2. Develop skills in resource mobilization. 3. Establish and strengthen partnerships for resource mobilization. 4. Establish a resource mobilization office
1.	Low public awareness on the Commission's mandate	Enhance public awareness; Strengthen stakeholder engagement
2.	Multiple regulators and licensing regimes	Harmonization of regulatory regime
3.	Inadequate M&E	Establishment of compliance office
4.	Low level of automation	Automation of core business processes

2.1.4 Lessons Learnt

Based on lessons learnt from the previous Strategic Plan, there is need to:

a) Link the Strategic Plan implementation with annual workplan and budget;
b) Review and implement human resource management and development master plan;
c) Engage policy and decision makers for enhanced budgetary allocation;
d) Strengthen monitoring, evaluation and reporting system;
e) Undertake proactive stakeholder engagement centered on promotion, coordination and advisory on STI to address emerging issues;
f) Review and harmonize policy and regulatory framework within the Commission's mandate; and
g) Implement resource mobilization and utilization strategy.

2.1.5 Emerging issues

1. Emergence of health threats and Pandemics such as COVID-19 which led to closure of institutions in the STI sector
2. Regional conflicts in Eastern Europe
3. Climate Change
4. Changing government priorities
5. Limited funding from government
6. Emerging technologies

2.2 Environment Scan

2.2.1 Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

Table 2.3: SWOT Analysis

SWOT ANALYSIS	
STRENGTHS 1. Existence of legal and regulatory framework (ST&I Act, No. 28 of 2013 and the ST&I Regulations 2014) 2. Publicity through ST&I mainstreaming in MDAs 3. Effective leadership and corporate governance 4. Existence of collaborations and partnership 5. Business Process Reengineering 6. Ownership of office premises 7. Internal performance management system 8. The Commission is a focal point for various treaties and protocols	**WEAKNESS** 1. Lack of regional presence 2. Inadequate resource mobilization 3. Weak knowledge management 4. Unattractive terms and conditions of service
OPPORTUNITY 1. Recognition of the role of ST&I in national development 2. Devolved system of Government 3. Existing national, regional and international organizations in RSTI 4. Adoption of CBC system of education 5. New and emerging technologies	**THREATS** 1. Weak coordination frameworks 2. Inadequate funding 3. Emerging technologies threats 4. Failing societal ethics 5. Natural disasters

2.2.2 Political, Economic, Social, Technological, Environmental, Legal and Ethics (PESTELE) Analysis

PESTELE ANALYSIS

Table 2.4: PESTELE Analysis

Category	Issue	Strategic Implication	Strategic Response
Political	National Development Agenda	Align institutional programmes to the Bottom Up Economic Transformation Agenda 2022 – 2027	Prioritize ST&I programmes aligned to government priorities
	Devolution	Provide a framework with the engagement of County Governments	Partnership with the County Government
	Regional Integration	Advise on national STI Policy and regulatory framework.	Participation in regional initiatives.
Economic	Resource constraints	Delayed implementation of RST&I programmes and projects Failure to initiate and or complete programmes and projects. Failure to enhance human resource capacity.	Diversify sources of funding for STI programs and projects. Collaboration and partnerships
	Inadequate infrastructure	Reduced levels of research activities	Promote partnerships and collaborations for research and development. Resource mobilization
Social	Population growth	Demand for diverse and quality products	Promote academia industry linkages Promote commercialization of outputs
	Corruption	Increase in cost of doing business	Develop and implement code and conduct for researchers Adhere to relevant policy and regulatory frameworks
	Affirmative actions	Low representation of some groups in the STI Sector Low uptake of products and services	Ensure inclusivity in STI sector. Advisory on inclusivity within the sector.

Category	Issue	Strategic Implication	Strategic Response
Technological	Technological advancement	- Rapid advancements in technological development	- Adoption and investment in emerging technologies - Policy advice on new and emerging technologies
		- Efficiency in service delivery	- Automated services through systems - Deployment of efficient internal ICT systems
	Data and Knowledge Management	- Faster decision-making - Misuse of personal identifiable data - Research misconduct - Cost of compliance for industry players	- Transparency and information disclosure - Implement appropriate data policy and regulatory framework
		- Institutionalization of data and Knowledge Management	- Development of a knowledge management policy - Establishment of a knowledge-sharing platform - Establish a knowledge management center - Advisory on management of institutional data and knowledge management for STI sector
	Cyber security	- Leakage and loss of data - System failure	- Enhance information protection and data management - Capacity building of administrators and end users
Environmental	Climate change	• Reduced agriculture yields • Disruptions in seasons • Emergence of new pests and diseases.	• Promote climate-smart agriculture technologies • Promote research technology and innovation for mitigation and adaptation.
	Waste Management	• Pollution • Health hazards	• Promote environmentally friendly practices. • Promote development of environmental technologies • Advisories on waste management
Category	**Issue**	**Strategic Implication**	**Strategic Response**
Legal	Policy and regulatory framework	• Non-compliance to the legal framework • Litigation	• Develop guidelines and standards • Awareness creation

Ethical	Research ethics	• Non-adherence to best practices in the conduct of research and technology development activities	• Ensure compliance to the existing policy and legal framework. • Ethical approval of research involving human subjects • Develop and implement code of conduct for researchers

2.2.3 Stakeholder Analysis

In the process of carrying out its functional obligations, NACOSTI interacts with a number of internal and external stakeholders. These stakeholders provide either the opportunity for the commission to enhance its efficiency and effectiveness or present threats that are likely to significantly impact the implementation of the Strategic Plan. Hence the necessity of identifying and assessing how these stakeholders are likely to affect the commission's performance.

A stakeholder analysis was conducted to identify the interests, roles/responsibilities, comparative advantages and contributions of the various stakeholders in the development and implementation of the Strategic Plan. The analysis involved an inventory of the main stakeholders having a complementary role or synergy to NACOSTI's effort, taking into consideration the various ways they may influence the implementation.

The results of the stakeholder analysis are presented in Table below:

Table 2.5: Stakeholder Analysis

S/No	Stakeholder	Stakeholder Expectations	NACOSTI's Expectations of Stakeholders
1.	National Government	1. Implement the provisions of the ST&I Act, 2013 2. Prudent utilization of public resources and reporting	1. Timely communication on government policy 2. Prompt disbursement of funds
2.	Parliament	1. Enactment of Legislation 2. Oversight and Accountability	1. Laws affecting the operations of the commission. 2. Adequate funding. 3. Approval of Finance Bills
3.	County Government	1. Information on research system 2. Support on STI Matters	1. Facilitate research 2. Collaboration on STI Matters

4.	Local and International Research Institutions	1. Develop a national research agenda. 2. Share information on the research system	Translation of research findings into products and services.
5.	Media	Provide information on research system	1. Disseminate data and information on research, science and technology 2. Accurate and objective reporting
6.	Non-Governmental Organizations	Involvement in policy formulation, advisories and implementation	1. Partner with academia and research institutions 2. Promote research and development
7.	Academia (Universities, research institutions and training institutes)	1. undertake training Conduct research and/technology development 2. Outreach and consultancies	1. Sector-specific expertise
8.	Public	1. Provide information on research, science and technology 2. Provide employment, internships and attachment. 3. Transparency and accountability	1. Support science and technology development 2. Utilize research, science and technology output.
9.	Internal Stakeholders	1. Competitive terms and conditions of service 2. Career Progression 3. Prompt communication. 4. Timely decision-making.	1. High-Performance levels 2. Commitment to the NACOSTI mandate and core values
10.	Development Partners	Prudent Utilization of resources and timely reporting	1. Alignment of programmes to National Priorities 2. Adherence to contractual agreements

			3. Technical assistance in support of STI Programmes
11.	Regulatory Agencies	Collaborate on development and implementation of policies, legislations and regulations	Share relevant information on research, science and technology programmes
12.	Researchers	1. User-friendly application system 2. Timely processing of research license applications 3. Prudent response to enquiries 4. Access to research information	1. Provide relevant and accurate information 2. Reporting. 3. Compliance with the Act and regulations
13.	Service Providers	1. Prompt payment for services and goods supplied as per agreements 2. Fairness and equal opportunity	1. Quality products and services 2. Timely service delivery
14.	Ministries Departments and State Agencies (MDAs)	1. Favorable policies to support research and development and collaboration 2. Feedback	1. Capacity building 2. Strengthen multi-disciplinary research. 3. Translation of research findings into products and services - public

CHAPTER THREE: STRATEGIC MODEL

3.0 Overview

This Chapter captures the Strategic Model that will guide the Commission towards the realization of its mandate over the next five years. The Chapter includes: Vision, Mission, and Core values, as well as the key components of the Science, Technology and Innovation System/Sector. Key Results Areas, Strategic Objectives, and Strategies for realizing the same are also presented.

3.1 Vision Statement, Mission Statement and Core Values

3.1.1 Vision: A Dynamic and Transformational Science, Technology and Innovation System/Sector. *(benchmarked with Norway's STI System-OECD, Aug 2022)*

3.1.2 Mission: To regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.
(STI Act Section 4)

3.1.3 Motto: Science, technology, and Innovation for national prosperity and public good

3.1.4 Core Values:

a) **Customer focus**
We are committed to always placing the customer at the core of the Commission's business and ensuring high quality of service at all times.

b) **Professionalism**
We shall maintain high standards while discharging our duties by abiding to professional considerations on the methods, standards and procedures in our work.

c) **Teamwork**
We are committed to teamwork within the Commission and will work collaboratively, cooperatively and constructively within or with outside stakeholders in order to achieve our mission.

d) **Integrity**
We are committed to promoting transparency and accountability in our work. We shall be impartial, honest, objective and unbiased in how we relate to each other and our stakeholders.

e) **Leadership**
We shall provide guidance in development of a competitive research, science and technology system.

f) **Responsiveness**
We shall be responsive to stakeholder needs

g) **Fairness**
We are committed to fairness in all our undertakings

3.1.5 Science, Technology and Innovation System/Sector

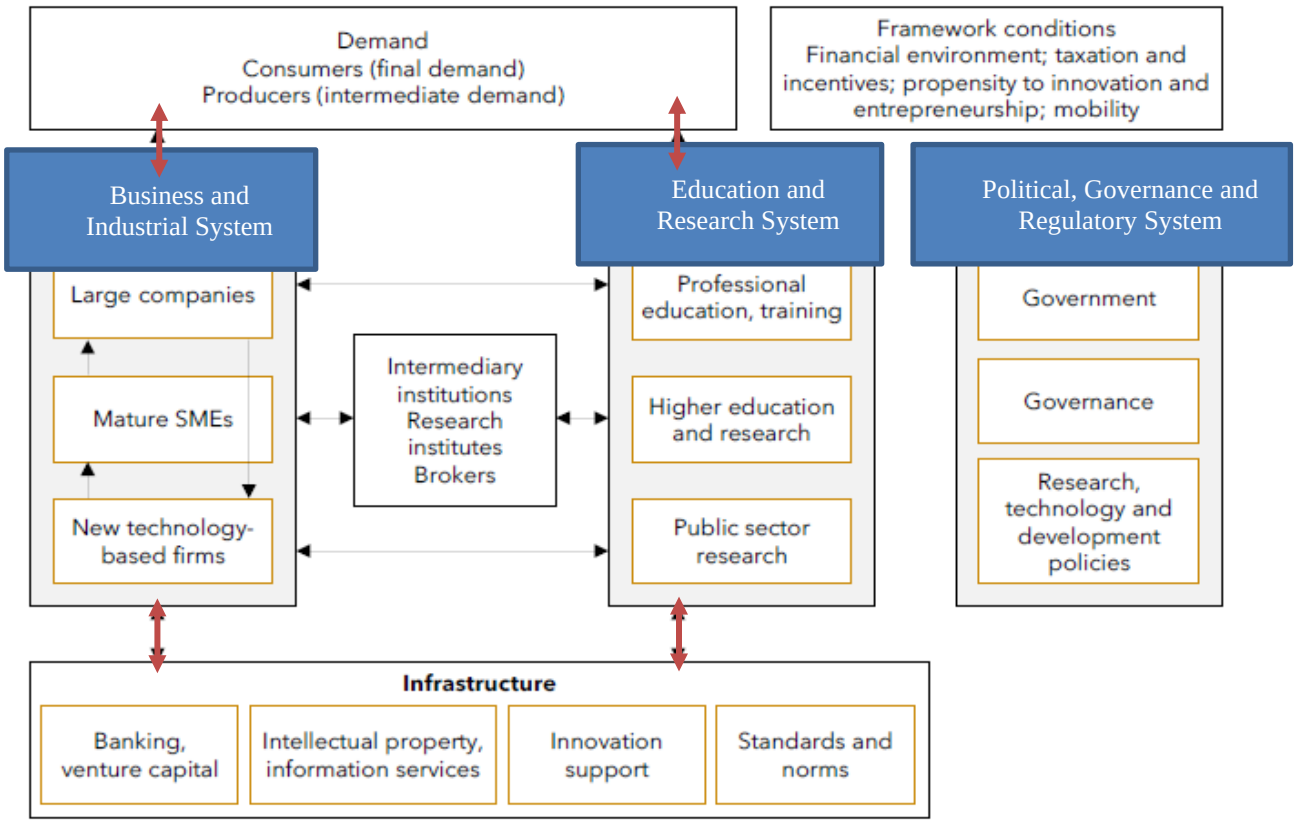


Fig. 3.1 Science, Technology and Innovation System/Sector

3.1.6 Science, Technology and Innovation Indicators

A major purpose for the Science, Technology and Innovation Act of 2013 (Rev. 2014) is to entrench science, technology and innovation into the national production system and for connected purposes. In the assessment of outcomes, there is need for clear and verifiable indicators. Indicators provide distinct measurement spectrum for realistic interpretation of data, and hence facilitates progress evaluation, determination of essential strategic statistical data for both formulations of public policies and investment in R&D, the detection and understanding of patterns or behaviour, as well as the identification of future trends, thus guiding informed decision-making.

Current global approach has adopted STI Indicator Conceptual Framework that focuses on four key aspects/activities, viz **STI Framework Conditions, STI Investments, STI Innovation Activities and STI Impacts,** and has 12 dimensions which may be actioned through a myriad of indicators (see Figure below).

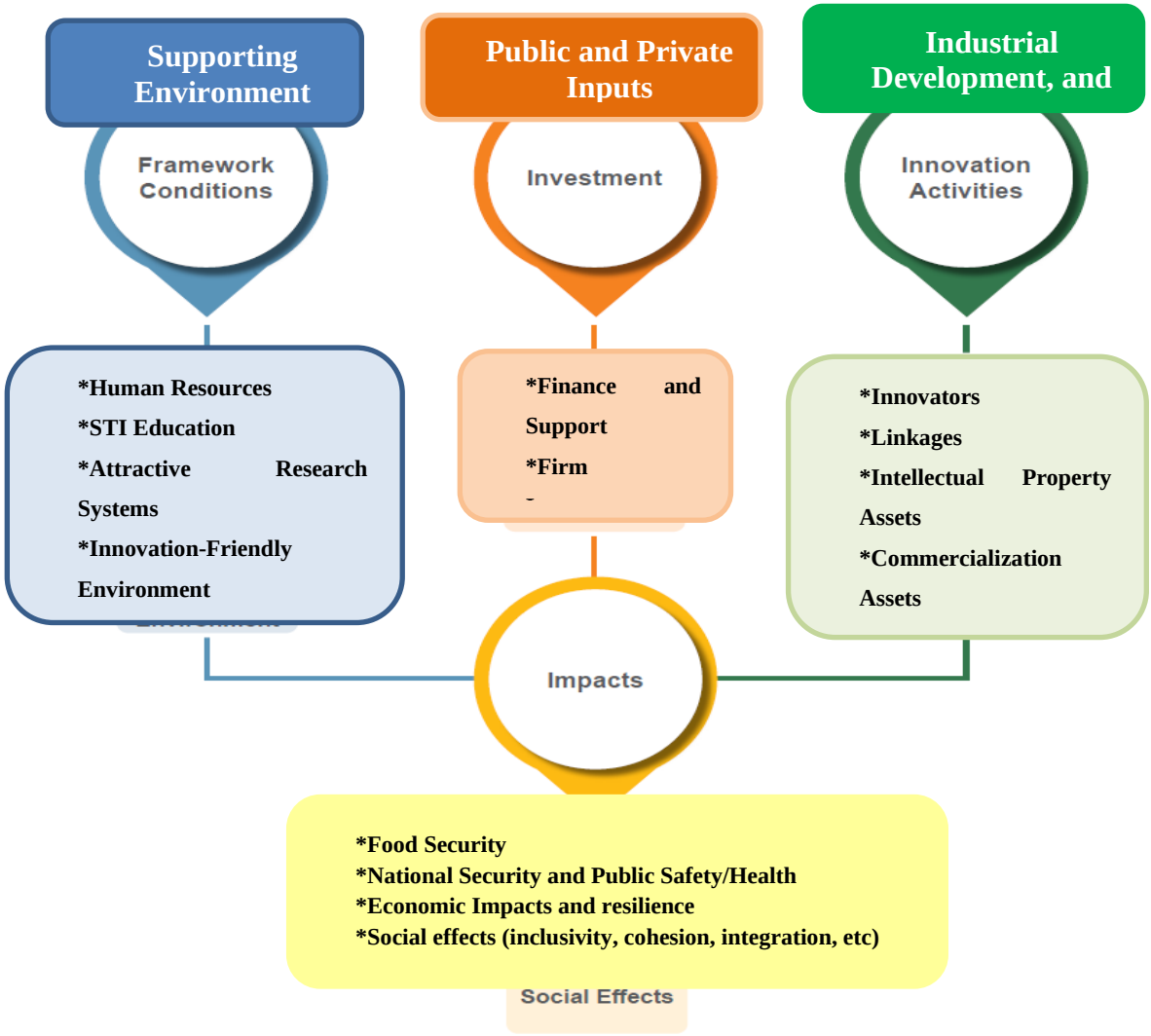


Fig. 3.2 STI Indicators Conceptual Framework

3.2 Key Result Areas (KRAs)

In line with the Commission's Vision and Mission/Mandate, four Key Results Areas have been identified and will be part of this Strategic Plan, namely;

KRA 1: Regulation, Advisory and Promotion
KRA 2: Surveillance and Compliance
KRA 3: Planning, Partnership and Resource Mobilization
KRA 4: Institutional Capacity and Corporate Positioning

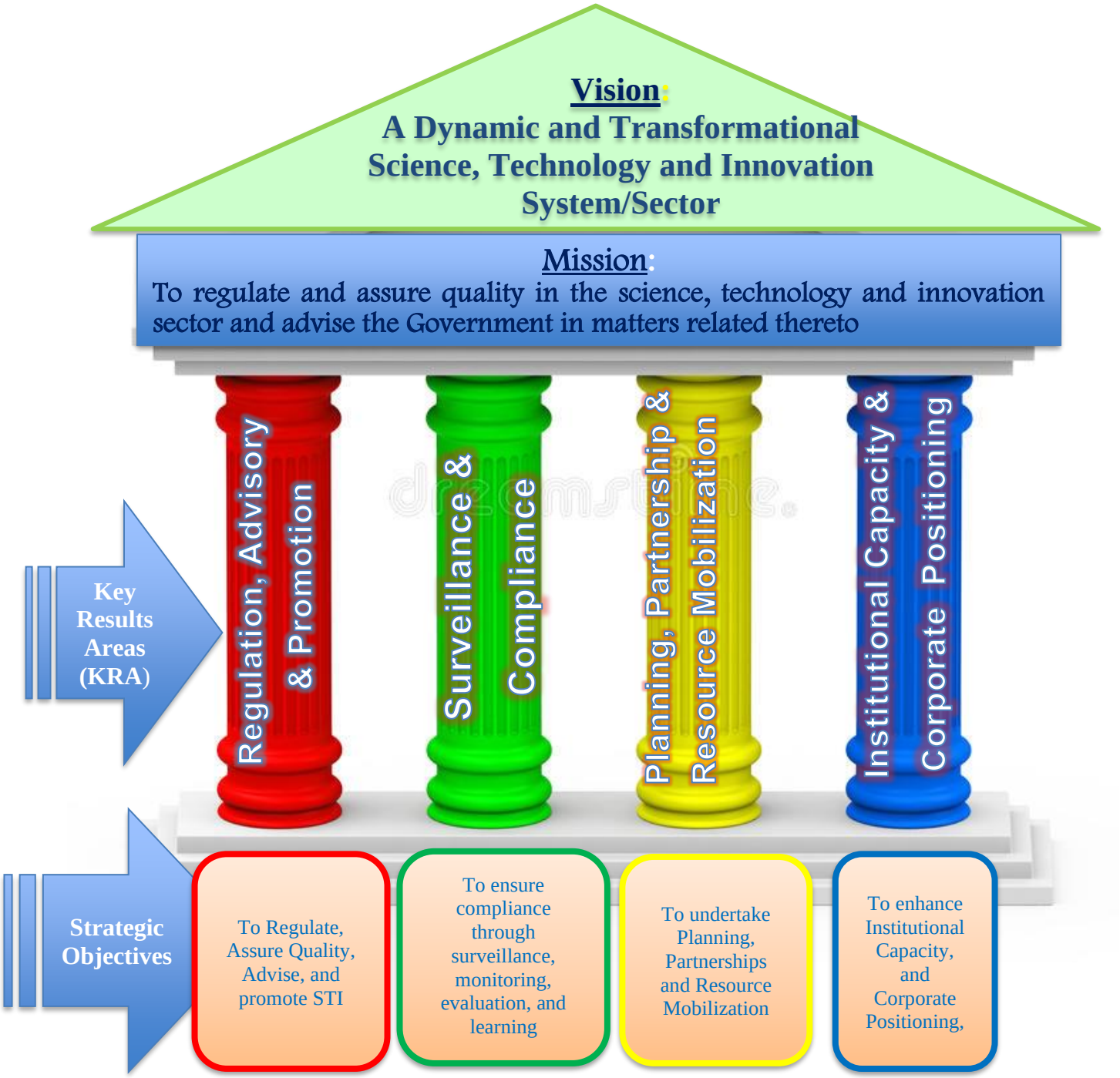


Fig. 3.3 Pillars of the Strategic Plan

3.3 Strategic Objectives

The Key Results Areas will be achieved through the following Strategic Objectives

KRA 1: REGULATION, ADVISORY AND PROMOTION

SO1: Strategic Objective 1: To regulate the science, technology and innovation sector (STI Act Section 4)

Strategies

1) License/approve all scientific research in Kenya (Section 6(1)(f))
2) Register/accredit research institutions, (Section 6(1)(f))

SO2 Strategic Objective 2: To develop advisories on science, technology and innovation (STI Act section 6(1)(c, h, j)

Strategies

1) Advise the national government on science, technology and innovation (Section 6(1)(c))

SO3: Strategic Objective 3: To promote science, technology and innovation for socio-economic development

Strategies

1) promote increased awareness, knowledge and information of research system; (Section 6(1)(k))
2) promote the adoption and application of scientific and technological knowledge and information necessary in attaining national development goals (Section 6(1)(o))
3) promote and encourage private sector involvement in scientific research and innovation and development; (Section 6(1)(m))
4) In consultation with the National Research Fund Trustees, sponsor national scientific and academic conferences it considers appropriate; (Section 6(1)(i)
5) promote knowledge creation, storage and dissemination (Section 7(c)

KRA 2: SURVEILLANCE AND COMPLIANCE

SO1 Strategic Objective 1: To strengthen compliance with the policy and regulatory framework, and assure quality of research, science, technology and innovation in the country.

Strategies

Undertake surveillance, regular inspections, monitoring and evaluation of activities in the STI Sector to ensure compliance with set standards and guidelines (Section 6(1)(q))

SO2 Strategic Objective 2: To strengthen Regulatory and Quality Assurance Frameworks

Strategies

develop and enforce codes, guidelines and regulations in accordance with the policy determined under this Act for the governance, management and maintenance of standards and quality in research systems (Section 6(1)(p))

KRA 3: PLANNING, PARTNERSHIP AND RESOURCE MOBILIZATION

SO1 Strategic Objective 1: To strengthen planning for the science, technology and innovation sector

Strategies

1) **Enhance planning for Programmes in the STI Sector**
2) **Coordinate QMS and Risk Management Framework**

SO2 Strategic Objective 2: Strengthen capacity for resource mobilization

Strategies

1) **Enhance collaborations and partnerships (Section 6(1)(e))**
2) **Enhance international commitments in research science technology and innovation. (Section 6(1)(a))**

SO3 Strategic Objective 3: To promote co-operation and synergies between the various agencies involved in science, technology and innovation

Strategies

1) **lead inter-agency efforts to implement sound policies and budgets, working in collaboration with the county governments, and organizations involved in science and technology and innovation within Kenya and outside Kenya; (Section 6(1)(b))**
2) **ensure co-ordination and co-operation between the various agencies involved in science, technology and innovation; (Section 6(1)(e))**
3) **collaborate with similar scientific institutions or organizations operating outside Kenya (Section 6(2)(d))**
4) **Enhance Knowledge Management (Section 6(1)(k))**

KRA 4: INSTITUTIONAL CAPACITY AND CORPORATE POSITIONING

SO1 Strategic Objective 1: To strengthen institutional capacity

Strategies

1) Enhance Human Resource Capacity
2) Coordinate staff performance management
3) Establish/Enhance staff wellness programmes
4) Coordinate Institutional Performance Contract

SO2 Strategic Objective 2: To enhance Resource Mobilization and optimization

Strategies

1) Enhance resource mobilization and prudent utilization of financial resources.
2) Enhance institutional automation/digitization

SO3 Strategic Objective 3: To enhance Corporate positioning

Strategies

1) Enhance corporate visibility, and positioning
2) Enhance Workplace and Customer satisfaction

3.4 Strategic Matrix

Table 3.1(a) Strategic Matrix for KRA 1

KRA 1: REGULATION, ADVISORY AND PROMOTION	
Strategic Objectives	**Strategies**
SO 1: Strategic Objective 1: To regulate the science, technology and innovation sector (STI Act Section 4)	1. License/approve all scientific research in Kenya (Section 6(1)(f)) 2. Register/accredit research institutions, (Section 6(1)(f))
SO 2 Strategic Objective 2: To develop advisories on science, technology and innovation (STI Act section 6(1)(c, h, j)	1. Advise the national government on science, technology and innovation (Section 6(1)(c))
SO3: Strategic Objective 3: To promote science, technology and innovation for socio-economic development	1) promote increased awareness, knowledge and information of research system; (Section 6(1)(k)) 2) promote the adoption and application of scientific and technological knowledge and information necessary in attaining national development goals (Section 6(1)(o)) 3) promote and encourage private sector involvement in scientific research and innovation and development; (Section 6(1)(m)) 4) In consultation with the National Research Fund Trustees, sponsor national scientific and academic conferences it considers appropriate; (Section 6(1)(i) 5) promote knowledge creation, storage and dissemination (Section 7(c)

Table 3.1(b) Strategic Matrix for KRA 2

KRA 2: SURVEILLANCE AND COMPLIANCE	
Strategic Objectives	**Strategies**
Strategic Objective 1: To strengthen compliance with the policy and regulatory framework, and assure quality of research, science, technology and innovation in the country.	Undertake surveillance, regular inspections, monitoring and evaluation of activities in the STI Sector to ensure compliance with set standards and guidelines (Section 6(1)(q))
Strategic Objective 2: To strengthen Regulatory and Quality Assurance Frameworks	Develop and enforce codes, guidelines and regulations in accordance with the policy determined under this Act for the governance, management and maintenance of standards and quality in research systems (Section 6(1)(p))

Table 3.1(c) Strategic Matrix for KRA 3

KRA 3: PLANNING, PARTNERSHIP AND RESOURCE MOBILIZATION	
Strategic Objectives	**Strategies**
Strategic Objective 1: To strengthen planning for the science, technology and innovation sector	1) Enhance planning for Programmes in the STI Sector 2) Coordinate QMS and Risk Management Framework
Strategic Objective 2: To strengthen capacity for resource mobilization	1) Enhance collaborations and partnerships (Section 6(1)(e)) 2) Enhance international commitments in research science technology and innovation. (Section 6(1)(a))
Strategic Objective 3: To promote co-operation and synergies between the various agencies involved in science, technology and innovation	1) lead inter-agency efforts to implement sound policies and budgets, working in collaboration with the county governments, and organizations involved in science and technology and innovation within Kenya and outside Kenya; (Section 6(1)(b)) 2) ensure co-ordination and co-operation between the various agencies involved in science, technology and innovation; (Section 6(1)(e)) 3) collaborate with similar scientific institutions or organizations operating outside Kenya (Section 6(2)(d)) 4) Enhance Knowledge Management (Section 6(1)(k))

Table 3.1(d) Strategic Matrix for KRA 4

KRA 4: INSTITUTIONAL CAPACITY AND CORPORATE POSITIONING	
Strategic Objectives	**Strategies**
Strategic Objective 1: To strengthen institutional capacity	1) Enhance Human Resource Capacity 2) Coordinate staff performance management 3) Establish/Enhance staff wellness programmes 4) Coordinate Institutional Performance Contract
Strategic Objective 2: To enhance Resource Mobilization and optimization	1) Enhance resource mobilization and prudent utilization of financial resources. 2) Enhance institutional automation/digitization
Strategic Objective 3: To enhance Corporate positioning	1) Enhance corporate visibility, and positioning 2) Enhance Workplace and Customer satisfaction

CHAPTER FOUR: IMPLEMENTATION AND COORDINATION FRAMEWORK

4.0 Overview

This chapter provides information on the resources required to implement the strategic plan. This includes the Commission's human capacity needs, financial resources requirement, organizational structure, resource mobilization strategies as well risk and mitigation strategies.

4.1 Structure of the Organization

In order to enhance efficiency and effectiveness in implementation of its mandate, the Commission's is structured as shown in the organogram in Fig. 4.1. The organizational structure was reviewed and approved to incorporate emerging human resource management trends, and to effectively respond to national development goals. The Organization Structure has seven (7) functions reporting to the Director General. The seven (7) functions reporting to the Director General of the Commission are as listed below;

(i) Directorate of Advisory, Standards and Licensing
(ii) Directorate of Compliance, Monitoring and Evaluation
(iii) Directorate of Corporate Services
(iv) Planning, Partnership, and Resource Mobilization Department
(v) Internal Audit Department;
(vi) Supply Chain Management Department; and
(vii) Corporation Secretary and Legal Services Department

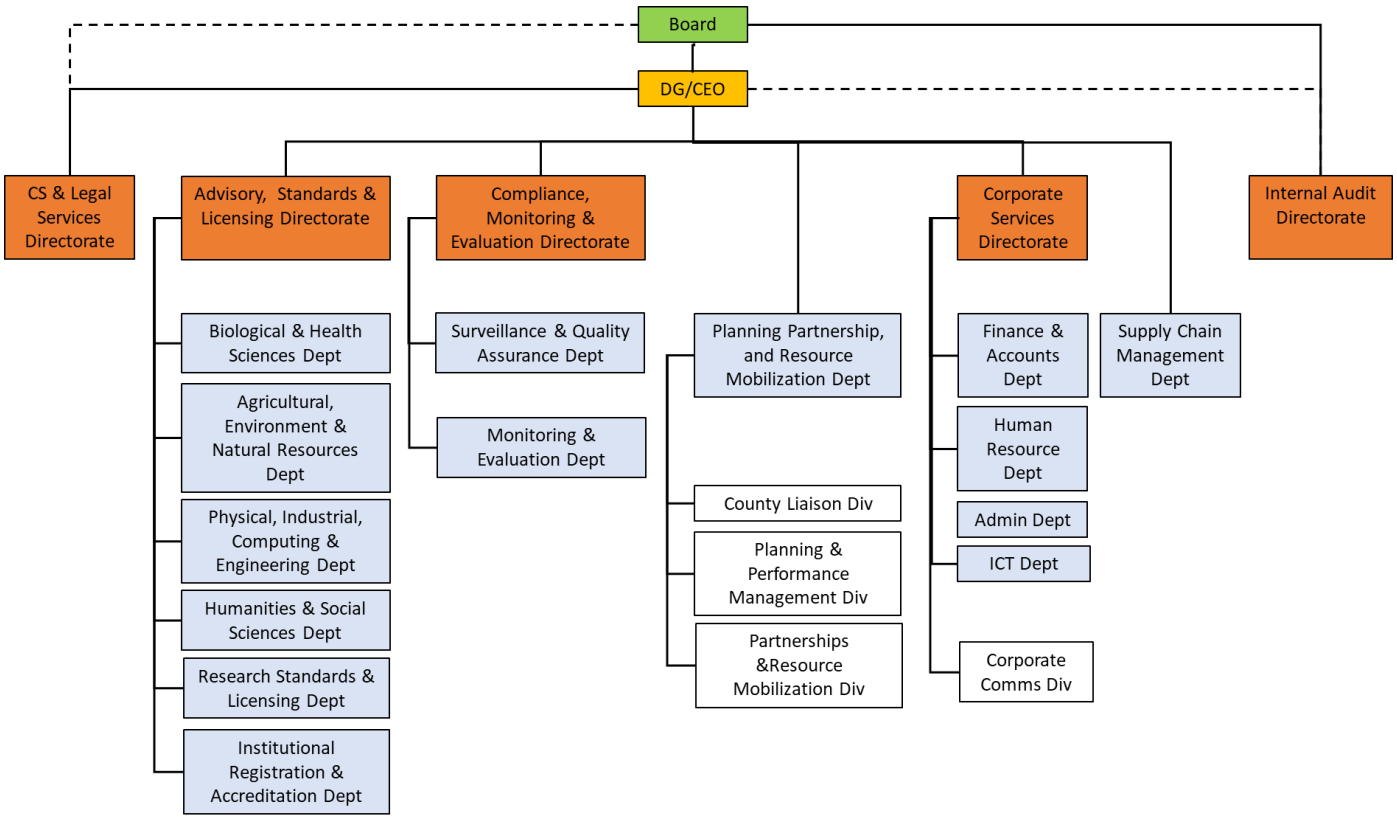


Fig. 4.1 Organogram

4.2 Directorates/ Departments/Units

The Commission is organized into the Office of the Director General, Directorates, Departments, Divisions, Sections and Units. These include:

Office of the Director General (ODG)

The Office is responsible for implementation of the Commission's strategic goals and the management of its resources including; giving direction and leadership to the achievement of NACOSTI's mission, the development of its strategy, and the attainment of its annual goals and objectives. In addition, the office is responsible for the day-to-day operations and administration of the Commission. The following Directorates and Departments report to the Office of the Director General:

i. Directorate of Advisory, Standards and Licensing
ii. Directorate of Compliance, Monitoring and Evaluation
iii. Directorate of Corporate Services
iv. Planning, Partnership, and Resource Mobilization Department
v. Internal Audit Department;
vi. Supply Chain Management Department; and
vii. Corporation Secretary and Legal Services Department

Directorate of Advisory, Standards and Licensing (DASL)

The Directorate is anchored in the STI Act, 2013 Part III, Part IV, Part V; Second Schedule; and Regulations 2014 and implements the core mandate of the Commission of regulation, quality assurance and advisory services.

The Directorate comprises the following Departments:

i. Biological and Health Sciences Department
ii. Agricultural, Environment and Natural Resources Department
iii. Physical, Industrial, Computing and Engineering Department
iv. Humanities and Social Sciences Department
v. Research Standards and Licensing Department
vi. Institutional Registration and Accreditation Department

Directorate of Compliance, Monitoring and Evaluation (DCME)

The Directorate is anchored in the STI Act, 2013 Part II, Part III, Part IV, Part V; and the Relevance and Quality Assurance Regulations 2014 and implements the core mandate of the Commission of regulation and quality assurance.

The Directorate comprises the following Departments:

i. Surveillance and Quality Assurance Department
ii. Monitoring and Evaluation Department

Directorate of Corporate Services

The Directorate is anchored in Section 3 sub section 2 of the STI Act which recognizes the Commission as a body corporate with perpetual succession and a common seal and shall among other functions take purchase and otherwise acquire, hold, charge of disposable of moveable or immovable property; borrow, lend and receive money and enter into contracts. To effectively harness the efforts of corporate services, the Directorate will provide strategic leadership, expert advice and input to the Commission to ensure optimal utilization and management of the Commission's resources.

The Directorate comprises the following Departments and Divisions:

i. Finance and Accounts Department
ii. Human Resource Management Department
iii. ICT Department
iv. Administration Division
v. Corporate Communications Division

4.3 Staff Establishment

Currently the Commission has an approved establishment of ninety eight staff against an in-post of fourth seven(47). To realize its mandate and implement the envisaged activities, the Commission will seek to have in place an optimal human resource capacity which will be addressed through recruitment.

4.3.1 Staff Establishment

The approved staff establishment for the Commission is ninety eight (98). Currently the staff in-post is 47 with a variance of 51 as detailed in the Table **:

Table 4.1 Staff Establishment

Cadre	Approved Establishment	In post	Variance
Director General	1	1	0
Directors	3	0	3
Deputy Directors/Managers	16	9	7
Principal	23	4	19
Scientist/Officer/Senior	35	21	12
Office Administrator /Senior	1	0	1
Assistant Office Administrator /Senior	4	5	1
Assistant Records Management	1	1	0
Accounts/Supply Chain Assistants/Corporate Communications	6	3	3
Principal Driver/Senior/Driver	5	3	2
Office Assistant/Senior	3	0	3
Total	98	47	51

4.3.2 Human Resource/ Capital Management and Development Strategies

To enhance capacity development and efficiency of staff, the Commission will pursue the following strategies:

i. Attract and maintain optimal human resource capacity for the achievement of Commission's manpower development goals and skills acquisition
ii. Enhance Human Resource Training and Development (in built in the 1st strategy)
iii. Develop and implement a Succession Management Plan
iv. Coordinate staff performance management system

4.4 Financial Resources

4.4.1 Financial Resources Requirements

Table 4.2 Financial Resource Requirement

Key Results Areas (KRAs)		Projected Resource Requirements (Ksh. Million)					Total Budget (Ksh. Million)
		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	
KRA 1: REGULATION, ADVISORY AND PROMOTION		1,069	1,012	999	1,010	1,021	5,111
KRA 2: SURVEILLANCE AND COMPLIANCE		715	535	535	535	535	2,855
KRA 3: PLANNING, PARTNERSHIP AND RESOURCE MOBILIZATION		199	228	256	302	206	1,191
KRA 4: INSTITUTIONAL CAPACITY AND CORPORATE POSITIONING		208	182	197	216	223	1,026
OTHER BUDGET ITEMS							
	SUB-TOTAL	2,191	1,957	1,987	2,063	1,985	
	TOTAL						10,183

4.4.2 Resource Gaps

Table 4.3 Resource Gaps

		REQUIREMENT (KSHS MILLION)	ESTIMATED RESOURCE ALLOCATIONS (KSHS MILLION)		VARIANCE (KSHS MILLION)
YEAR 1		2,191			
YEAR 2		1,957			
YEAR 3		1,987			
YEAR 4		2,063			
YEAR 5		1,985			
TOTAL		10,183			

4.4.3 Resource Mobilization Strategies

The Commission will review and implement resource mobilization strategics that seek Financial sustainability, Institutional sustainability, and Programmatic sustainability. Resource mobilization strategies will include the following;

- Capitation from the National Treasury
- Rent obtained from leasing of space at NACOSTI Plaza
- Rent obtained from leasing Hotel and Conference facility
- Capacity building relating to the Commission's regulatory and advisory mandate in the science, technology and innovation sector
- Grant applications
- Joint ventures with other agencies

4.4.4 Resource Management

The Commission will endeavor to allocate resources to achieve the best organizational value. To ensure optimum resource management, the Commission will deploy its financial resource in conformity the Public Finance Management Act, 2012 and Public Procurement and Disposal Act, 2015. Further, cost-cutting measures will be implemented in every functional area, while at the same time digitizing/automating its services where deemed necessary.

4.5 Business Process Re-Engineering

As part of Business Process Re-Engineering, the Commission will adopt a whole-government approach in achieving its mandate, and will hence focus on ground-up design of doing business by encouraging full-scale recreation of processes to achieve desired results, rather than iterative optimization of sub-processes. Accordingly, business operations will be streamlined to improve service quality, and reduce costs. Deployment of technological innovations to cut-down operational costs will be encouraged throughout the Commission, with priority being given to digitization/automation with the aim of radically transforming Commission's operations.

4.6 Risk Analysis and Mitigation Measures

The Commission recognizes that it is exposed to several types of risks that may include; **Strategic risk; Operational risk; Reputational risk; Compliance risk; and Legal risk**. In this regard the Commission will prepare a risk map/matrix to help guide in risk management and mitigation by analyzing the consequences of a risk, and likelihood (see Table below 4.4).

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Table 4.4 Risk Matrix

Likelyhood	Consequences				
	Insignificant *Risk is easily mitigated by normal day to day process*	**Minor** *Delays up to 10% of Schedule Additional cost up to 10% of Budget*	**Moderate** *Delays up to 30% of Schedule Additional cost up to 30% of Budget*	**Major** *Delays up to 50% of Schedule Additional cost up to 50% of Budget*	**Catastrophic** *Project abandoned*
Certain *>90% chance*	High	High	Extreme	Extreme	Extreme
Likely *50% - 90% chance*	Moderate	High	High	Extreme	Extreme
Moderate *10% - 50% chance*	Low	Moderate	High	Extreme	Extreme
Unlikely *3% - 10% chance*	Low	Low	Moderate	High	Extreme
Rare *<3% chance*	Low	Low	Moderate	High	High

The Commission will continuously undertake risk analysis and mitigation through identification of risks, understanding how they might affect the Commission, and specification of risk mitigation measures to minimize their effects. The mitigation strategies will include; risk avoidance, risk reduction, risk transference, and risk acceptance. Table 4.5 below gives the Commission's risk analysis and mitigation measures.

Table 4.5 Commission's risk analysis and mitigation measures.

	STRATEGIC OBJECTIVE	RISK CLASS	RISK AND DESCRIPTION	LIKELIHOOD (L/H/M)	IMPACT (L/H/M)	OVERALL RISK LEVEL (L/H/M)	MITIGATION MEASURE(S)	RISK OWNER
KRA 1	**Strategic Objective 1: To regulate the science, technology and innovation sector** (STI Act Section 4)		Inadequate awareness on the STI Act	M	M	M	Undertake awareness creation	DASL
	Strategic Objective 2: To develop advisories on science, technology and innovation (STI Act section 6(1)(c, h, j)		Inadequate human capital	H	H	H	Utilize Resource persons See deployment of staff from	DCS

							other agencies	
	Strategic Objective 3: **To promote science, technology and innovation for socio-economic development**		Rapid Technological change	H	H	H	Capacity building, networking, and conference attendance	DASL DCME
KRA 2	**Strategic Objective 1:** To strengthen compliance with the policy and regulatory framework, and assure quality of research, science, technology and innovation in the country.		Weak Monitoring and Evaluation (M&E) framework	L	L	L	Develop guidelines form M&E	DCME
	Strategic Objective 2: To strengthen Regulatory and Quality Assurance Frameworks		Inadequate human capital	H	H	H	Utilize Resource persons See deployment of staff from other agencies	DCS
KRA 3	**Strategic Objective 1:** To strengthen planning for the science, technology and innovation sector		Resistance to change	M	M	M	Building capacity for culture change and team work	PPR Dept.
	Strategic Objective 2: To strengthen capacity for resource mobilization		Resistance to change	M	M	M	Building capacity for culture change and team work	PPR Dept.
	Strategic Objective 3: To promote co-operation and synergies between the various agencies involved in science, technology and innovation		Resistance to change	M	M	M	Building capacity for culture change and team work	PPR Dept.

KRA 4	**Strategic Objective 1:** To strengthen institutional capacity		Inadequate financial resources				Implement Resource mobilization strategies	DCS PPR Dept.
	Strategic Objective 2: To enhance Resource Mobilization and optimization		Delayed capitation	H	H	H	Engage with MoE and the National Treasury	DCS
	Strategic Objective 3: To enhance Corporate positioning		Weak internal and external communications structures	M	M	M	Review and implement Communication strategy	DCS

CHAPTER FIVE: MONITORING, EVALUATION AND LEARNING

5.0 Overview

The Chapter presents on Monitoring, Evaluation, and Learning (MEL) Framework. The MEL Framework outlines the approach to monitoring and evaluating the implementation of the Strategic Plan over the next five years. Monitoring and evaluation will provide the Commission with key information necessary for risk assessment, decision support, resource management, programmes development, and quality assurance for continuous improvement as relates to the deliverables listed under Key Performance Areas.

5.1 Monitoring

Monitoring of the strategic plan will be undertaken to provide progress reports on the state of its implementation, as well as detect potential bottlenecks and inform any adjustments where necessary. This will be achieved through the specification of input indicators, output indicators, and goals linked to indicators. **Input indicators** include financial, human, physical and intangible resources. **Output indicators** will specify expected impacts, result or product indicators and will be linked to the Key Results Areas, and Strategic Objectives of the Strategic Plan. Each indicator will be specific, measurable, achievable, relevant and time bound (SMART). A baseline and a measurable **goal** for each indicator will be specified.

Monitoring will involve collecting and analyzing information related to indicators identified in the implementation matrix of this strategic plan. Where adjustments or revisions are necessary, this will be negotiated with the top management before it is implemented.

Monitoring process will involve the following:

- Developing monitoring (and evaluation) plan at the beginning of the strategic planning cycle, with clear indicators at all levels of implementation
- Establishing a Monitoring, Evaluation and Learning Committee (MELC)
- Carrying out continuous data collection, analysis and reporting on quarterly basis
- Carrying out random inspections and making objective observations
- Conducting specially designed surveys and rapid assessments to assess progress.
- Carrying out participatory M&E

5.2 Evaluation

Rigorous evaluation of the strategic plan will be undertaken to provide judgement on its effectiveness to achieve the desired results, as well as to identify factors likely to contribute to success or failure. The results of evaluation exercises will facilitate accountability of the strategic plan, as well as stakeholder engagement, and public advocacy. In this context, evaluation will involve a systematic and objective process of examining the relevance, effectiveness, efficiency, and impact of the strategies. Evaluation will be done through formal surveys, assessments, interviews, peer reviews, focus groups, and case studies, and will generally evaluate what is accomplished against the set targets. Two main evaluation activities will be undertaken. These are the mid-term and end term evaluations.

The evaluation shall specifically address the following issues:

- **(i)** Impact: The extent to which the implementation of activities met the stated strategies and objectives.
- **(ii)** Sustainability: Assesses the sustainability of the achievements made.
- **(iii)** Effectiveness: Determine the level of effectiveness of the strategies in achieving objectives.
- **(iv)** Efficiency: Assess the efficacy of the methodology employed in achieving results obtained.
- **(v)** Economy: Determine the level of effective use of resources available during the period.
- **(vi)** Accountability: Assess the level of accountability in the deliverables as were set out in the Strategic Plan.

Mid-term evaluation

The purpose of midterm evaluation is to examine progress towards achieving the set targets. This will be spearheaded internally by the strategic plan implementation committee. Recommendations of the mid-term evaluation will help in making improvements to the strategic plan implementation process.

End-term

End term evaluation will be conducted at the end of the strategic plan period and the achievements, challenges, lessons learnt and recommendations will inform the next cycle of strategic planning process at the Commission.

5.3 Learning

One of the objectives of the monitoring, evaluation, and learning (MEL) exercise will be to document the lessons learnt including best practices which will inform corrective action undertaken so that implementation of the Strategic Plan remains on course. All in all, monitoring, evaluation, and learning: enables effective improvements and interventions to meet desired outcomes, thus leading to enhanced motivation of personnel undertaking implementation, accurate data collection, better outcomes and value for money, as well as involvement of key stakeholders. Further, the lessons learnt will inform the next cycle of the strategic plan.

ANNEXES

Annex I: Implementation Matrix

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Resp	Total Budget
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
KRA 1: REGULATION, ADVISORY AND PROMOTION																	
Strategic Objective 1: To regulate the science, technology and innovation sector																	
1	License/approve all scientific research in Kenya (Section 6(1)(f))	Evaluate, and defer/reject/License/approve scientific research proposals in Kenya (Monthly seating of Review committee @ 3m)	No. Granted research licenses	Report of granted research licenses	39,500	6000	7000	8000	9000	9500	36	36	36	36	36		180

		Evaluate progress of selected Licensed/approved scientific research in Kenya (quarterly seating of Review committee @ 3m)	**No. of Monitored and evaluated licensed researches**	**Report of monitored and evaluated licensed researches**	**1,000**	**100**	**150**	**200**	**250**	**300**	**12**	**12**	**12**	**12**	**12**		**60**
		co-ordinate, monitor and evaluate, as appropriate, activities relating to scientific research and technology development; (Section 6(1)(l)) (quarterly visit to 8 regions @ 6m)									**96**	**96**	**96**	**96**	**96**		**480**

		Ensure patenting of relevant research outcomes before dissemination, and institute such action in respect of the patent as it may deem appropriate for the security, and socio-economic development of the country; (Section 6(2) (quarterly visit to 8 regions @ 6m)									**96**	**96**	**96**	**96**	**96**		**480**

		liaise with the National Innovation Agency and the National Research Fund to ensure funding and implementation of prioritized research programmes; (Section 6(1)(d))									**1**	**1**	**1**	**1**	**1**		**5**

2	**Register/accredit research institutions, (Section 6(1)(f))**	**Evaluate, and defer/reject/register/accredit all applications submitted for Registration of Research Institutions in Kenya**	**% of evaluated, deferred or rejected or registered/accredited applications submitted for Registration of Research Institutions in Kenya**	**Report of evaluated, deferred or rejected or registered/accredited applications submitted for Registration of Research Institutions in Kenya**	**100%**	**100 %**	**100 %**	**100 %**	**100 %**	**100 %**	**96**	**96**	**96**	**96**	**96**		**480**
		Evaluate progress of selected registered/accredited Research institutions in Kenya	**No of Monitored and evaluated selected registered/accrdited Research institutions in Kenya**	**Report of Monitored and evaluated selected registered/accrdited Research institutions in Kenya**	**200**	**40**	**40**	**40**	**40**	**40**	**96**	**96**	**96**	**96**	**96**		**480**

		Coordinate activities of Institutional Scientific and Ethical Review Committees, and the National Scientific and Ethics Committee (Quarterly meetings @ 3M)									**12**	**12**	**12**	**12**	**12**		**60**
Strategic Objective 2: To develop advisories on science, technology and innovation																	
1	**Advise the national government on science, technology and innovation (Section 6(1)(c))**																
		Undertake Annual review of the progress of science, technology and innovation and submit a report (Section 6(1)(n)) eight regions x twice a year x 6m	**Review Report**	**Submitted report**	**5**	**1**	**1**	**1**	**1**	**1**	**96**	**96**	**96**	**96**	**96**		**480**

		Develop advisories on science education (Section 6(1)(h))	**Advisories developed**	**Number of advisories**	**20**	**4**	**4**	**4**	**4**	**4**	**12**	**12**	**12**	**12**	**12**		**60**
		Advise the Government on key policies and any issue relating to scientific research systems, as well as on emerging issues (Section 6(1)(j);	**Advisories developed**	**Number of advisories**	**5**	**1**	**1**	**1**	**1**	**1**	**3**	**3**	**3**	**3**	**3**		**15**
Strategic Objective 3: To promote science, technology and innovation for socio-economic development																	
1	**Promote increased awareness, knowledge and information of research system; (Section 6(1)(k))**	**Develop and implement STI communication/ diplomacy strategy.**	**Developed STI Communication/Diplomacy Strategy**	**Approved STI Communication/ Diplomacy strategy**	**1**	**1**	**-**	**-**	**-**	**-**	**3**						**3**
		Undertake STI awareness forums. (quarterly visit to 8 regions @ 6m)	**Awareness created**	**Number of forums**	**10**	**2**	**2**	**2**	**2**	**2**	**192**	**96**	**96**	**96**	**96**		**576**

		Establish Science and Technology Education Centre	**Science and Technology Education Centre established**	**Report**	**1**	**-**	**1**	**-**	**-**	**-**		**30**	**5**	**5**	**5**		**45**
2	**Promote the adoption and application of scientific and technological knowledge and information necessary in attaining national development goals (Section 6(1)(o))**	**Develop STI Mainstreaming and infusion Framework, and Capacity Building programmes for MCDAs, and Private Sector entities**	**Framework developed**	**Report of implementation**	**1**	**1**					**10**	**12**	**14**	**16**	**18**		**70**
		Coordinate STI Mainstreaming in Programmes and Projects of Ministries, Departments and Agencies (4 quarter @ 8m)									**32**	**32**	**32**	**32**	**32**		**160**

		Coordinate STI Mainstreaming in Programmes and Projects of County governments									**32**	**32**	**32**	**32**	**32**		**160**
		Coordinate STI Mainstreaming in Programmes and Projects of Private Sector entities governments									**32**	**32**	**32**	**32**	**32**		**160**
		Build human capacity for STI Mainstreaming and infusion through STI Professional Certification Programmes									**32**	**32**	**32**	**32**	**32**		**160**
3	**Promote and encourage private sector involvement in scientific research and innovation and**	**Develop a framework for private sector engagement**	**Established private sector linkages**	**Number of collaborations and partnerships established**	**10**	**2**	**2**	**2**	**2**	**2**	**96**	**96**	**96**	**96**	**96**		**480**

	development ; (Section 6(1)(m))	**Implement Programmes for infustion of STI in the private sector**									**20**	**20**	**20**	**20**	**20**		**100**
4	**In consultation with the National Research Fund Trustees, sponsor national scientific and academic conferences it considers appropriate; (Section 6(1)(i))**	**Organize annual multisectoral conference on STI**									**8**	**10**	**12**	**13**	**14**		**57**
		Organize annual High-Level Ministerial and Governors Dialogue on STI									**4**	**4**	**4**	**4**	**4**		**20**
		Organize annual exhibitions on STI									**10**	**11**	**12**	**13**	**14**		**60**
		Organize annual science and Technology Education, and Olympiad									**10**	**11**	**12**	**13**	**14**		**60**

5	**Promote knowledge creation, storage and dissemination (Section 7(c)**	**Undertake relevant RTI programmes**									**20**	**25**	**30**	**35**	**40**		**150**
		Create RTI repository for RTI activities in Kenya									**2**	**2**	**2**	**2**	**2**		**10**
		Disseminate R&D outcomes									**10**	**11**	**12**	**13**	**14**		**60**
	SUB-TOTAL										**1069**	**1012**	**999**	**1010**	**1021**		**5,111**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Resp	Total Budget
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
KRA 2: SURVEILLANCE AND COMPLIANCE																	
Strategic Objective 1: To strengthen compliance with the policy and regulatory framework, and and assure quality of research, science, technology and innovation in the country.																	

1	Undertake surveillance, regular inspections, monitoring and evaluation of activities in the STI Sector to ensure compliance with set standards and guidelines (Section 6(1)(q))	Undertake surveillance, regular inspections, monitoring and evaluation of Research activities in Kenya, and ensure compliance with laws, set standards, regulations, and guidelines (Section 6(1)(q)) (quarterly visit to 8 regions @ 6m)	No. of surveillance visits on Research activities in Kenya (at least one visit in each of the 8 regions in each quarter)	Report of of surveillance visits on Research activities in Kenya, aimed at ensuring compliance with laws, and regulations	**160**	32	32	32	32	32	**96**	**96**	**96**	**96**	**96**		**480**

		Undertake surveillance, regular inspections, monitoring and evaluation to ensure that there are no illegal research institutions, and registered/accredited institutions comply with laws, set standards, regulations, and guidelines (Section 6(1)(q)) (quarterly visit to 8 regions @ 6m)	No. of surveillance visits to ensure that there are no illegal research institutions	Report on surveillance visits to ensure that there are no illegal research institutions	**160**	32	32	32	32	32	**96**	**96**	**96**	**96**	**96**		**480**

		Undertake surveillance, regular inspections, monitoring and evaluationo of ISERCs and NSEC (Section 6(1)(q) and LN 107, LN 108)	Reports	Number of ISERCs	**75**	15	15	15	15	15	**225**	**45**	**45**	**45**	**45**		**405**
		Monitor and evaluate the implementation of STI Priorities (Section 6(1)(l))	STI priorities implementation Report	Level of implementation	**160**	32	32	32	32	32	**96**	**96**	**96**	**96**	**96**		**480**
Strategic Objective 2: To strengthen Regulatory and Quality Assurance Frameworks																	

	Develop and enforce codes, guidelines and regulations in accordance with the policy determined under this Act for the governance, management and maintenance of standards and quality in research systems (Section 6(1)(p))	Develop national STI priorities (Section 6(1)(a)) (five seatings for 4 months @ 3m)	Developed STI priorities	Published national STI priorities	1	1	-	-	-	-	**96**	**96**	**96**	**96**	**96**		**480**
		Develop national STI indicators	National STI indication developed	Published national STI indicators	1	1	-	-	-	-	**96**	**96**	**96**	**96**	**96**		**480**
		Establish a national performance framework for the STI Sector jn relation to global and regional performance indices	Review Report	Number of indices	3	3	-	-	-	-	**10**	**10**	**10**	**10**	**10**		**50**
	SUB-TOTAL										**715**	**535**	**535**	**535**	**535**		**2855**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Resp	Total Budget
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
KRA 3: PLANNING, PARTNERSHIP AND RESOURCE MOBILIZATION																	
Strategic Objective 1: To strengthen planning for the science, technology and innovation sector																	
1	Enhance planning for Programmes in the STI Sector	Review plans and programmes	Reviewed plans and programmes	Number of plans and programmes reviewed	7	2	2	2	1	-	**4**	**5**	**6**	**7**	**8**		**30**
		Monitor and evaluate the implementation of the plans and programmes for the STI Sector	Corporate plans and programmes monitored and evaluated	Number of plans and programmes monitored and evaluated	5	1	1	1	1	1	**3**	**3**	**3**	**4**	**5**		**18**
		Mid term review of the strategic plan	Mid term review of strategic plan undertaken	Level of implementation	1		-	1	-	-			**7**				**7**

2	Coordinate QMS and Risk Management Framework	Maintain Quality Management System	QMS Maintained	Number of QMS audit reports	20	4	4	4	4	4	**5**	**6**	**7**	**8**	**9**		**35**
		Coordinate implementation of the risk management framework	Risk management framework implemented	Level of implementation	10	2	2	2	2	2	**2**	**2**	**3**	**3**	**4**		**14**
Strategic Objective 2: Strengthen capacity for resource mobilization																	
Enhance collaborations and partnerships (Section 6(1)(e))	Develop a resource mobilization strategy	Resource mobilization strategy developed	Approved strategy	**1**	**1**	**-**	**-**	**-**	**-**	**5**	**5**						**5**
	Review existing collaborations and partnerships	Collaborations and partnerships reviewed	Number of collaborations and partnerships	1	1	-	-	-	-	**5**	**3**	**3**	**3**	**3**	**3**		**15**

	Establish new collaborations and partnerships with relevant institutions or organizations	New Collaborations and partnerships established	Number of collaborations and partnerships establishes	5	1	1	1	1	1	**3**	**4**	**5**	**6**	**7**	**7**		**29**
	Build capacity of staff on resource mobilization in thematic areas	Staff capacity enhanced	Number of staff trained on Resource Mobilization	10	2	2	2	2	2	**6**	**7**	**8**	**8**	**8**	**10**		**41**
Enhance international commitments in research science technology and	Review existing international commitments	Existing international commitments reviewed	No. of International Commitments	5	1	1	1	1	1	**5**		**3**	**5**	**6**	**6**		**20**

innovation. (Section 6(1)(a))	Develop and implement an action plan on the commitments	Action plan developed and implemented	Report of implementation of international commitments	100%	20%	20 %	20 %	20 %	20 %	**4**	**5**	**6**	**6**	**5**			**22**
Strategic Objective 3: To promote co-operation and synergies between the various agencies involved in science, technology and innovation																	
Lead inter-agency efforts to implement sound policies and budgets, working in collaboration with the county governments, and organizations involved in science and technology and	Develop inter agency engagements strategy	Strategy developed	Approved strategy	1	1	-	-	-	-	**8**	**1**	**2**	**2**	**4**	**4**		**13**
	Organize engagement forums with relevant agencies	Engagement fora held	Number of fora	5	1	1	1	1	1	**50**	**60**	**65**	**70**	**80**			**275**

innovation within Kenya and outside Kenya; (Section 6(1)(b))	Develop County engagement framework	County engagement framework developed	Approved County engagement framework	1	1	-	-	-	-	**40**		**10**	**10**	**17**			**37**
	Organize forums in partnership with County governments	Fora organizer and held	Number of fora	5	1	1	1	1	1	**40**	**45**	**50**	**55**	**60**	**60**		**270**

ensure co-ordination and co-operation between the various agencies involved in science, technology and innovation; (Section 6(1)(e))											**45**	**50**	**55**	**60**	**60**		**270**
Collaborate with similar scientific institutions or organizations operating outside Kenya (Section 6(2)(d))	Developm engagement frameworks										**2**	**2**	**2**	**6**	**6**		**18**
	Implement engagement frameworks										**2**	**2**	**2**	**6**	**6**		**18**

Enhance Knowledge Management (Section 6(1)(k))	Develop and implement a knowledge management framework	Knowledge Management Framework developed	Published Knowledge Management Framework	1	-	-	1	-	-	**5**	**2**	**2**	**2**	**6**	**6**		**18**
	Develop guidelines on institutional knowledge management	Guidelines developed	Approved guidelines	1	1	-	-	-	-	**6**	**2**	**2**	**2**	**6**	**6**		**18**
	Establish and maintain a digital repository	Digital repository established and maintained	Number of entries	1	1	-	-	-	-	**40**	**2**	**2**	**2**	**6**	**6**		**18**
SUB-TOTAL											**199**	**228**	**256**	**302**	**206**		**1191**

S/ No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Resp	Total Budget
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
KRA 4: INSTITUTIONAL CAPACITY AND CORPORATE POSITIONING																	
Strategic Objective 1: To strengthen institutional capacity																	
1	Enhance Human Resource Capacity	Develop/Review human resource policies/instruments	Human Resource Policies/Instruments Developed/Reviewed	Approved Human resource policies/Instruments	**As per PSC/SCAC requirements**			**As per PSC/SCAC requirements**	**As per PSC/SCAC requirements**	**-**			**8**	**8**			**16**
		Recruit and maintain competent staff, including a pool of external Resource persons and peer-based working groups or advisory panels/Committees	Percent of establishment recruited, as well as established pool of external Resource persons and peer-based working groups or advisory panels/Committees	Payroll	90%	70 %	75 %	80%	85 %	90%	**14**	**15**	**16**	**17**	**18**		**80**

		Undertake staff skills gap analysis and capacity development .	Skills gap and Capacity of staff developed	Number of staff trained	100%	100 %	100 %	100%	100 %	100%	**15**	**20**	**25**	**30**	**35**		**125**
		Develop and implement a Succession Management Plan	Succession management plan developed and implemented	Approved succession management plan	1	1	-	-	-	-	**5**						**5**
2	Coordinate staff performance management	Automate/Review staff performance appraisal tool.	Performance appraisal tool reviewed	Number of reviews	2		1	1		-		**10**	**3**				**13**
		Undertake annual staff performance appraisal	Staff appraisal undertaken	Number of staff	5	1	1	1	1	1	**1**	**1**	**1**	**1**	**1**		**5**

3	Establish/Enhance staff wellness programmes	Institute health care/wellness programmes	Staff wellness and welfare programmes established															
		Establish indoor sports facilities, and staff teams	Indoor sports facilities, and staff teams established	Reports	3	3	-	-	-	-	**20**	**20**	**20**	**20**	**20**		**100**
4	Coordinate Institutional Performance Contract	Develop the annual performance contract	Annual Performance Contract developed	Signed Performance Contract	**5**	**1**	**1**	**1**	**1**	**1**	**5**	**6**	**7**	**8**	**9**		**35**
		Monitor the implementation of the annual performance contract	Performance Contract Monitored	Report of Performance Contract	25	5	5	5	5	5	**2**	**2**	**3**	**3**	**4**		**14**
Strategic Objective 2: To enhance Resource Mobilization and optimization																		

1	Enhance resource mobilization and prudent utilization of financial resources.	Review Financial Management Manual	Financial management manual reviewed	Approved Financial Management Manual	**1**	**1**	**-**	**-**	**-**	**-**	**1**						**1**
		Identify and implement resource mobilization / cost-saving measures.	Resource mobilization and cost saving measures identified and implemented	No. of measures identified	3	1	1	1	-	**-**	**1**	**1**	**1**				**3**
2	Enhance institutional automation/digitization	Development and review of ICT Strategy and Policy	ICT strategy and policy developed	Approved ICT strategy and policy	1	1	-	-	-	-	**2**				**2**		**4**
		Upgrade ICT infrastructure	ICT infrastructure upgraded	Percentage level of automation	95%	80	85	90	93	95	**40**	**25**	**20**	**20**	**20**		**125**

		Develop and implement digitization action plan	Digitization action plan developed and implemented	Approved action plan	1	1	-	-	-	-	**25**	**20**	**20**	**20**	**20**		**105**
Strategic Objective 3: To enhance Corporate positioning																	
1	Enhance corporate visibility, and positioning	Develop and implement a stakeholder engagement framework	Stakeholder engagement framework developed	Approved stakeholder engagement framework	1	1	-	-	-	-	**14**						**14**
		Develop corporate communicati on strategy	Corporate communicati on strategy developed	Approved corporate communicati on strategy	1	1	-	-	-	-	**6**						**6**
		Undertake CSR activities	CSR activities undertaken	Number of CSR activities	5	1	1	1	1	1	**1**	**1**	**2**	**2**	**3**		**9**

2	Enhance Workplace and Customer satisfaction	Develop and maintain inclusive physical infrastructure	Inclusive infrastructure developed	Percentage level of inclusive infrastructure	100%	50 %	80 %	100%	-	-	**50**	**60**	**70**	**80**	**90**		**350**
		Conduct work environment survey, and customer satisfaction survey	Work environment survey, and customer satisfaction survey conducted	Reports of Work environment survey, and customer satisfaction survey	2	1	-	-	1	-	**5**			**6**			**11**
		Review service delivery charter	Service delivered charter reviewed	Review report	3	1	-	1	-	1	**1**	**1**	**1**	**1**	**1**		**5**
	SUB-TOTAL										**208**	**182**	**197**	**216**	**223**		**1026**

Annex II: Outcome Implementation Matrix

S/No	Indicator	Baseline	Financial Year				
			2023/24	2024/25	2025/26	2026/27	2027/28
1.	Granted research licenses	6500	7000	7500	8000	8500	9000
2.	Annual Review Report on STI	1	1	1	1	1	1
3.	National Priorities in scientific, technological and innovation Report	0	1	0	0	0	0
4.	No. of Disseminations of National Priorities in scientific, technological and innovation	0	3	0	0	0	0
5.	No. of advisories on RSTI	2	2	3	3	3	4
6.	No. of policy briefs on enhancing national competitiveness and improve governance of policy and decision making on RSTI	0	2	2	2	2	2
7.	Guideline for policy development and analysis	0	1	0	0	0	0
8.	Guideline for Institutional Research Policy	0	1	0	0	0	0
9.	No. of reports on sharing of information on RSTI	1	2	2	2	2	2
10.	Report on STEM mentorship program	1	1	1	1	1	1
11.	Status report on three (3) existing MoUs	0	3	3	3	3	3
12.	No. of collaborations established	3	1	1	1	1	1
13.	No. of reports of research findings disseminated	1	5	5	5	5	5

14.	No. of organized workshops for sharing information on regional programs/projects	1	1	1	1	1	1
15.	Percentage level of automation	70	75	80	85	90	95
16.	Percentage level of implementation on the digitalization action plan	100	60	70	80	90	100
17.	Target % of Establishment	60%	70%	75%	80%	85%	90%
18.	Payroll Budget (KES Million)	154.00	179.67	192.50	205.33	218.17	231.00