REPUBLIC OF KENYA

National Commission for Science
Technology and Innovation

Science, Technology and Innovation for National Prosperty and Public Good

STRATEGIC PLAN 2023 - 2027

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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.

Core Values:

- Professionalism
- Integrity
- Teamwork
- Customer focus
- Leadership
- Responsiveness
- Fairness

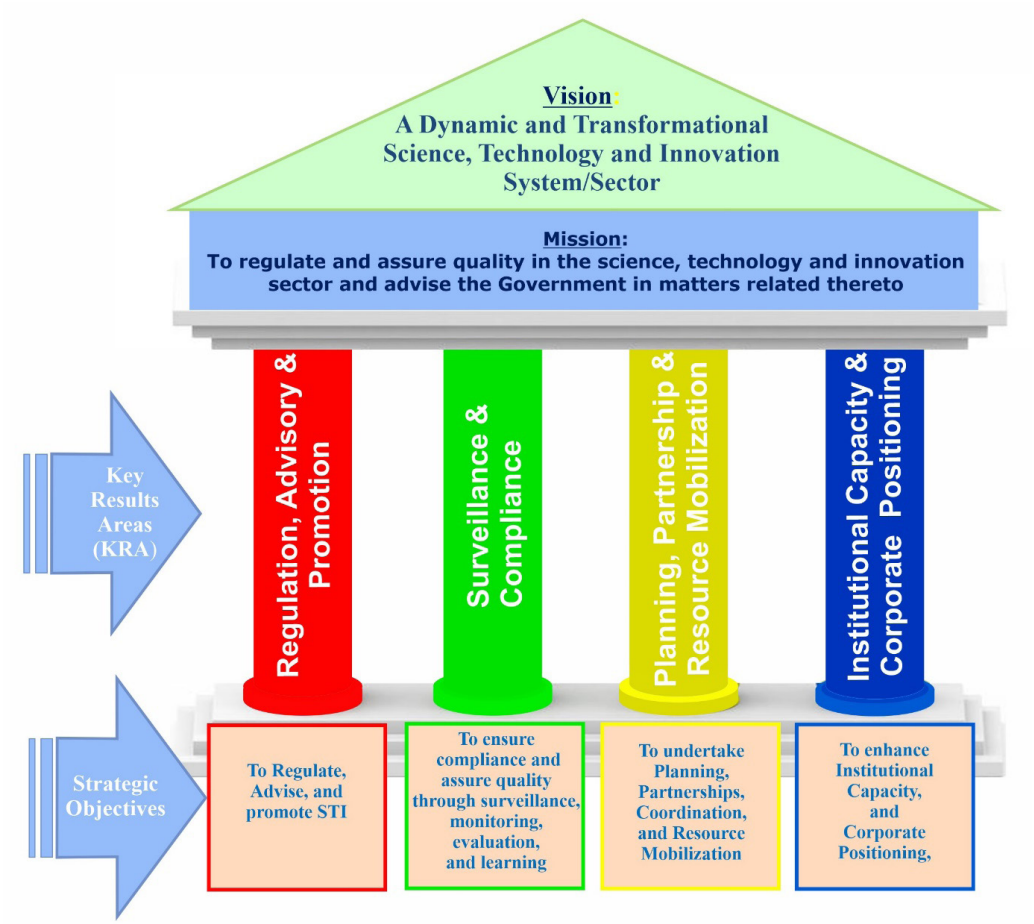
Guiding Principles

- Promotion of socio-economic development in line with the country's development agenda
- Achievement of manpower development and skills acquisition
- Promotion of knowledge creation, storage and dissemination
- Development of research, and innovation and the application of innovation to development; and
- Contribution to community service.

National Commission for Science, Technology, and Innovation

STRATEGIC PLAN

(2023 – 2027)



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 national security and public safety, as well as social and economic development in tune with the country's aspiration to transform into a knowledge economy. The Government of Kenya recognizes the role of research, science, technology and innovation through enactment of relevant policy and legal frameworks, and establishment of institutional and governance frameworks.

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. The Commission commits to implement the strategic plan.

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.

Prof. Raphael Munavu, PhD
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, and regional conflicts. The pandemic and regional conflicts have disrupted lives across countries and communities, and science technology and innovation is playing a critical role in the mitigation and recovery process.

The content of the Commission's Strategic Plan 2023 – 2027 comprises the need for strategic planning in organizations, the local and global context within which the plan has been developed, background information of the Commission, methodology of developing the strategic plan, strategic direction, situational and stakeholder analysis, strategic issues, aspects thereof, and direction, implementation plan, resource requirements and mobilization strategies, and monitoring and evaluation framework. The Plan 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.

I wish to thank the Ministry of Education for direction and guidance. Special gratitude is extended to the Board of the Commission, Management, Staff and all stakeholders who contributed towards the preparation of this Strategic Plan. The Commission looks forward to continued partnerships and collaborations with stakeholders during implementation of the Strategic Plan.

Prof. Walter Oyawa, PhD
DIRECTOR GENERAL

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 to 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;

(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. It's any knowledge originating from an individual, local or traditional community that is the result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning, embodied in the traditional lifestyle of a community; or

Any knowledge contained in the codified knowledge systems passed on from one generation to another including agricultural, environmental or medical knowledge, knowledge associated with genetic resources or other components of biological diversity, and know-how of traditional architecture, construction technologies, designs, marks and indications.

ACRONYMS AND ABBREVIATIONS

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
NSEC	National Scientific and Ethics Committee
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 prioritized 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 eight Chapters. **Chapter One** provides an overview of the importance of Strategic Planning and the rationale behind the development of this Strategic Plan 2023-2027. It also sets the context of Strategic

Planning by considering national development priorities, regional frameworks, and international agendas. The chapter further provides an overview of the history of the National Commission for Science, Technology and Innovation (NACOSTI) and the process the organization undertook in the development of 2023-2027 Strategic Plan.

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 or opportunities for the Commission are also included.

Chapter Three analyses the current situation in Kenya's Science, Technology, and Innovation (STI) ecosystem using several analytical tools namely; SWOT, PESTEL, Value chain analysis, Functional Analysis, and stakeholder analysis. It reviews the previous Strategic Plan (2018-2022) and highlights key achievements, challenges, emerging issues, and lessons learned during its implementation. The chapter also identifies stakeholders, their roles, and responsibilities, and highlights lessons learned for future performance improvement.

Chapter Four presents the strategic issues identified from the situational analysis, the corresponding strategic goals, and the key result areas that will guide the implementation of the strategic plan.

Chapter Five provides information on identified strategic objectives and associated strategies to for implementation informed by the Key Result Areas (KRA's) and target goals.

Chapter Six 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.

Chapter Seven provides information on the financial resources required to implement the strategic plan. This includes the Commission's financial resources requirement, resource gaps, resource mobilization strategies and Resource Management to ensure optimum resource management.

Chapter Eight 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.

CHAPTER ONE: INTRODUCTION

1.1 Overview

This Chapter provides an overview of the importance of Strategic Planning and the rationale behind the development of this Strategic Plan 2023-2027. It also sets the context of Strategic Planning by considering national development priorities, regional frameworks, and international agendas. The chapter further provides an overview of the history of the National Commission for Science, Technology and Innovation (NACOSTI) and the process the organization undertook in the development of 2023-2027 Strategic Plan.

1.2 Strategy as an imperative for Organizational Success

A strategic plan plays an important role in the success of an organization and is critical in guiding decision making in an organization. The essence of this Strategic Planning shall assist the institution to become proactive, goal-oriented, and responsive to the needs of all the stakeholders. It shall foster effective decision-making, resource optimization, stakeholder engagement, and organizational performance, leading to improved outcomes and public value. Through this Strategic Plan, NACOSTI has developed an elaborate Action Plan which constitutes the Strategic Issues, Goals, Key Result Areas (KRA), Outcomes, Strategic Objectives, Strategies, Key Activities, Expected Outputs, Output Indicators, Annual Targets, Annual Budgets and Responsibility for execution of the activities.

The formulation of the Strategic Plan for 2023-2027 is a testament to the commitment to fulfilling its core mission. This document not only addresses the multifaceted policy and environmental considerations but also delineates the essential partnerships and resources required to effectively execute its mandate, as enshrined in the STI Act. By doing so, it provides a concrete roadmap for the activities for the next plan period.

The Strategic Plan represents the dedication to strategic foresight, robust governance, and alignment with national development agendas. It is a testament to its pledge to remain dynamic, responsive, and relevant in fulfilling our mission to the community, the nation, and beyond.

1.3 The Context of Strategic Planning

This Strategic Plan was developed based on government policy guidelines on Strategic Planning, and the plan has been aligned to the Global, Regional and National development agenda as articulated in the Sustainable Development Goals (SDG), the Africa Agenda 2063, the East Africa Community (EAC) Vision 2050, Vision 2030, the Bottom-up Economic Transformation Agenda (BETA), and the Fourth Medium Term Plan (MTP IV) of the Kenya Vision 2030.

1.3.1 United Nations 2030 Agenda for Sustainable Development

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 security 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 5:** Achieve gender equality and empower all women and girls.
- **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.10.** Reduce inequality within and among countries.

- **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. 15:** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
- **Goal No. 16:** Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
- **Goal No. 17:** Strengthen the means of implementation and revitalize the global partnership for sustainable development.

The Commission will contribute towards the attainment of the Sustainable Development Goals, with the exception of goals 10 and 16, through regulation, coordination, advisories, and promotion of research, science, technology and innovation.

1.3.2 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 only 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.

1.3.3 East African Community Vision 2050

The East African region stands at a critical turning point in its socioeconomic development. Relatively strong growth over the last decade offers the foundation for transforming the region over the next three decades. The improved performance has raised the aspirations of East Africans and sprouted renewed interest for investment in the region. The EAC Vision 2050 lays out a broad perspective in which the region optimizes the utilization of its resources to accelerate productivity and the social wellbeing of its people. It portrays a future East Africa with rising personal prosperity in cohesive societies, competitive economies, and strong inter-regional interaction. It is envisaged that by 2050 per capita incomes will grow ten-fold to US$10,000 thereby moving the region into upper-middle income category. The region is committed to radiate a stable macroeconomic policy framework that will provide the foundation for higher and more sustained growth between now and 2050. This will include ensuring macro-economic stability; higher savings and investment rates; as well as providing a conducive business environment that will make East Africa a haven for private sector investment and thereby spur high and sustained economic growth rates of at least 10 per cent per annum. Vision 2050 aspires that the East African Community upgrades to an upper-middle income region within a secure and politically united East Africa based on principles of inclusiveness and accountability. The Mission is to widen and deepen economic, political, social and cultural integration in order to improve that quality of life of the people of East Africa.

The Pillars of the Vision include: Infrastructure Development; Agriculture, Food Security and Rural Development; Industrialization; Environment and Natural Resource Management; Tourism, Trade and other Services Development; and Good Governance, Defence, Peace and Security.

The Commission will contribute towards the attainment of East Africa Community Vision 2050 as pertains to: Food Security and Rural Development; Industrialization; Environment and Natural Resource Management; and Tourism, Trade and other Services Development through regulation, coordination, advisories, and promotion of research, science, technology and innovation.

1.3.4 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 will implement the provisions of the Constitution, namely Articles 11 and 40(5) 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.

1.3.5 Kenya Vision 2030, Bottom-Up Economic Transformation Agenda, and Fourth Medium Term Plan

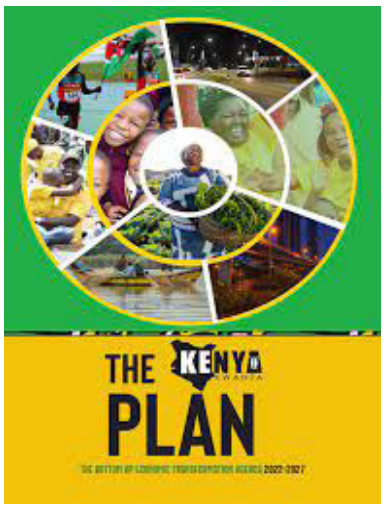
Kenya Vision 2030

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.

Bottom-Up Economic Transformation Agenda 2022 – 2027



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 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. Science, Technology and Innovation (STI) Priorities in Kenya

No.	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.	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
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)

The Fourth Medium Term Plan (MTP IV

The fourth Medium Term Plan (MTP IV) for 2023-2027 of Kenya Vision 2030 succeeds the Third MTP 2018-2022. 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. The Commission will hence strive for enhanced uptake of science, technology, and innovation into the national production system through strengthening of governance system, human capital development, infrastructure development and commercialisation of outputs in the science, technology and innovation sector.

1.3.6 Sector Policies and Laws

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)

International treaties, and conventions

Taking cognizance of the Commission's role as the national focal point of a number of Kenya's international Obligations/Treaties/Conventions, the Commission will lead the implementation of relevant international treaties, councils, and conventions that the Commission coordinates as national focal point. These treaties and conventions 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.

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.

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

1.5 Establishment of the Commission

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.

1.5.1 Science, Technology and Innovation System/Sector

The Commission regulates the Science, Technology and Innovation System/Sector as shown in Figure 1

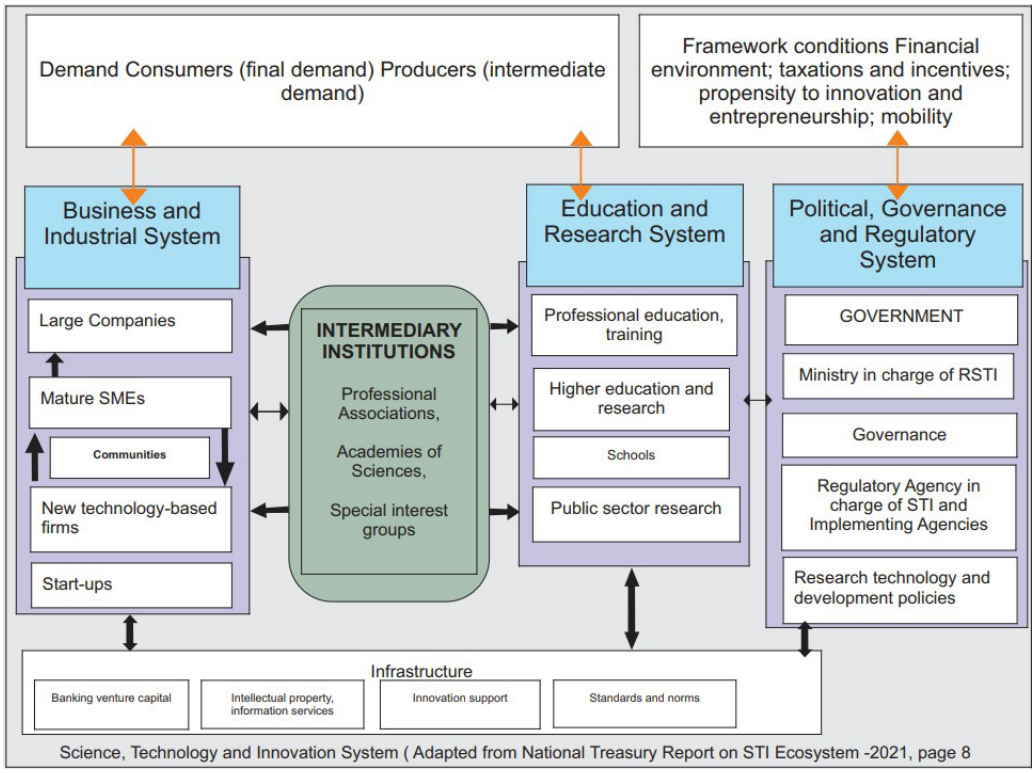


Figure 1. Science, Technology and Innovation System/Sector

1.5.2 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).

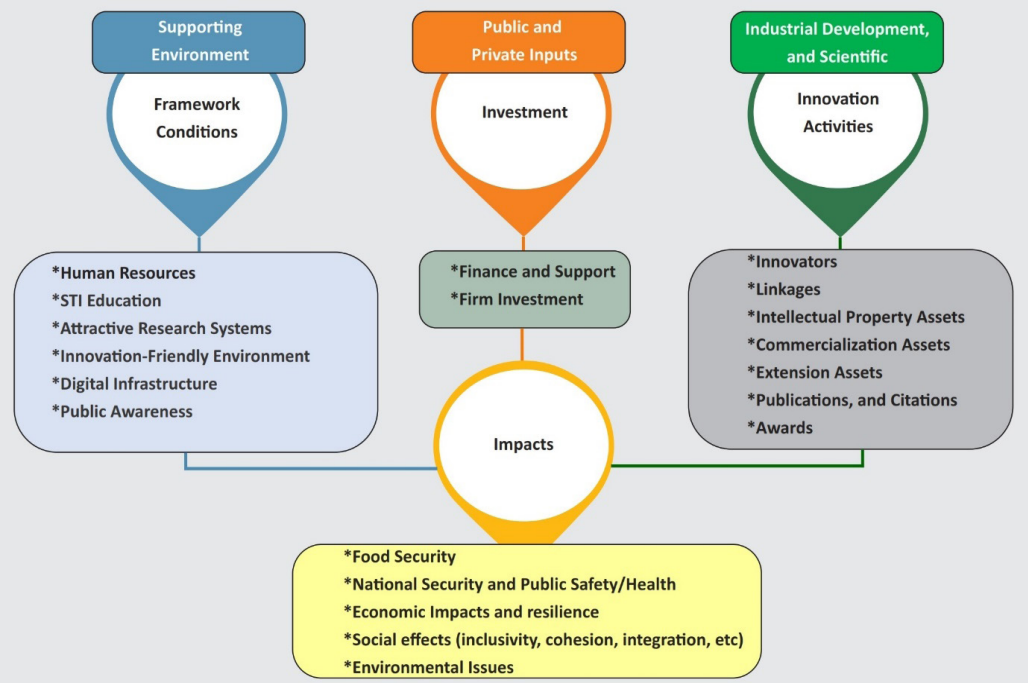


Figure 2. STI Indicators Conceptual Framework

1.6 Methodology of Developing the Strategic Plan

The fourth Strategic Plan (2023-2028) 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) The Board of Directors of the Commission initiated the strategic planning process and directed Top Management to review the previous strategic plan and also commence preparations for the next Strategic Plan of the Commission.

b) The Board of Directors of the Commission gave the strategic direction and goals for the preparation of next Strategic Plan of the Commission.

c) Top Management established a Technical Committee for the preparation of this Strategic Plan and invited external resource persons/experts to assist in the preparation of the Strategic Plan.

d) The Strategic Plan Technical Committee, assisted by external Resource Persons. held meetings to analyze the current status of the commission based on the previous strategic plan of 2018-2022, as well as current and emerging issues relevant to the attainment of the mandate of the Commission.

e) Desk review of relevant documents was undertaken and a working document developed.

f) A draft Strategic Plan was prepared and shared with the Board of the Commission for inputs and direction.

g) Validation workshop by stakeholders was undertaken and inputs from stakeholders included in the Strategic Plan.

h) The Draft Strategic Plan was further aligned to revised Guidelines issued by the National Treasury for the preparation of fifth General Strategic Plans.

i) The enhanced Draft Strategic Plan was presented to the Technical Committee of the Board for consideration, and finally approved by the Board of Directors of the Commission.

j) The approved Strategic Plan was submitted to the State Department for Economic Planning of the National Treasury and Economic Planning for finalization/concurrence and implemented thereafter.

k) The approved Strategic Plan of the Commission for the period 2023 - 2027 was Launched.

CHAPTER TWO: STRATEGIC DIRECTION

2.1 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: Mandate, Vision, Mission, Strategic Goals 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.

2.2 Mandate, Functions and Powers

Mandate

According to the STI Act 2023 (Rev. 2014), the objective of the Commission shall be 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 STI 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.

2.3 Powers

In the performance of its functions under the Science, Technology and Innovation 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.

2.4 Vision

A Dynamic and Transformational Research, Science, Technology and Innovation System and Sector. (*Benchmarked with Norway's STI System-OECD, Aug 2022*)

2.5 Mission, Motto, and Guiding Principles

2.5.1 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*)

2.5.2 Motto

Science, technology, and Innovation for national prosperity and public good

2.5.3 Guiding principles

The STI Act 2023 (Rev. 2014) stipulates that in the performance of its functions the Commission shall be guided by the following principles:-

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

2.6 Strategic Goals

The following strategic goals have been formulated to provide general and broad statements of direction to address the identified strategic issues:

(i) Vibrant Research, science, technology, and innovation enterprise to enhance national prosperity, cohesion, and security.

(ii) Compliance with applicable laws, regulations, standards, and international treaties to facilitate maximum benefits and growth from Science, Technology and Innovation.

(iii) Adequate and sustainable resources for research, science, technology, and innovation development to fast-track attainment of national development agenda, national security, and global competitiveness.

(iv) Effective service delivery, and contribution to community service.

2.7 Core Values

a) **Professionalism**

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

b) **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.

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) **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.

e) **Leadership**

We shall provide guidance in the 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.

2.8 Quality Policy Statement

The National Commission for Science, Technology and Innovation (NACOSTI) is committed to providing quality regulation, coordination, advisory, and promotion of research, science, technology and innovation in the country. Pursuant to this obligation, NACOSTI shall continually strive to improve its effectiveness by implementing a Quality Management System based on ISO 9001:2015 Standard. In this regard, the Commission shall prioritize the following in its undertakings: customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making and relationship management. The Commission shall comply with all the requirements, including communication and sensitization of its staff on the policy.

The Commission's top management shall annually review this policy and establish quality objectives to guarantee continuity and suitability.

CHAPTER THREE: SITUATIONAL AND STAKEHOLDER ANALYSIS

3.1 Overview

This chapter analyses the current situation in Kenya's Science, Technology, and Innovation (STI) ecosystem using several analytical tools namely; SWOT, PESTEL, Value chain analysis, Functional Analysis, and stakeholder analysis. It reviews the previous Strategic Plan (2018-2022) and highlights key achievements, challenges, emerging issues, and lessons learned during its implementation. The chapter also identifies stakeholders, their roles, and responsibilities, and highlights lessons learned for future performance improvement.

3.2 Situational Analysis

This section highlights the internal and external environments within which NACOSTI operates and provides an analysis of the previous strategic plan.

3.2.1 External Environment

The Commission undertook a detailed assessment of its operational landscape to ensure its capacity to effectively achieve its mandate and core responsibilities over the next five years. This detailed examination encompassed an in-depth exploration of both internal functioning and the external forces shaping its operational context. The key findings from this analysis are summarized below.

3.2.1.1 Macro-environment

Our external environment analysis delved into macro-environment factors, micro-environmental dynamics, and industry-specific issues. The primary objective of this analysis was to identify potential opportunities and threats that could impact the successful implementation of the Strategic Plan. To this end, a thorough evaluation of PESTEL (Political, Economic, Social, Technological, Environmental, and Legal) factors was conducted. This comprehensive review aimed to pinpoint and evaluate the critical parameters that will shape performance and guide the development of strategies that optimize the attainment of the objectives pursued during the planned five-year period.

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

PESTELE ANALYSIS

Table 2. Political, Economic, Social, Technological, Environmental, Legal and Ethics (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 STI programmes aligned to government priorities through STI Mainstreaming in MDAs
	Devolution	Provide a framework with the engagement of County Governments	Partner with the County Government in technology development and adoption
	Regional Integration	Advise on national STI Policy and regulatory framework.	Participate in regional initiatives and policy development.
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

CATEGORY	ISSUE	STRATEGIC IMPLICATION	STRATEGIC RESPONSE
	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.
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

CATEGORY	ISSUE	STRATEGIC IMPLICATION	STRATEGIC RESPONSE
		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
Legal	Policy and regulatory framework	Non-compliance to the legal framework Litigation	Develop guidelines and standards Awareness creation

CATEGORY	ISSUE	STRATEGIC IMPLICATION	STRATEGIC RESPONSE
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

3.2.1.2 Micro-environment

The Commission analyzed its immediate operating environment that affect access to resources which are necessary for achievement of the strategic objectives. The key variables for considerations were labor markets, trade unions, customer profiles, creditors, suppliers among others to describe the developments in internal factors which have both direct and indirect impacts on institutional decision making and performance. The Commission used SWOT as a tool to analyze the micro-environment as indicated on table 3. To this end, the Commission will strive to establish customer profile and endeavor to meet customer needs as well as satisfy the expectations of publics. Further, the Commission will promptly implement relevant supply chain laws, regulations and strategies.

Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis of Micro-environment

Table 3.SWOT Analysis

SWOT ANALYSIS	
STRENGTHS 1. Existence of legal and regulatory framework (ST&I Act, No. 28 of 2013 and the STI Regulations 2014) 2. Publicity through STI 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	THREATS
1. Recognition of the role of STI 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	1. Weak coordination frameworks 2. Inadequate funding 3. Emerging technologies' threats 4. Failing societal ethics 5. Natural disasters

3.2.1.3 Summary of Opportunities and Threats

Based on the analysis of the external environment, the commission identified some emergent opportunities and threats as per table 4

Table 4. Summary of Opportunities and Threats

Environmental factor	Opportunities	Threats
Political	• Recognition of the role of ST&I in national development • National Development Agenda - *Align institutional programmes to the Bottom-Up Economic Transformation Agenda 2022 – 2027* • Devolution – *devolved units developing STI Priorities, collaborations and partnerships.* • Regional Integration - *Advise on national STI Policy and regulatory framework.*	• Change in policy and legal frameworks. • Changing government priorities. • Rationalization and merger of state corporations
Economic	• Government's Bottom-up Economic Transformation Agenda (BETA) that focuses on Science, Technology aand Innovation as a key enabler. • Key role as the National Focal point to a number of Kenya's International Obligations that relate to STI • Attractiveness to international partners • Significant role as the specialized agency designated to coordinate STI Mainstreaming in MDAs	• Rise in cost of living and cost of doing business. • Reduced government funding/grants/A-in-A • General Resource constraints due to disasters, global shocks, calamities, and inflation leading to; - **i.** *Delayed implementation of STI programmes and projects* **ii.** *Failure to initiate and or complete programmes and projects.* **iii.** *Failure to enhance human resource capacity.* **iv.** *Inadequate infrastructure; -* **v.** *Reduced levels of research activities*
Social	• Population growth - *Demand for diverse and quality products* • Affirmative actions - *Low representation of some groups in the STI Sector* • Adoption of CBC system of education	• Corruption - Increase in cost of doing business. • Affirmative actions - Low uptake of products and services • Failing societal ethics

Environmental factor	Opportunities	Threats
Technological	• Technological Advancement; - i. *Rapid advancements in technological development* ii. *Efficiency in service delivery* • Institutionalization of data and Knowledge Management • New and emerging technologies	• Data and Knowledge Management; - i. *Slow decision-making* ii. *Misuse of personal identifiable data* iii. *Research misconduct* iv. *Cost of compliance for industry players* • Cyber security; - i. *Leakage and loss of data* ii. *System failure*
Legal	• Recognitions of the importance of science and technology in the knowledge based economic development of the country under article 11 of the constitution. • The constitution further emphasizes the recognition of the indigenous inventions and technologies under article 40(5) of the constitution • Exclusive mandate as the regulator of the STI Sector, facilitated by the existence of the STI Act and regulations • Compliance with legal provisions including the Constitution of Kenya 2010, legislations, regulations, codes of conduct, government circulars and directives. • Trainings including training on Mwongozo code of conduct	• Noncompliance by customers to the provisions of the STI Act and related laws, regulations and policies • Lack of knowledge by customers on the legal provisions pertaining to research, science, technology and innovation (RSTI) • Donor dominance in some institutions in the STI Sector • Litigation • Weak regulation and coordination frameworks due to inadequate human capital

Environmental factor	Opportunities	Threats
Ecological	• Government's focus and investment on Climate change mitigation resulting in; - i. *increased agriculture yields* ii. *predictable seasons* iii. *control of plant and animal diseases.* iv. *Waste Management to mitigate Pollution Health hazards*	• Severe climate change impacts • Natural disasters and epidemics

3.2.2 Internal Environment

The NACOSTI value chain involves assessing primary and support activities, resource capabilities, skills and competencies, organizational structure, culture, functional areas, historical performance analysis, benchmarking, key success factors in education, and internal analysis tools. These activities help streamline processes, reduce costs, and improve service quality. Resource capabilities include infrastructure, technology, faculty expertise, and financial assets. Skills and competencies are analysed to identify gaps in skills and develop training plans. The organizational structure is evaluated to align with strategic objectives and promote collaboration.

The commission used various tools including Value Chain Analysis (VCA) to map out processes, Resource-Based View (RBV) to assess resource strengths, Functional Analysis (FA) to evaluate functional areas, and Comparative Analysis (CA) to compare performance against benchmarks.

The culture is examined to foster innovation, diversity, and inclusivity. Key success factors in education are identified, and strategies and resource allocation are aligned.

3.2.2.1 Governance and Administrative Structures

NACOSTI is undergoing a comprehensive analysis of its governance and administrative structures to ensure its success. The analysis will cover governance mechanisms, internal policies, board composition, decision-making arrangements, and reporting relationships. The review will focus on governance structures, board composition, decision-making arrangements, reporting relationships, functional analysis, strengths and weaknesses identification, capacity building, technology integration, compliance and ethics, and stakeholder engagement.

The analysis will also evaluate the effectiveness of internal policies and regulations, ensuring alignment with the strategic goals and mission. The board of trustees will be analysed to ensure diversity, expertise, and representation, while term limits and succession planning will be considered. The decision-making arrangements will be examined to ensure efficiency and transparency. The reporting relationships will be mapped out to ensure clear communication and accountability. The analysis will also identify potential strengths and weaknesses in the existing structures, and plans for capacity building and technology integration will be developed. The focus will be on promoting ethical behaviour, compliance with regulations, and a culture of integrity.

3.2.2.2 Internal Business Processes

Analysing and improving internal business processes is critical for efficiency, effectiveness, and value creation. To achieve this, the commission will undertake a thorough evaluation of systems, processes, and standard operating procedures.

The process involves a comprehensive review of existing systems and processes across different functional areas, identifying bottlenecks, redundancies, and areas for streamlined or automated processes. It also aligns these processes with NACOSTI strategic goals. Standard Operating Procedures (SOPs) are reviewed and updated to reflect best practices and industry standards. Efficiency analysis is conducted to measure key processes' efficiency in terms of time, cost, and resource utilization. Effectiveness assessment evaluates the effectiveness of processes in achieving desired outcomes, such as student success, research excellence, or financial sustainability. Value-creation and enhancement strategies are developed to enhance and expand these processes. Value-destruction mitigation is implemented to prevent value erosion. Technology integration is explored, using ERP systems or workflow automation tools to streamline and digitize processes. Cross-functional collaboration is encouraged, fostering a culture of innovation. A continuous improvement culture is established, encouraging staff to identify and suggest process enhancements. Change management is recognized, including training, communication, and stakeholder engagement, to plan for a smooth transition to new processes and monitor their effectiveness.

By conducting a rigorous evaluation of internal business processes and taking steps to improve efficiency, effectiveness, and value creation, NACOSTI will better align its operations with its strategic goals.

3.2.2.3 Resources and Capabilities

Analyzing and leveraging the Commission's resources and capabilities is essential for achieving a sustainable competitive advantage. This analysis should involve a detailed examination of tangible, intangible, and organizational assets.

The process of analyzing resources within the commission, focuses on three main categories: tangible assets, intangible knowledge, and organizational capabilities. It then uses a distinctive combination analysis to identify the strategic advantages of these assets and how they work together to create value and competitive differentiation. The Resource-Based View (RBV) analysis assesses the strategic characteristics of these resources and capabilities, evaluating them against VRIDU

(Value, Rare, Inimitable, Durable and Substitutable) criteria. The functional analysis identifies core competencies and resources that contribute to the strategic goals, while the Value Chain Analysis (VCA) maps out the organization's value chain activities to identify areas for improvement. The SWOT analysis combines these insights to identify strategies to leverage strengths, mitigate weaknesses, seize opportunities, and address threats.

The summary concludes with a call for continuous improvement, fostering a culture of learning and innovation. Finally, the resource allocation is aligned with strategic priorities, ensuring efficient allocation to support the strategic plan. By conducting a comprehensive analysis of resources and capabilities using these frameworks and criteria, the commission can identify its unique strengths, build competitive advantage, and make informed resource allocation decisions within its five-year Strategic Plan. This will help the institution remain adaptable and successful in a rapidly changing higher education landscape.

3.2.2.4 Summary of Strengths and Weaknesses

Based on the analysis of the internal environment, the Commission has summarised emergent strengths and/or weaknesses as per Table 5

Table 5. Summary of Strengths and Weaknesses

Factor	Strengths	Weaknesses
Governance and Administrative Structures	• Existence of legal and regulatory framework (ST&I Act, No. 28 of 2013 and the ST&I Regulations 2014) • Publicity through ST&I mainstreaming in MDAs • Effective leadership and corporate governance • Existence of collaborations and partnership	• Lack of regional presence • Unattractive terms and conditions of service
Internal Business Processes	• Business Process Reengineering • Strong partnership with stakeholders. • Internal performance management system	• Human resources • ICT • Communication • Organizational culture • Corporate branding

Factor	Strengths	Weaknesses
Resources and Capabilities	• Ownership of office premises	• Inadequate human capital • Limited financial resources • Inadequate infrastructure

3.2.3 Analysis of Past Performance

A review of the previous Strategic Plan (2018-2022) is provided by analysis of past performance encompassing key achievements, challenges, emerging issues, health threats, climate change, changing government priorities and the lessons learnt during the implementation of the plan.

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. It may be noted that due to limited financial resources, as well as human capital, the Commission had challenges in realizing all its functions as listed in the STI Act. However, efforts have been made resulting in significant progress in the implementation of the functions of the Commission including: developing 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; leading and coordinating inter-agency efforts to implement sound policies and budgets through STI mainstreaming PC Target for MDAs; advising on the science, technology and innovation policy, education and training; jointly sourcing for partnerships to ensure implementation of prioritized research programmes; accrediting research institutes and approving scientific research; undertaking quality assurance of STI programmes, organizing conferences and public lectures; promoting increased awareness of research system; annually reviewing the progress in scientific research systems; inspecting research institutions, among others.

The introduction of STI Mainstreaming Performance Contract Target in Ministries, Departments and Agencies has had a significant impact of entrenching STI in national Production Systems. However, challenges still remain in attracting private sector involvement in scientific research, innovation and development, and in ensuring all researchers apply emerging ethical principles in their activities, especially in the wake of COVID 19 pandemic.

3.2.3.1 Key Achievements

Table 6. 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	1.1.1 Strengthen policy and regulatory framework by completing development of standards and guidelines together with the guidelines. 1.1.2 Enhanced compliance with regulatory requirements by monitoring and evaluating research institutes and monitoring research projects. 1.1.3 Increased number of Research institutions registered to 23. Six (6) others were recommended. 1.1.4 Increased research projects granted 29,629 research permits Licensed 23,047 research projects by 31st January 2023 Thirteen (13) Institutional Ethics Review Committees were accredited.
	1.2 To enhance coordination and cooperation of research and development	1.2.1 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	2.1 To mainstream research, science and technology into planning processes	2.1.1 Research, Science, Technology has been mainstreamed in Ministries, Departments and Agencies (MDAs) 2.1.2 STI mainstreaming will result into more resources for research, science and technology

Result Area 3: Knowledge Management		
S/No.	**Strategic Objectives**	**Achievement**
3	3.1 To facilitate acquisition and sharing of knowledge on research, science and technology	3.1.1 Strengthened research coordination mechanism by developing a draft strategy on county engagement framework. (draft or approved) 3.1.2 Disseminated research and technology outputs. (no of fora)
	3.2 To facilitate utilization of knowledge on research, science and technology	3.2.1 Institutionalized knowledge management by developing Knowledge management policy and knowledge management strategy. 3.2.2 Promoted intellectual property management institutionalizing framework for management of Intellectual Property
Result Area 4: Institutional Capacity		
S/No.	**Strategic Objectives**	**Achievement**
4	4.1 To Strengthen the Institutional Capacity	4.1.1 Enhance Corporate Image by establishing corporate office and developing communication strategy, branding policy and procedures manual. 4.1.2 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 4.1.3 Enhance infrastructural capacity by Leverage ICT for business processes through review of ICT strategy and improved infrastructure

	4.2 To Improve mobilization and prudent utilization of resources	4.2.1 Enhance resource mobilization by developing and implementing the draft resource mobilization strategy. 4.2.2 Ensure prudent utilization of resources by Comply with all statutory requirements and identified and implemented saving measures.

3.2.4 Challenges

During the Plan period, the Commission faced several challenges. Table 7 outlines key challenges faced and their respective interventions which have been planned for in the 2018-2022 Plan period.

Table 7. Key challenges and Interventions

Key Result Area No. 1: Regulation of Research		
S/No.	**Challenges**	**Interventions**
1.	Inadequate monitoring, evaluation and reporting system	• Establishment of the Directorate of Strategy, Planning and Compliance • Develop an effective monitoring, evaluation, reporting and learning system
2. .	Low levels of awareness of regulatory regime	• Awareness creation
3.	Low public awareness on the Commission's mandate	• Enhance public awareness; Strengthen stakeholder engagement
4.	Multiple regulators and licensing regimes	• Harmonization of regulatory regime
5.	Inadequate M&E	• Establishment of compliance office
6.	Low level of automation	• Automation of core business processes
Key Result Area No. 2: Advisory Services for Research, Science and Technology		
S/No.	**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

4.	Limited demonstration of the contribution of STI to national development	• Demonstrate the contribution of STI to national development
Result Area No. 3: Knowledge Management		
S/No.	**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	• Promote partnerships between academia and industry. • Promote development and implementation of institutional IP policies.
Key Result Area No. 4: Institutional Capacity		
S/No.	**Challenges**	**Interventions**
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	• Develop and implement resource mobilization strategy. • Develop skills in resource mobilization. • Establish and strengthen partnerships for resource mobilization. • Establish a resource mobilization office

3.2.4.1 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.

3.2.4.2 Emerging issues

a) Emergence of health threats and Pandemics such as COVID-19 which led to closure of institutions in the STI sector

b) Regional conflicts in Eastern Europe

c) Climate Change

d) Changing government priorities

e) Limited funding from government

f) Emerging technologies (Fourth and fifth Industrial Revolutions)

3.3 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 8 below:

Table 8. Stakeholder Analysis

S/No	Stakeholder	Role	Stakeholder Expectations	NACOSTI's Expectations of Stakeholders
1.	The Presidency and National Government including Ministries	Policy direction and funding	• Implement Constitutional requirements as pertains to science, technology and Innovation • Implement the provisions of the ST&I Act, 2013 • Prudent utilization of public resources and reporting	• Timely communication on government policy • Prompt disbursement of funds • Establishment of sound governance structures
2.	Parliament	Legislation	• Enactment of Legislation • Oversight and Accountability	• Laws affecting the operations of the commission. • Adequate funding. • Approval of Finance Bills
3.	County Government	Devolved functions	• Information on research system • Support on STI Matters	• Facilitate research • Collaboration on STI Matters
4.	Local and International Research Institutions	Research and Development	• Develop a national research agenda. • Share information on the research system	• Translation of research findings into products and services.
5.	Media	Educate Inform Entertain	• Provide information on research system	• Disseminate data and information on research, science and technology • Accurate and objective reporting
6.	Non-Governmental Organizations	Service providers/ Intermediaries. Drivers of Social Change Watchdogs for the society	• Involvement in policy formulation, advisories and implementation	• Partner with academia and research institutions • Promote research and development

S/No	Stakeholder	Role	Stakeholder Expectations	NACOSTI's Expectations of Stakeholders
7.	Academia (Universities, Research institutions and training institutes)	Training, research, technology development and transfer Extension.	• undertake training Conduct research and/ technology development Outreach and consultancies	• Sector-specific expertise
8.	Public	Participation in governance	• Provide information on research, science and technology • Provide employment, internships and attachment. • Transparency and accountability	• Support science and technology development • Utilize research, science and technology output.
9.	Internal Stakeholders	Delivery on the Mandate	• Competitive terms and conditions of service • Career Progression • Prompt communication. • Timely decision-making.	• High-Performance levels • Commitment to the NACOSTI mandate and core values
10.	Development Partners	Support government policy. Resource mobilization Capacity building	• Prudent Utilization of resources and timely reporting	• Alignment of programmes to National Priorities • Adherence to contractual agreements • Technical assistance in support of STI Programmes
11.	Regulatory Agencies	Set Standards Enforcement	• Collaborate on development and implementation of policies, legislations and regulations	• Share relevant information on research, science and technology programmes

S/No	Stakeholder	Role	Stakeholder Expectations	NACOSTI's Expectations of Stakeholders
12.	Researchers	Scientific research Publication of research outputs	• User-friendly application system • Timely processing of research license applications • Prudent response to enquiries • Access to research information	• Provide relevant and accurate information • Reporting. • Compliance with the Act and regulations
13.	Service Providers	Provide solutions based on client needs	• Prompt payment for services and goods supplied as per agreement. • Fairness and equal opportunity	• Quality products and services • Timely service delivery
14.	Ministries Departments and State Agencies (MDAs)	Government policy	• Favorable policies to support research and development and collaboration. • Feedback	• Capacity building • Strengthen multi-disciplinary research. • Translation of research findings into products and services - public
15.	Private sector	Key stakeholder in economic development Contributor to GDP Wealth creation	• Promote demand-driven research science and technology development • Timely communication on emerging issues on science, technology and innovation	• Translation of research findings into products and services • Partner with organizations involved in research science and technology

CHAPTER FOUR: STRATEGIC ISSUES, GOALS AND KEY RESULT AREAS

4.1 Overview

This chapter presents the strategic issues identified from the situational analysis, the corresponding strategic goals, and the key result areas that will guide the implementation of the strategic plan.

4.2 Strategic issues

The following strategic issues were identified that need to be addressed by the Commission to effectively deliver on its mandate:

(i) Quality of research, science, technology and innovation (RSTI).

(ii) Regulatory compliance, enforcement and inspections.

(iii) Implementation of treaties, partnerships, collaborations, agreements, and obligations.

(iv) Policy and regulatory frameworks.

(v) Science, technology and innovation mainstreaming in MDAs, and Knowledge Management.

(vi) Kenya's global competitiveness in science, technology and innovation.

(vii) Protection and Commercialization/Extension of research, science, technology, and innovation Outputs.

(viii) Public awareness on research, science, technology, and innovation System.

(ix) Resources for research, science, technology, and innovation.

(x) Stakeholder engagement, Collaborations, synergies and whole of government approach.

(xi) Institutional capacity: Human Resource Development, Internal process strengthening Physical resources, Digitalization, Corporate Image. Corporate governance, Corporate positioning.

4.3 Strategic Goals

The following strategic goals have been formulated to provide general and broad statements of direction to address the identified strategic issues:

(i) Vibrant Research, science, technology, and innovation enterprise to enhance national prosperity, cohesion, and security.

(ii) Compliance with applicable laws, regulations, standards, and international treaties to facilitate maximum benefits and growth from the Science, Technology and Innovation.

(iii) Adequate and sustainable resources for research, science, technology, and innovation development to fast-track attainment of national development agenda, national security, and global competitiveness.

(iv) Effective service delivery, and contribution to community service.

4.4 Key Results Areas (KRAs)

Table 9. Strategic Issues, Goals and KRAs

Strategic Issue	Strategic Goal	KRAs
1. Quality of research, science, technology and innovation 2. Policy and regulatory frameworks 3. Science, technology and innovation mainstreaming in MDAs, and Knowledge Management 4. Protection and Commercialization/ Extension of research, science, technology and innovation outputs 5. Public awareness on research, science, technology and innovation system	Vibrant Research, science, technology, and innovation enterprise to enhance national prosperity, cohesion, and security.	**KRA 1:** Regulation, Advisory and Promotion
1. Regulatory compliance, enforcement and inspections	Compliance with applicable laws, regulations, standards, and international treaties to facilitate maximum benefits and growth from the Science, Technology and Innovation.	**KRA 2:** Surveillance and Compliance

1. Implementation of treaties, partnerships, collaborations, agreements, and obligations 2. Kenya's global competitiveness in science, technology and innovation 3. Resources for research, science, technology, and innovation 4. Stakeholder engagement, Collaborations, synergies and whole of government approach	Adequate and sustainable resources for research, science, technology, and innovation development to fast-track attainment of national development agenda, national security, and global competitiveness.	**KRA 3:** Planning, Partnership and Resource Mobilization
1. Institutional capacity: Human Resource Development, Internal process strengthening Physical resources, Digitalization, Corporate Image. Corporate governance, Corporate positioning	Effective service delivery, and contribution to community service.	**KRA 4:** Institutional Capacity and Corporate Positioning

CHAPTER FIVE: STRATEGIC OBJECTIVES AND STRATEGIES

5.1 Overview

This chapter provides information on identified strategic objectives and associated strategies for implementation informed by the Key Result Areas (KRA's) and target goals.

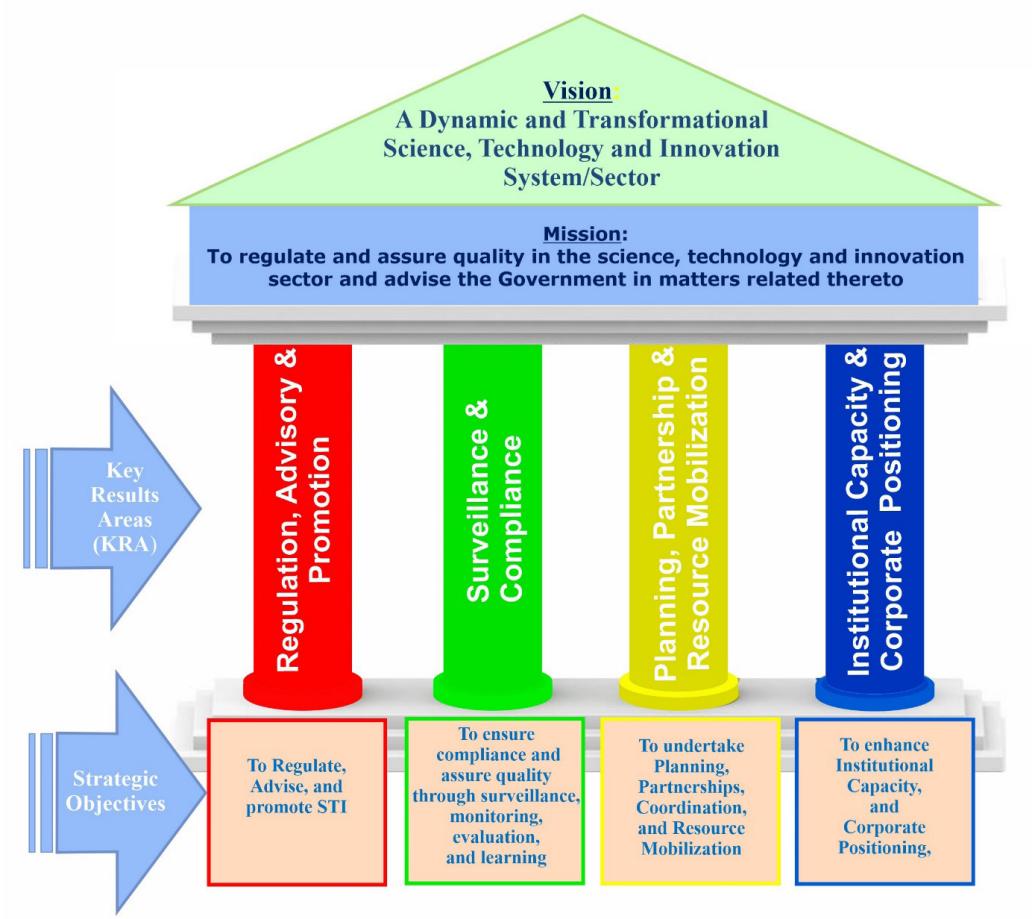


Figure 3. Pillars of the Strategic Plan

5.2 Strategic Objectives

The Commission has identified eleven (11) Strategic Objectives for implementation guided by four (4) Key Result Areas. Each of the eleven strategic objectives have been formulated guided by the outcomes of situational analysis. It has also been ensured that the strategic objectives are SMART, that is Specific, Measurable, Attainable, Realistic and Time-bound. Accordingly, the Key Results Areas will be achieved

through the following Strategic Objectives, and Strategies that are aligned to the provisions of Science, Technology and Innovation Act 2013 (Rev. 2014).

Further, Table 10 provides five-year projections for the formulated strategic objectives on a year-to-year basis. The five-year projections are based on realistic achievements under prevailing circumstances as well as ongoing reforms/ developments in the country and globally.

KRA 1: REGULATION, ADVISORY AND PROMOTION

SO1: Strategic Objective 1: To regulate the science, technology and innovation sector.

Strategies

1) License/approve all scientific research in Kenya,
2) Register/accredit research institutions.

SO2 Strategic Objective 2: To develop advisories on science, technology and innovation.

Strategies

1) Advise the national government on science, technology and innovation.

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 including STEM Education,
2) promote the adoption and application of scientific and technological knowledge and information necessary in attaining national development goals,
3) promote and encourage private sector involvement in scientific research and innovation and development,
4) In consultation with the National Research Fund Trustees, sponsor national scientific and academic conferences it considers appropriate,
5) promote knowledge creation, storage and dissemination.

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

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

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

Strategies

1) 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.

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,

2) Enhance international commitments in research science technology and innovation.

SO3 Strategic Objective 3: To ensure and 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.
2) ensure co-ordination and co-operation between the various agencies involved in science, technology and innovation.
3) collaborate with similar scientific institutions or organizations operating outside Kenya.
4) Enhance Knowledge Management.

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.

Table 10. Outcomes Annual Projections

KRA 1: REGULATION, ADVISORY AND PROMOTION							
Strategic Objective	**Outcome**	**Outcome Indicator**	**Projections**				
			Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
SO1.1 To regulate the science, technology and innovation sector	Enhanced regulation of research, science, technology and innovation	Increased No. of licensed research	7000	7500	8000	8500	9000
		Increased No. of registered research institutions	21	25	30	35	40
SO1.2 To develop advisories on science, technology and innovation	Enhanced advisories to support implementation of evidence-based government agenda	No. of advisories to the national and county governments	1	2	3	4	4
SO1.3 To promote science, technology and innovation for socio-economic development.	Increased adoption and application of Research, Science, Technology, and Innovation (RSTI) outcomes for enhanced national security and national prosperity	No. of Institutions establishing IP Management Policy/IP Management Office	21	30	50	70	100
		No. of conferences held	1	2	3	4	5
		No. of County engagement forums/meetings or collaborations held	2	3	5	7	10
		No. of meetings or collaborations held with private sector actors	2	3	5	7	10
KRA 2: SURVEILLANCE AND COMPLIANCE							
Strategic Objective	**Outcome**	**Outcome Indicator**	**Projections**				
			Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**

SO2.1 To strengthen compliance with the policy and regulatory framework, and assure quality of research, science, technology and innovation in the country.	Strengthened Research, Science, Technology, and Innovation (RSTI) regulatory regime	No. of surveillance, regular inspections, monitoring, and evaluation of activities in the STI Sector undertaken to ensure compliance with set standards and guidelines	3	5	10	13	15
SO2.2 To strengthen Regulatory and Quality Assurance Frameworks.	Enhanced quality assurance in Research, Science, Technology, and Innovation (RSTI) activities.	No. of MDAs implementing STI Mainstreaming Performance Indicator	250	270	300	310	330
		No. of Institutions establishing accredited Institutional Scientific and Ethical Review Committee	32	37	42	47	55
		No. of guidelines and templates for institutional Research Policy, IP Management Policy, and Standard Operating Procedures for Institutional Scientific and Ethical Review Committees (ISERCs)	1	2	2	3	3
KRA 3: PLANNING, PARTNERSHIP AND RESOURCE MOBILIZATION							

Strategic Objective	Outcome	Outcome Indicator	Projections				
			Year 1	Year 2	Year 3	Year 4	Year 5
SO3.1 To strengthen planning for the science, technology and innovation sector.	Improved organisational operational efficiency to support prompt service delivery	Customer satisfaction level (%)	70%	75%	80%	82%	85%
		Employee satisfaction level (%)	60%	65%	70%	75%	80%
	Improved capacity and capability of key stakeholders to fast-track the entrenchment of STI into national production systems	No. of capacity building trainings undertaken for stakeholders in the STI Sector.	2	3	4	4	4
SO3.2 To strengthen capacity for resource mobilization.	Enhanced collaborations and partnerships to support resource mobilization	No. of MoUs signed or Resource optimization Partnerships undertaken	2	3	4	5	6
	Enhanced implementation of international commitments in research science technology and innovation	No. of international commitments implemented as the National Focal Point or lead agency	2	3	4	5	6
	Increased income generating streams	No. of income generating streams	1	2	3	3	3

SO3.3 To ensure and promote co-operation and synergies between the various agencies involved in science, technology and innovation.	Enhanced coordination of Science, Technology and Innovation (STI) Mainstreaming PC indicator in MDCAs	No. of MDAs implementing STI Mainstreaming Performance Indicator	250	270	300	310	330
		No. of programmes or projects being implemented through a whole-of-government approach	3	5	7	10	15
	Intensified Knowledge Management to inform Kenya's global competitiveness and rankings, and hence need for synergies	Collating and interpreting RSTI data in an annual report (No.)	1	1	1	1	1
	Enhanced collaborations and partnerships with institutions operating outside Kenya, as well as implementation of Kenya's international obligations relating to RSTI	No. of meetings or joint activities undertaken with similar scientific institutions or organizations operating outside Kenya	1	2	2	3	3
		No. of meetings attended as national focal point as pertains to Kenya's international obligations	3	3	3	3	3
KRA 4: INSTITUTIONAL CAPACITY AND CORPORATE POSITIONING							

Strategic Objective	Outcome	Outcome Indicator	Projections				
			Year 1	Year 2	Year 3	Year 4	Year 5
SO4.1 To strengthen institutional capacity.	Enhanced institutional Capacity including recruitment of competent staff and Performance Contract management	Total no. of staff in position	59	65	70	75	80
		No. of staff trained for improved skills set.	59	65	70	75	80
		No. of staff appraised as per provisions of Staff Performance Appraisal System (SPAS)	59	65	70	75	80
		Performance Contract Score	Fair	Good	Very Good	Very Good	Excellent
SO4.2 To enhance Resource Mobilization and optimization.	Enhanced financial sustainability	Increase of A-in-A revenue (KES Million)	80M	85M	90M	95M	100M
	Enhanced institutional automation and digitalization	No. of processes automated and digitalized	2	3	4	5	6

SO4.3 To enhance corporate positioning.	Improved corporate visibility and brand	Continued Designation as specialized agency for STI Mainstreamin in MDAs, and as the national focal point for Kenya's international obligations (Yes or No)	Yes	Yes	Yes	Yes	Yes
		No. of Key documents launched publicly, including annual STI Progress Report	1	2	3	1	1
	Enhanced workplace and Customer satisfaction	Customer satisfaction level (%)	70%	75%	80%	82%	85%
		Employee satisfaction level (%)	60%	65%	70%	75%	80%

5.3 Strategic Choices

The Commission has considered and makes the following choices of strategies (see Table 11) it will pursue to achieve its strategic objectives.

Table 11. Strategic Objectives and Strategies

KEY RESULTS AREAS	STRATEGIC OBJECTIVES	STRATEGIES
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 2) Register/accredit research institutions
	Strategic Objective 2: To develop advisories on science, technology and innovation	1) Advise the national government on science, technology and innovation
	SO3: Strategic Objective 3: To promote science, technology and innovation for socio-economic development	1) promote increased awareness, knowledge and information of research system including STEM Education. 2) promote the adoption and application of scientific and technological knowledge and information necessary in attaining national development goals. 3) promote and encourage private sector involvement in scientific research and innovation and development. 4) In consultation with the National Research Fund Trustees, sponsor national scientific and academic conferences it considers appropriate. 5) promote knowledge creation, storage and dissemination through outreach programmes.

KEY RESULTS AREAS	STRATEGIC OBJECTIVES	STRATEGIES
KRA 2: SURVEILLANCE AND COMPLIANCE	Strategic Objective 1: To strengthen compliance with the policy and regulatory framework, 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.
	Strategic Objective 2: To strengthen Regulatory and Quality Assurance Frameworks	1) 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.
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 2) Coordinate QMS and Risk Management Framework
	Strategic Objective 2: To strengthen capacity for resource mobilization	1) Enhance collaborations and partnerships. 2) Enhance international commitments in research science technology and innovation.

KEY RESULTS AREAS	STRATEGIC OBJECTIVES	STRATEGIES
	Strategic Objective 3: To ensure and 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. 2) ensure co-ordination and co-operation between the various agencies involved in science, technology and innovation. 3) collaborate with similar scientific institutions or organizations operating outside Kenya. 4) Enhance Knowledge Management.
KRA 4: INSTITUTIONAL CAPACITY AND CORPORATE POSITIONING	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 SIX: IMPLEMENTATION AND COORDINATION FRAMEWORK

6.1 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.

6.2 Implementation Plan

The Strategic Plan will be operationalized through annual corporate workplans, budgets and performance contract. For ownership and ease of implementation, the

Strategic Plan will be cascaded to all levels of the Commission.

Strategy	Key Activities	Expected Output	Output Indicators	Target For 5 years	Target					Budget (KSh. Mn)					Responsibility*	
					Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5	Lead	Support
Strategic Issue:																
Strategic Goal:																
KRA:																
Outcome:																
Strategic Objective:																

**In the Context of Value Chain execution framework, there should be the Lead Actor for every activity and Support Actor(s)*

6.2.1 Annual Workplan and Budget

The Commission extracts Annual Workplans from the Action Plan Implementation Matrix and enhance the same to include key emerging issues. The commission prepares its Annual Work Plan in time for the Annual Budgets. The Commission adopts Project/activity-based costing in the development of its Annual Budgets.

6.2.1 Performance Contracting

Performance Contracting aims at improving efficiency and effectiveness, while reducing the cost of running the government and Commission. The Performance Contracting Guidelines will support identification of performance indicators and annual targets while taking into consideration government and Commission's core priority areas.

To ensure implementation of the strategic plan, the Commission will prepare performance contracts and link them to the annual work plans.

6.3 Coordination Framework

The Commission will establish an enabling workplace culture that emphasizes teamwork for effective service delivery and leverage on information communication technology to execute its mandate. It will also seek to attract and retain skilled human resources to ensure optimal staffing levels, address identified skills gaps, review the organizational structure, and adopt an effective performance management system.

6.3.1 Institutional Framework

To enhance efficiency and effectiveness in the implementation of its mandate, the Commission is structured as shown in the organizational structure in Figure 6.1. 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

The organizational structure Commission may be reviewed when necessary, so as to incorporate emerging issues and trends so as to effectively respond to national development goals.

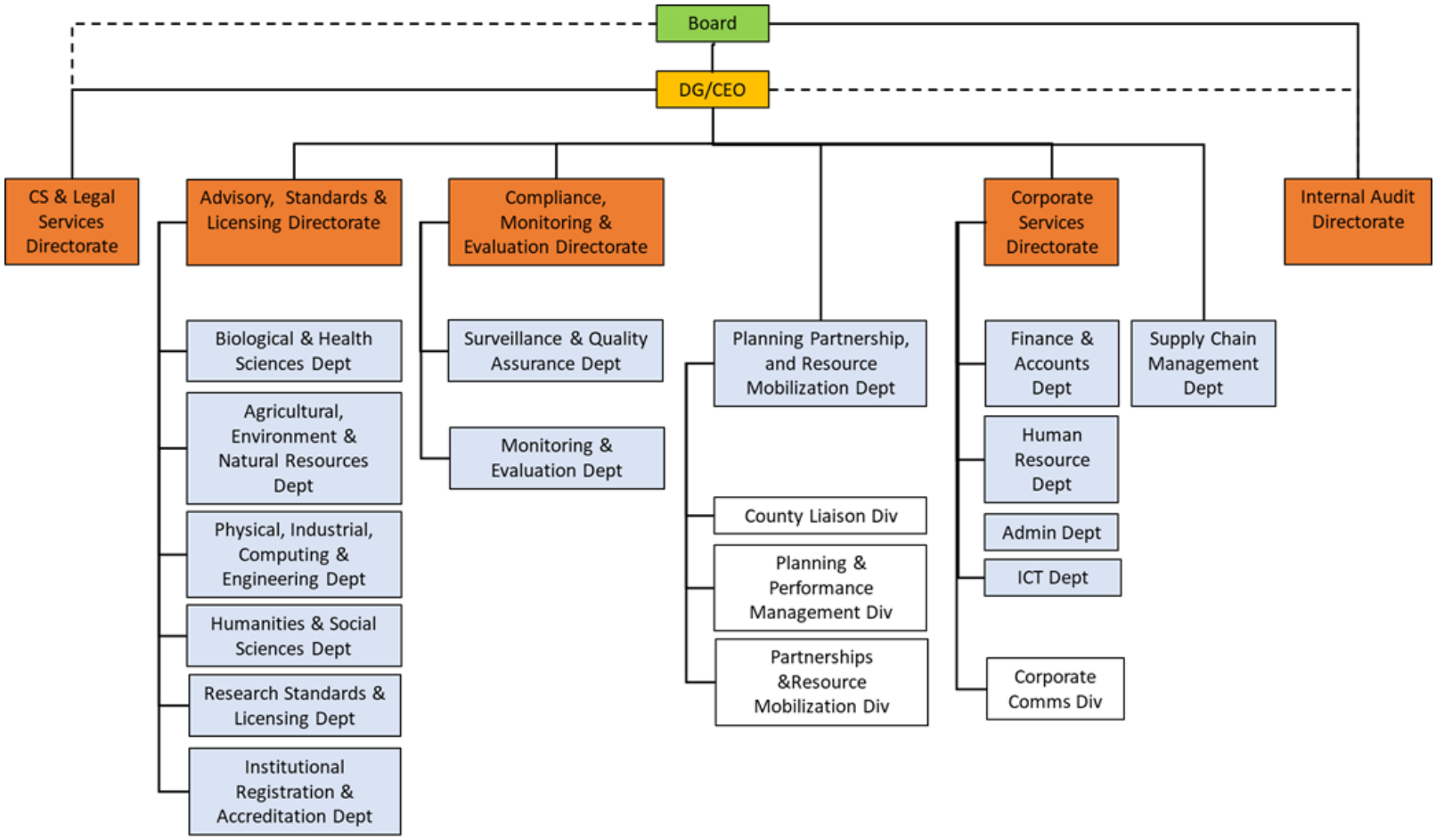


Figure 4. NACOSTI Organogram

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

6.3.1 Staff Establishment, Skills Set and Competence Development

Currently the Commission has an approved establishment of ninety eight staff against an in-post of 59. 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.

Staff Establishment

The approved staff establishment for the Commission is ninety-eight (98). Currently the staff in-post is 59 with a variance of 39 as detailed in the Table 13.

Table 13. Staff Establishment

Cadre	Approved Establishment	Optimal Staffing Levels (as had been proposed to SCAC)	In post	Variance
Director General	1	1	1	0
Directors	3	3	0	3
Deputy Directors/ Managers	16	18	9	6

Cadre	Approved Establishment	Optimal Staffing Levels (as had been proposed to SCAC)	In post	Variance
Principal	23	42	9	14
Scientist/Officer/Senior	35	89	23	12
Office Administrator /Senior	1	1	0	1
Assistant Office Administrator /Senior	4	4	4	1
Assistant Records Management	1	1	1	0
Accounts/Supply Chain Assistants/ Corporate Communications	6	4	4	2
Principal Driver/Senior/Driver	5	5	5	0
Office Assistant/Senior	3	4	3	0
Total	98	172	59	39

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

(i) Attract and maintain optimal human resource capacity including short-term resource persons for the achievement of Commission's manpower development goals and skills acquisition.

(ii) Enhance Human Resource Training and Development.

(iii) Develop and implement a Succession Management Plan.

(iv) Coordinate staff performance management system.

Skills Set and Competence Development

The Commission's Skills set and Competence Development is given in Table 14. It is observed that for the Commission to deliver on its mandate, recruitment and development of staff be undertaken at different levels.

Table 14. Skills Set and Competence Development

Cadre	Skills Set	Skills Gap	Competence Development
Scientists undertaking Research Licensing, Registration and Accreditation of Research Institutions, Research, and coordination of the STI Sector	• Science Diplomacy and Communication skills • Proposal writing skills • Project Management skills • Analytical skills • Results Orientation; • Strategic thinking • Interpersonal skills • Negotiation skills • Record keeping skills • Team player • Subject matter expertise	• Proposal writing skills • Project Management skills • Science Diplomacy and Communication skills • Strategic thinking • Negotiation skills	• Training • Coaching and mentorship • Participation in conferences • Teambuilding • Focus groups
Quality Assurance Officers	• Science Diplomacy and Communication skills • Proposal writing skills; • Project Management skills • Analytical skills • Problem solving skills • Results Orientation; • Strategic thinking • Interpersonal skills • Team player • Negotiation skills	• Proposal writing skills • Project Management skills • Science Diplomacy and Communication skills • Strategic thinking • Interpersonal • Negotiation skills	• Training • Coaching and mentorship • Participation in conferences • Teambuilding • Focus groups
Finance and Accounts	• Project Management skills • Planning skills • Analytical skills • Problem solving skills • Communication skills • Record keeping skills • Reporting skills • Interpersonal • Team player.	• Project Management skills • Problem solving skills • Reporting skills	• Training • Continuous professional development • Coaching and mentorship • Teambuilding

Cadre	Skills Set	Skills Gap	Competence Development
Human Resource	• Leadership and Supervisory skills • Analytical skills • People management skills • Problem solving skills • Communication skills • Report writing skills; • Mentorship and Coaching skills • Record keeping skills • Interpersonal skills • Team player • Negotiation skills • Motivational skills • Succession planning skills	• Leadership and Supervisory skills • Negotiation skills • Interpersonal skills • Mentorship and Coaching skills • Motivational skills • Succession planning skills	• Training • Continuous professional development • Coaching and mentorship • Teambuilding
▪ Administration	• Report writing • People management skills • Team player • Analytical • Negotiation skills • Problem solving • Strategic thinking	• Supervisory skills • Negotiation skills • Report writing skills • Negotiation skills	• Training • Continuous professional development • Coaching and mentorship • Teambuilding
▪ Supply Chain Management	• Professional skills • Communication skills • Report writing • Interpersonal; • Negotiation; • Team player • • Analytical • Problem solving skills	• Supervisory skills • Negotiation skills • Report writing • Negotiation skills	• Training • Continuous professional development • Coaching and mentorship • Teambuilding

Cadre	Skills Set	Skills Gap	Competence Development
Legal	• Communication • Interpersonal skills • Report writing skills • Negotiation skills and arbitration skills • Analytical skills • Problem solving skills • Teamwork	• Negotiation and Arbitration	• Training • Coaching and mentorship
Audit	• Interpersonal • Report writing • Analytical • Problem solving skills • Strategic thinking • Negotiation. • Team player	• Report writing • Negotiation	• Training • Coaching and mentorship

6.3.1 Leadership

The overall responsibility for policy formulation and providing strategic leadership is the Board of Directors while the Director General, as the principal accounting officer will ensure the overall coordination, implementation, monitoring, and evaluation of the Strategic Plan. The plan will also be cascaded to directorates, departments, and divisions.

The Commission has formed Strategic Theme Teams which are aligned to the Strategic Issues for purposes of responsibility and accountability in leading and coordinating the execution of the strategic activities relevant to KRAs. Annex III gives the Strategic Theme Teams with Terms of Reference.

6.3.1 Systems and Procedures

For effective and efficient implementation of the strategic plan, the Commission will adopt appropriate systems, policies, strategies and plans to enhance productivity. This will include review of existing internal systems processes and standard operating procedures. The Commission will build its human resource capacity to deliver on its mandate.

6.4 Risk Management Framework

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 has prepared a risk map/matrix to help

guide in risk management and mitigation by analyzing the consequences of a risk, and likelihood (see Table below 14). The Risk Management Framework is determined by considering the likelihood of risks as well as the consequences as shown below.

Table 15. Risk Management Framework

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 16 below gives the Commission's risk analysis and mitigation measures.

Table 16. NACOSTI Risk Management Framework

No.	STRATEGIC OBJECTIVE	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	Inadequate awareness on the STI Act	**M**	**M**	**M**	Undertake awareness creation	DASL
	Strategic Objective 2: To develop advisories on science, technology and innovation	Inadequate human capital	**H**	**H**	**H**	Utilize Resource persons See deployment of staff from other agencies	DCS
	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

No.	STRATEGIC OBJECTIVE	RISK AND DESCRIPTION	LIKELIHOOD (L/H/M)	IMPACT (L/H/M)	OVERALL RISK LEVEL (L/H/M)	MITIGATION MEASURE(S)	RISK OWNER
	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 teamwork	PPR Dept.
	Strategic Objective 2: To strengthen capacity for resource mobilization	Resistance to change	**M**	**M**	**M**	Building capacity for culture change and teamwork	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 teamwork	PPR Dept.
KRA 4	**Strategic Objective 1:** To strengthen institutional capacity	Inadequate financial resources				Implement Resource mobilization strategies	DCS PPR Dept.

No.	STRATEGIC OBJECTIVE	RISK AND DESCRIPTION	LIKELIHOOD (L/H/M)	IMPACT (L/H/M)	OVERALL RISK LEVEL (L/H/M)	MITIGATION MEASURE(S)	RISK OWNER
	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 SEVEN: RESOURCE REQUIREMENTS AND MOBILIZATION STRATEGIES

7.1 Overview

This chapter provides information on the financial resources required to implement the strategic plan. This includes the Commission's financial resources requirement, resource gaps, resource mobilization strategies and Resource Management to ensure optimum resource management.

7.2 Financial Requirements

Guided by annual workplan, the commission has developed estimates of resource requirements and prepare a budget for the implementation of the action plan on Financial Year basis. The KRAs and administrative cost informed the total annual budget as demonstrated in Table 17.

Table 17. Financial Resource Requirements

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**

Table 18. Resource Gaps

YEAR	REQUIREMENT (KSHS MILLION)	ESTIMATED RESOURCE ALLOCATIONS (KSHS MILLION)		VARIANCE (KSHS MILLION)
YEAR 1	2,191	202.80		1,988.20
YEAR 2	1,957	351.50		1,605.50
YEAR 3	1,987	366.20		1,620.80
YEAR 4	2,063	420.00		1,643.00
YEAR 5	1,985	484.00		1,502.00
TOTAL	**10,183**	1,823.50		8.359.60

7.3 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;

(i) Capitation from the National Treasury

(ii) Rent obtained from leasing of space at NACOSTI Plaza

(iii) Rent obtained from leasing or running Hotel and Conference facility.

(iv) Capacity building and training of stakeholders as pertains to the Commission's regulatory and advisory mandate in the science, technology and innovation sector.

(v) Grant applications.

(vi) Joint ventures with other agencies.

7.4 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.

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.

CHAPTER EIGHT: MONITORING, EVALUATION AND REPORTING FRAMEWORK

8.1 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.

8.2 Monitoring Framework

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, determined from the action plan implementation matrix. **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. The Commission will develop a plan for continuous improvement on the targeted results for efficiency and effectiveness.

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:

(i) Developing monitoring (and evaluation) plan at the beginning of the strategic planning cycle, with clear indicators at all levels of implementation

(ii) Establishing a Monitoring, Evaluation and Learning Committee (MELC)

(iii) Carrying out continuous data collection, analysis and reporting on quarterly basis through performance contracting

(iv) Carrying out random inspections and making objective observations

(v) Conducting specially designed surveys and rapid assessments to assess progress.

(vi) Carrying out participatory M&E

8.3 Performance Standards

The Monitoring and evaluation framework will be based on internationally accepted norms and standards, and will include: relevance, efficiency, effectiveness, success and sustainability. The standards for tracking performance for the strategic plan will include: defining the Key Performance Indicators identified at outcome, output and efficiency level. The Strategic Theme Teams will be responsible for data collection for the respective KRAs.

8.4 Evaluation Framework

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. The Evaluation Framework will be presented in the form of Outcome Performance Matrix which includes: clearly defined outcome indicators, baselines and targets (see Table 19).

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.

Two main evaluation activities will be undertaken. These are the mid-term and end term evaluations.

1. 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.

2. End-Term Evaluation

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.

Table 19. Outcome Performance Matrix

KEY RESULT AREA	OUTCOME	OUTCOME INDICATOR	BASELINE		TARGET	
			VALUE	YEAR	MID-TERM	END-TERM
Regulation, Advisory and Promotion	Enhanced regulation of research, science, technology and innovation	Increased No. of licensed research (No.)	7000	2022/2023	8000	9000
		Increased No. of registered research institutions (N0.)	21	2022/2023	30	40
	Enhanced advisories to support implementation of evidence-based government agenda	No. of advisories to the national and county governments	1	2022/2023	3	4
	Increased adoption and application of Research, Science, Technology, and Innovation (RSTI) outcomes for enhanced national security and national prosperity	No. of Institutions establishing IP Management Policy/IP Management Office	21	2022/2023	50	100
		No. of conferences held	1	2022/2023	3	5
		No. of County engagement forums/ meetings or collaborations held	2	2022/2023	5	10
		No. of meetings or collaborations held with private sector actors	2	2022/2023	5	10

KEY RESULT AREA	OUTCOME	OUTCOME INDICATOR	BASELINE		TARGET	
			VALUE	YEAR	MID-TERM	END-TERM
Surveillance and Compliance	Strengthened Research, Science, Technology, and Innovation (RSTI) regulatory regime	No. of surveillance, regular inspections, monitoring, and evaluation of activities in the STI Sector undertaken to ensure compliance with set standards and guidelines	3	2022/2023	10	15
	Enhanced quality assurance in Research, Science, Technology, and Innovation (RSTI) activities.	No. of MDAs implementing STI Mainstreaming Performance Indicator	250	2022/2023	300	330
		No. of Institutions establishing accredited Institutional Scientific and Ethical Review Committee	32	2022/2023	42	55
		No. of guidelines and templates for institutional Research Policy, IP Management Policy, and Standard Operating Procedures for Institutional Scientific and Ethical Review Committees (ISERCs)	1	2022/2023	2	3

KEY RESULT AREA	OUTCOME	OUTCOME INDICATOR	BASELINE		TARGET	
			VALUE	YEAR	MID-TERM	END-TERM
Planning, Partnership and Resource Mobilization	Improved organisational operational efficiency to support prompt service delivery	Customer satisfaction level (%)	70%	2022/2023	80%	85%
		Employee satisfaction level (%)	60%	2022/2023	70%	80%
	Improved capacity and capability of key stakeholders to fast-track the entrenchment of STI into national production systems	No. of capacity building trainings undertaken for stakeholders in the STI Sector.	2	2022/2023	4	4
	Enhanced collaborations and partnerships to support resource mobilization	No. of MoUs signed or Resource optimization Partnerships undertaken	2	2022/2023	4	6
	Enhanced implementation of international commitments in research science technology and innovation	No. of international commitments implemented as the National Focal Point or lead agency	2	2022/2023	4	6
	Increased income generating streams	No. of income generating streams	1	2022/2023	3	3

KEY RESULT AREA	OUTCOME	OUTCOME INDICATOR	BASELINE		TARGET	
			VALUE	YEAR	MID-TERM	END-TERM
	Enhanced coordination of Science, Technology and Innovation (STI) Mainstreaming PC indicator in MDCAs	No. of MDAs implementing STI Mainstreaming Performance Indicator	250	2022/2023	300	330
		No. of programmes or projects being implemented through a whole-of-government approach	3	2022/2023	7	15
	Intensified Knowledge Management to inform Kenya's global competitiveness and rankings, and hence need for synergies	Collating and interpreting RSTI data in an annual report (No.)	1	2022/2023	1	1
	Enhanced collaborations and partnerships with institutions operating outside Kenya, as well as implementation of Kenya's international obligations relating to RSTI	No. of meetings or joint activities undertaken with similar scientific institutions or organizations operating outside Kenya	1	2022/2023	2	3
		No. of meetings attended as national focal point as pertains to Kenya's international obligations	3	2022/2023	3	3

KEY RESULT AREA	OUTCOME	OUTCOME INDICATOR	BASELINE		TARGET	
			VALUE	YEAR	MID-TERM	END-TERM
Institutional Capacity and Corporate Positioning	Enhanced institutional Capacity including recruitment of competent staff and Performance Contract management	Total no. of staff in position	59	2022/2023	70	80
		No. of staff trained for improved skills set.	59	2022/2023	70	80
		No. of staff appraised as per provisions of Staff Performance Appraisal System (SPAS)	59	2022/2023	70	80
		Performance Contract Score	Fair	2022/2023	Very Good	Excellent
	Enhanced financial sustainability	Increase of A-in-A revenue (KES Million)	80M	2022/2023	90M	100M
	Enhanced institutional automation and digitalization	No. of processes automated and digitalized	2	2022/2023	4	6
	Improved corporate visibility and brand	Continued Designation as specialized agency for STI Mainstreamin in MDAs, and as the national focal point for Kenya's international obligations (Yes or No)	Yes	2022/2023	Yes	Yes
		No. of Key documents launched publicly, including annual STI Progress Report	1	2022/2023	3	1
	Enhanced workplace and Customer satisfaction	Customer satisfaction level (%)	70%	2022/2023	80%	85%
		Employee satisfaction level (%)	60%	2022/2023	70%	80%

8.5 Reporting Framework and Feedback Mechanism

Reporting on implementation of the strategic plan will involve quarterly presentations to the Board. Guidance from the Board, as well as lessons learned will be fed into a continual adjustment and improvement of the necessary corrective interventions in the strategy. Measurements of actual performance will be made at predetermined times and compared with the performance standards. Where the actual results fall outside the desired tolerance range, action will be taken to correct the deviation as well as prevent its recurrence.

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.

Reporting Templates will be as given in Tables 20, 21 and 22 below.

Table 20. Quarterly Progress Reporting Template

QUARTERLY PROGRESS REPORT
QUARTER ENDING .....

Expected Output	Output Indicator	Annual Target (A)	Quarter for Year			Cumulative to Date			Remarl
			Target (B)	Actual (C)	Variance (C-B)	Target (E)	Actual (F)	Variance (F-E)	

Table 21. Annual Progress Reporting Template

(Specify name of MDAC, Constitutional Commission, and Independent Office)
ANNUAL PROGRESS REPORT
YEAR ENDING .....

Expected Output	Output Indicator	Achievement for Year.....			Cumulative to Date (Years)			Remarks	Corrective Intervention
		Target (A)	Actual (B)	Variance (B - C)	Target (D)	Actual (E)	Variance (E - D)		

Table 22. Evaluation Reporting Template

Key Result Area	Outcome	Outcome Indicator	Baseline		Mid-Term Evaluation		End of Plan Period Evaluation		Remarks	Corrective Intervention
			Value	Year	Target	Achievement	Target	Achievement		
KRA 1										
KRA 2										
KRA 3										

ANNEXES

9.1 Annex I Implementation Matrix

Table 23. Implementation Matrix

S/ No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						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																		
	License/ approve all scientific research in Kenya	Evaluate, and defer/reject/ License/ approve scientific research proposals in Kenya (Monthly seating of Review committee @ 3m)	Report of granted research licenses	No. Granted research licenses	**39,500**	**6000**	**7000**	**8000**	**9000**	**9500**	**36**	**36**	**36**	**36**	**36**	**DASL**	**HoDs under DASL**	**180**
		Evaluate **progress** of selected **Licensed**/ approved scientific research in Kenya (quarterly seating of Review committee @ 3m)	Report of monitored and evaluated licensed researches	No. of Monitored and evaluated licensed researches	**1,000**	**100**	**150**	**200**	**250**	**300**	**12**	**12**	**12**	**12**	**12**	**DASL**	**HoDs under DASL**	**60**

S/ No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		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	DASL	HoDs under DASL	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	DASL	HoDs under DASL	480

S/ No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		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	DASL	HoDs under DASL	5

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
	Register/ accredit research institutions,	Evaluate, and defer/reject/ register/ accredit all 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	% 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**	**DASL**	**HoDs under DASL**	**480**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		Evaluate **progress** of selected registered/ accredited Research institutions in Kenya	Report of Monitored and evaluated selected registered/accredited Research institutions in Kenya	No of Monitored and evaluated selected registered/ accredited Research institutions in Kenya	**200**	**40**	**40**	**40**	**40**	**40**	**96**	**96**	**96**	**96**	**96**	**DASL**	**HoDs under DASL**	**480**

S/ No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		Coordinate activities of Institutional Scientific and Ethical Review Committees, and the National Scientific and Ethics Committee (Quarterly meetings @ 3M)	-	-	-	-	-	-	-	-	12	12	12	12	12	DASL	HoDs under DASL	60
Strategic Objective 2: To develop advisories on science, technology and innovation																		
	Advise the national government on science, technology and innovation	Undertake Annual review of the progress of science, technology and innovation and submit a report eight regions x twice a year x 6m	Submitted report	Review Report	**5**	1	1	1	1	1	**96**	**96**	**96**	**96**	**96**	DASL	HoDs under DASL	**480**
		Develop advisories on science education	Number of advisories	Advisories developed	**20**	**4**	**4**	**4**	**4**	**4**	**12**	**12**	**12**	**12**	**12**	DASL	HoDs under DASL	**60**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		Advise the Government on key policies and any issue relating to scientific research systems, as well as on emerging issues;	Number of advisories	Advisories developed	**5**	1	1	1	1	1	**3**	**3**	**3**	**3**	**3**	**DASL**	**HoDs under DASL**	**15**
Strategic Objective 3: To promote science, technology and innovation for socio-economic development																		
	Promote increased awareness, knowledge and information of research system;	Develop and implement STI communication/diplomacy strategy.	Approved STI Communication/Diplomacy strategy	Developed STI Communication/Diplomacy Strategy	1	1	-	-	-	-	**3**					**DASL**	**HoDs under DASL**	**3**
		Undertake STI awareness forums. (quarterly visit to 8 regions @ 6m)	Number of forums	Awareness created	10	2	2	2	2	2	192	96	96	96	96	DASL	HoDs under DASL	576
		Establish Science and Technology Education Centre	Report	Science and Technology Education Centre established	1	-	1	-	-	-		30	5	5	5	DASL	HoDs under DASL	45

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
	Promote the adoption and application of scientific and technological knowledge and information necessary in attaining national development goals	Develop STI Mainstreaming and infusion Framework, and Capacity Building programmes for MCDAs, and Private Sector entities	Report of implementation	Framework developed	1	1					**10**	**12**	**14**	**16**	**18**	**DASL**	**HoDs under DASL**	**70**
		Coordinate STI Mainstreaming in Programmes and Projects of Ministries, Departments and Agencies (4 quarter @ 8m)	-	-	-	-	-	-	-	-	**32**	**32**	**32**	**32**	**32**	**DASL**	**HoDs under DASL**	**160**
		Coordinate STI Mainstreaming in Programmes and Projects of County governments	-	-	-	-	-	-	-	-	**32**	**32**	**32**	**32**	**32**	**DASL**	**HoDs under DASL**	**160**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		Coordinate STI Mainstreaming in Programmes and Projects of Private Sector entities governments	-	-	-	-	-	-	-	-	32	32	32	32	32	DASL	HoDs under DASL	160
		Build human capacity for STI Mainstreaming and infusion through STI Professional Certification Programmes									32	32	32	32	32	DASL	HoDs under DASL	160
	Promote and encourage private sector involvement in scientific research and innovation and development	Develop a framework for private sector engagement	Number of collaborations and partnerships established	Established private sector linkages	10	2	2	2	2	2	96	96	96	96	96	DASL	HoDs under DASL	480
		Implement Programmes for infusion of STI in the private sector	-	-	-	-	-	-	-	-	20	20	20	20	20	DASL	HoDs under DASL	100

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
	In consultation with the National Research Fund Trustees, sponsor national scientific and academic conferences it considers appropriate;	Organize annual multisectoral conference on STI	-	-	-	-	-	-	-	-	8	10	12	13	14	DASL	HoDs under DASL	57
		Organize annual High-Level Ministerial and Governors Dialogue on STI									4	4	4	4	4	DASL	HoDs under DASL	20
		Organize annual exhibitions on STI	-	-	-	-	-	-	-	-	10	11	12	13	14	DASL	HoDs under DASL	60
		Organize annual science and Technology Education, and Olympiad	-	-	-	-	-	-	-	-	10	11	12	13	14	DASL	HoDs under DASL	60

S/ No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
	Promote knowledge creation, storage and dissemination	Undertake relevant RTI programmes	-	-	-	-	-	-	-	-	20	25	30	35	40	DASL	HoDs under DASL	150
		Create RSTI repository for RSTI activities in Kenya	-	-	-	-	-	-	-	-	2	2	2	2	2	DASL	HoDs under DASL	10
		Disseminate R&D outcomes	-	-	-	-	-	-	-	-	10	11	12	13	14	DASL	HoDs under DASL	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)					Lead	Support	Total Budget (KES. Million)
						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.																		
	Undertake surveillance, regular inspections, monitoring and evaluation of activities in the STI Sector to ensure compliance with set standards and guidelines	Undertake surveillance, regular inspections, monitoring and evaluation of Research activities in Kenya, and ensure compliance with laws, set standards, regulations, and guidelines (quarterly visit to 8 regions @ 6m)	Report of of surveillance visits on Research activities in Kenya, aimed at ensuring compliance with laws, and regulations	No. of surveillance visits on Research activities in Kenya (at least one visit in each of the 8 regions in each quarter)	**160**	32	32	32	32	32	**96**	**96**	**96**	**96**	**96**	**DASL, DCME**	**HoDs under DASL and DCME, and HoD-Legal Services**	**480**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		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 (quarterly visit to 8 regions @ 6m)	Report on surveillance visits to ensure that there are no illegal research institutions	No. of surveillance visits to ensure that there are no illegal research institutions	**160**	32	32	32	32	32	**96**	**96**	**96**	**96**	**96**	**DASL, DCME**	**HoDs under DASL and DCME, and HoD-Legal Services**	**480**
		Undertake surveillance, regular inspections, monitoring and evaluationo of ISERCs and NSEC	Reports	Number of ISERCs	**75**	15	15	15	15	15	**225**	**45**	**45**	**45**	**45**	**DASL, DCME**	**HoDs under DASL and DCME**	**405**
		Monitor and evaluate the implementation of STI Priorities	STI priorities implementation Report	Level of implementation	**160**	32	32	32	32	32	**96**	**96**	**96**	**96**	**96**	**DASL, DCME**	**HoDs under DASL and DCME**	**480**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
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	Develop national STI priorities (five seatings for 4 months @ 3m)	Developed STI priorities	Published national STI priorities	1	1	-	-	-	-	**96**	**96**	**96**	**96**	**96**	**DASL, DCME**	**HoDs under DASL and DCME**	**480**
		Develop national STI indicators	National STI indication developed	Published national STI indicators	1	1	-	-	-	-	**96**	**96**	**96**	**96**	**96**	**DASL, DCME**	**HoDs under DASL and DCME**	**480**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		Establish a national performance framework for the STI Sector in relation to global and regional performance indices	Review Report	Number of indices	3	3	-	-	-	-	**10**	**10**	**10**	**10**	**10**	**DASL, DCME**	**HoDs under DASL and DCME**	**50**
	SUB-TOTAL										**715**	**535**	**535**	**535**	**535**			**2855**
KRA 3: PLANNING, PARTNERSHIP AND RESOURCE MOBILIZATION																		
Strategic Objective 1: To strengthen planning for the science, technology and innovation sector																		
	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**	**DG, PPRM**	**HoDs**	**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**	**DG, PPRM**	**HoDs**	**18**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		Mid term review of the strategic plan	Mid term review of strategic plan undertaken	Level of implementation	1		-	1	-	-			**7**			**DG, PPRM**	**HoDs**	**7**
	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**	**DG, PPRM**	**HoDs**	**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**	**DG, PPRM**	**HoDs**	**14**
Strategic Objective 2: Strengthen capacity for resource mobilization																		
	Develop a resource mobilization strategy	Resource mobilization strategy developed	Report on Resource Mobilization strategy	Approved strategy	**1**	**-**	**-**	**-**	**-**	**5**	**5**					**DG, PPRM**	**HoDs**	**5**
	Review existing collaborations and partnerships	Collaborations and partnerships reviewed	Report on collaborations and partnerships reviewed	Number of collaborations and partnerships	1	-	-	-	-	**5**	**3**	**3**	**3**	**3**	**3**	**DG, PPRM**	**HoDs**	**15**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
	Establish new collaborations and partnerships with relevant institutions or organizations	New Collaborations and partnerships established	Report on new Collaborations and partnerships established	Number of collaborations and partnerships establishes	1	1	1	1	1	**3**	**4**	**5**	**6**	**7**	**7**	**DG, PPRM**	**HoDs**	**29**
	Build capacity of staff on resource mobilization in thematic areas	Staff capacity enhanced	Report on Staff capacity building on Resource Mobilization	Number of staff trained on Resource Mobilization	2	2	2	2	2	**6**	**7**	**8**	**8**	**8**	**10**	**DG, PPRM**	**HoDs**	**41**
	Review existing international commitments	Existing international commitments reviewed	A Report on reviewed International Commitments	No. of International Commitments	1	1	1	1	1	**5**		**3**	**5**	**6**	**6**	**DG, PPRM**	**HoDs**	**20**

S/ No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
	Develop and implement an action plan on the commitments	Action plan developed and implemented	Report of implementation of international commitments	Approved Action plan on implementation of international commitments	20%	20%	20%	20%	20%	4	5	6	6	5		DG, PPRM	HoDs	22
Strategic Objective 3: To promote co-operation and synergies between the various agencies involved in science, technology and innovation																		
	Develop inter agency engagements strategy	Strategy developed	Inter agency engagements strategy	Approved strategy	1	-	-	-	-	8	1	2	2	4	4	DG, PPRM	HoDs	13
	Organize engagement forums with relevant agencies	Engagement fora held	Reports on engagement forums with relevant agencies	Number of fora	1	1	1	1	1	50	60	65	70	80		DG, PPRM	HoDs	275
	Develop County engagement framework	County engagement framework developed	County engagement framework	Approved County engagement framework	1	-	-	-	-	40		10	10	17		DG, PPRM	HoDs	37

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
	Organize forums in partnership with County governments	Fora organized and held	Report on forums in partnership with County governments	Number of fora	1	1	1	1	1	40	45	50	55	60	60	DG, PPRM	HoDs	270
	Develop co-ordination and co-operation between the various agencies involved in science, technology and innovation strategy	Co-ordination and co-operation between the various agencies involved in science, technology and innovation strategy developed	Strategy on co-ordination and co-operation between the various agencies involved in science, technology and innovation	Approved Strategy on coordination and co-operation between the various agencies involved in science, technology and innovation							45	50	55	60	60	DG, PPRM	HoDs	270
	Develop engagement frameworks	Engagement frameworks developed	Engagement frameworks	Approved engagement frameworks developed							2	2	2	6	6	DG, PPRM	HoDs	18

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
	Implement engagement frameworks	Engagement frameworks implemented	Engagement frameworks	No. of engagement frameworks implemented							2	2	2	6	6	DG, PPRM	HoDs	18
	Develop and implement a knowledge management framework	Knowledge Management Framework developed	Knowledge Management Framework	Published Knowledge Management Framework	-	-	1	-	-	5	2	2	2	6	6	DG, PPRM	HoDs	18
	Develop guidelines on institutional knowledge management	Guidelines developed	Guidelines on institutional knowledge management	Approved guidelines	1	-	-	-	-	6	2	2	2	6	6	DG, PPRM	HoDs	18
	Establish and maintain a digital repository	Digital repository established and maintained	Digital repository	Number of entries	1	-	-	-	-	40	2	2	2	6	6	DG, PPRM	ICT	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)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
KRA 4: INSTITUTIONAL CAPACITY AND CORPORATE POSITIONING																		
Strategic Objective 1: To strengthen institutional capacity																		
	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**		**DCS**	**HR**	**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**	**DCS**	**HR**	**80**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		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**	**DCS**	**HR**	**125**
		Develop and implement a Succession Management Plan	Succession management plan developed and implemented	Approved succession management plan	1	1	-	-	-	-	**5**					**DCS**	**HR**	**5**
	Coordinate staff performance management	Automate/ Review staff performance appraisal tool.	Performance appraisal tool reviewed	Number of reviews	2		1	1		-		**10**	**3**			**DCS**	**HR**	**13**
		Undertake annual staff performance appraisal	Staff appraisal undertaken	Number of staff	5	1	1	1	1	1	**1**	**1**	**1**	**1**	**1**	**DCS**	**HR**	**5**
	Establish/ Enhance staff wellness programmes	Institute health care/wellness programmes	Staff wellness and welfare programmes established	Number of staff undertaking wellness programmes												**DCS**	**HR, Admin**	

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		Establish indoor sports facilities, and staff teams	Indoor sports facilities, and staff teams established	Reports	3	3	-	-	-	-	**20**	**20**	**20**	**20**	**20**	**DCS**	**HR, Admin**	**100**
	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**	**DCS**	**HoDs**	**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**	**DCS**	**HoDs**	**14**
Strategic Objective 2: To enhance Resource Mobilization and optimization																		
	Enhance resource mobilization and prudent utilization of financial resources.	Review Financial Management Manual	Financial management manual reviewed	Approved Financial Management Manual	**1**	**1**	**-**	**-**	**-**	**-**	**1**					**DCS**	**F&A**	**1**

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		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**			**DCS**	**F&A, PPRM, SCM**	**3**
	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**	**DCS**	**ICT**	**4**
		Upgrade ICT infrastructure	ICT infrastructure upgraded	Percentage level of automation	95%	80	85	90	93	95	**40**	**25**	**20**	**20**	**20**	**DCS**	**ICT**	**125**
		Develop and implement digitization action plan	Digitization action plan developed and implemented	Approved action plan	1	1	-	-	-	-	**25**	**20**	**20**	**20**	**20**	**DCS**	**ICT**	**105**
Strategic Objective 3: To enhance Corporate positioning																		

S/No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
	Enhance corporate visibility, and positioning	Develop and implement a stakeholder engagement framework	Stakeholder engagement framework developed	Approved stakeholder engagement framework	1	1	-	-	-	-	**14**					**DG**	**HoDs**	**14**
		Develop corporate communication strategy	Corporate communication strategy developed	Approved corporate communication strategy	1	1	-	-	-	-	**6**					**DG**	**HoDs**	**6**
		Undertake CSR activities	CSR activities undertaken	Number of CSR activities	5	1	1	1	1	1	**1**	**1**	**2**	**2**	**3**	**DG**	**HoDs**	**9**
	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**	**DCS**	**Admin**	**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**		**DCS**	**Admin**	**11**

S/ No	Strategy	Key Activities	Expected output	Output Indicator	Target for five Years	Annual Targets					Budget (KES. Million)					Lead	Support	Total Budget (KES. Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5			
		Review service delivery charter	Service delivered charter reviewed	Review report	3	1	-	1	-	1	**1**	**1**	**1**	**1**	**1**	**DCS**	**Admin**	**5**
	SUB-TOTAL										**208**	**182**	**197**	**216**	**223**			**1026**

9.2 Annex II: Strategic Theme Teams

Strategic Theme Team	Strategic Issue	Terms of Reference	KRAs
RSTI Regulation, Advisory and Promotion Team	1. Quality of research, science, technology and innovation 2. Policy and regulatory frameworks 3. Science, technology and innovation mainstreaming in MDAs, and Knowledge Management 4. Protection and Commercialization/Extension of research, science, technology and innovation outputs 5. Public awareness on research, science, technology and innovation system	To foster a Vibrant Research, science, technology, and innovation enterprise to enhance national prosperity, cohesion, and security through regulation, advisory and promotion of the STI Sector.	**KRA 1:** Regulation, Advisory and Promotion
RSTI Surveillance and Compliance Team	1. Regulatory compliance, enforcement and inspections	To ensure Compliance with applicable laws, and enforce regulations, standards, and international treaties to facilitate maximum benefits and growth from the Science, Technology and Innovation.	**KRA 2:** Surveillance and Compliance
RSTI Planning, Partnership and Resource Mobilization Team	1. Implementation of treaties, partnerships, collaborations, agreements, and obligations 2. Kenya's global competitiveness in science, technology and innovation 3. Resources for research, science, technology, and innovation 4. Stakeholder engagement, Collaborations, synergies and whole of government approach	To coordinate Implementation of treaties, partnerships, collaborations, agreements, and obligations, as well as assist in the mobilization of sustainable resources for research, science, technology, and innovation development to fast-track attainment of national development agenda, national security, and global competitiveness.	**KRA 3:** Planning, Partnership and Resource Mobilization
Institutional Capacity and Corporate Positioning Team	1. Institutional capacity: Human Resource Development, Internal process strengthening Physical resources, Digitalization, Corporate Image. Corporate governance, Corporate positioning	To enhance and strengthen institutional capacity to support Effective service delivery, corporate positioning, and contribution to community service.	**KRA 4:** Institutional Capacity and Corporate Positioning