NACOSTI

Science for Prosperity

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

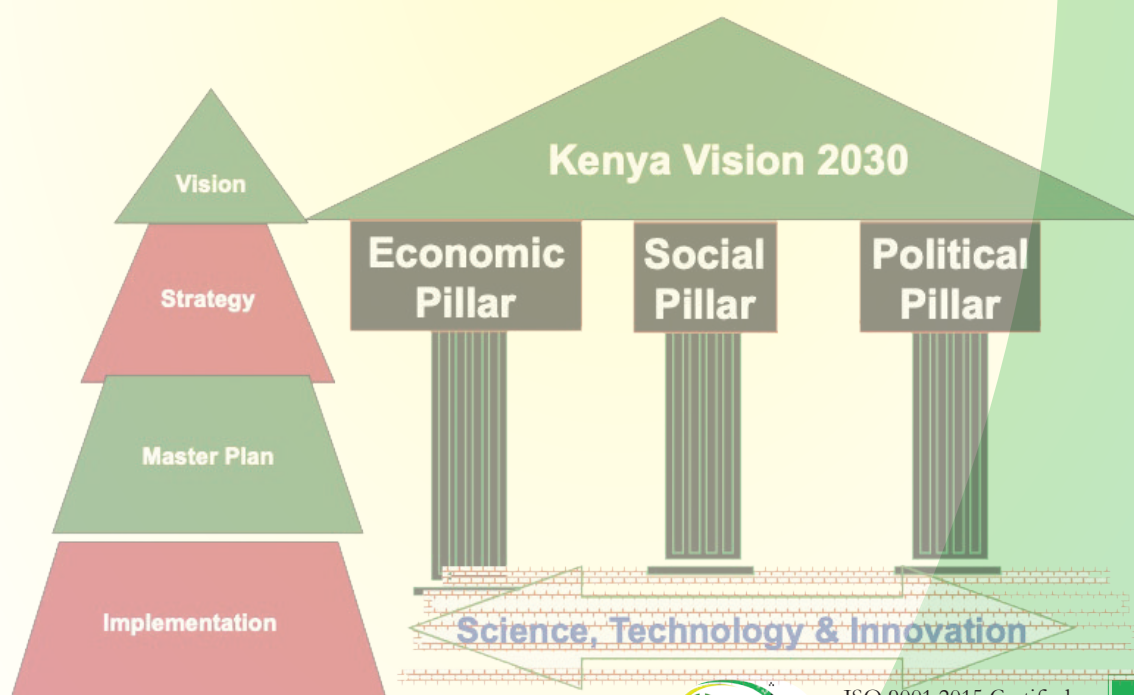# Strategic Plan
2018 - 2022

NACOSTI

Science for Prosperity

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Strategic Plan

2018 - 2022

Vision

Strategy

Master Plan

Implementation

Kenya Vision 2030

Economic Pillar

Social Pillar

Political Pillar

Science, Technology & Innovation

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Vision

A knowledge-based economy

Mission

To facilitate quality in the research, science, technology and innovation sector through regulation, promotion and provision of advisory services

Core Values

Customer focus
Professionalism
Teamwork
Integrity
Leadership

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ABBREVIATIONS AND ACRONYMS

AU	-	African Union
BTWC	-	Biological and Toxin Weapons Convention
CTBTO	-	Comprehensive Test Ban Treaty Organization
DCS	-	Directorate of Corporate Services
DG	-	Director General
DRAQA	-	Directorate of Research, Accreditation and Quality Assurance
DSPC	-	Directorate of Strategy, Planning and Compliance
DSS	-	Directorate of Scheduled Sciences
ERP	-	Enterprise Resource Planning
GDP	-	Gross Domestic Product
GoK	-	Government of Kenya
HoD	-	Head of Department
HR	-	Human Resource
IA	-	Internal Audit
IAEA	-	International Atomic Energy Agency
ICGEB	-	International Centre for Genetic Engineering and Bio-technology
ICT	-	Information Communication Technology
IERC	-	Institutional Ethical Review Committee
IP	-	Intellectual Property
IGOs	-	Inter-Governmental Organizations
ISO	-	International Organization for Standardization
JE	-	Job Evaluation
KPIs	-	Key Performance Indicators
KRAs	-	Key Result Areas
M&E	-	Monitoring and Evaluation
MERL	-	Monitoring, Evaluation, Reporting and Learning
MoU	-	Memorandum of Understanding
MTEF	-	Medium Term Expenditure Framework
MTP	-	Medium Term Plan
NACOSTI	-	National Commission for Science, Technology and Innovation
NCST	-	National Council for Science and Technology

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NIMES	-	National Integrated Monitoring and Environmental System
NRF	-	National Research Fund
OT	-	Opportunities and Threats
PBB	-	Programme-Based Budgeting
PESTIEL	-	Political, Economic, Social, Technological, Infrastructural, Environmental and Legal
PPP	-	Public Private Partnership
QMS	-	Quality Management System
RST	-	Research, Science and Technology
RSTI	-	Research, Science, Technology and Innovation
SDGs	-	Sustainable Development Goals
SKA	-	Square Kilometre Array
ST&I	-	Science, Technology and Innovation
STEM	-	Science, Technology, Engineering and Mathematics
STISA	-	Science, Technology and Innovation Strategy for Africa
SW	-	Strengths and Weaknesses
SWOT	-	Strengths, Weaknesses, Opportunities and Threats
TNA	-	Training Needs Assessment

FOREWORD

As the Kenyan economy transforms to being knowledge-based, the Science, Technology and Innovation (ST&I) sector has to position itself to effectively play its critical role. The National Commission for Science, Technology and Innovation (NACOSTI) has embarked on its third five-year Strategic Plan at a time when its role in regulation and leadership of the sector is very much needed. During the last five years, which was also the period of the second Strategic Plan, the Commission underwent a prolonged transition from its predecessor; the National Council for Science and Technology (NCST), following the enactment of the Science, Technology and Innovation Act No. 28 of 2013. It was a period of learning and establishing procedures and processes to enhance performance. Many of the lessons learnt will be useful during the third strategic plan period. The Commission moved to its new headquarters during the period, played its role in the fulfilment of the Second Medium Term Plan (MTP II from 2014-2018) of the Kenya Vision 2030 and started several new projects that will continue during the current plan period. The Commission's mandate remains relevant for the purposes of integrating ST&I into our socio-economic processes. It is against this background that the current Strategic Plan has been developed.

With the growing realization of the importance of innovation and creativity for the economy, the ST&I sector is expected to grow faster. We expect moderate growth in funding for research and innovation activities. New sources of funding, however, will have to contribute significantly towards development in the sector. The Commission will play a leading role in bringing in new sources of funds through promotion and development of networks, collaborations and partnerships. Visibility of the sector will be a primary focus of the Strategic Plan. This, we expect, will lead to a harmonious working relationship with industry, education and other economic sectors leading to better performance. The Commission in turn will require continuous assessment and retooling.

The Government has announced the Big Four Agenda and provided funds to ensure that it is achieved. The agenda focuses on manufacturing, food security, affordable health care and housing. This Agenda forms part of the foundation for the Commission's Strategic Plan. With this national focus, the Commission has formulated four Key Result Areas that will underpin the strategic thrust. We are assured that the government and other stakeholders will support the Commission's efforts to accomplish the objectives set out

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in this Strategic Plan. I look forward to a period of great achievements that will be a source of pride for the Kenyan people.

On behalf of the Board, I would like to thank the management of the Commission, the Strategic Planning Committee and the Consultants who were responsible for the development of this Strategic Plan. The collective contribution of the teams will go along way in ensuring that Kenya makes progress towards becoming a knowledge-based economy.

Prof. Tom Ogada
Chairman, Board of the Commission

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PREFACE

The role of Science, Technology and Innovation (ST&I) in socio-economic transformation of countries is well recognized. The National Commission for Science, Technology and Innovation (NACOSTI) has the mandate to steer scientific advancement and technological development in the Country. However, this can only be realized if the Commission is guided by a comprehensive Strategic Plan developed through a consultative process.

The Commission's Strategic Plan 2018 - 2022 has been developed to fill the gap that has been created following the expiry of the previous Strategic Plan (2014 - 2018). Key achievements in the 2014 - 2018 period include the development of Regulations and Guidelines to facilitate registration of research institutions, ensuring relevance and quality of research and licencing of research projects; development of a legal and institutional framework; construction of the Commission's headquarters; and initiation of collaborations and linkages both at national and international levels.

A number of challenges were encountered during the 2014 - 2018 Plan period. These included: inadequate human resource capacity, underfunding of the organization's activities and low levels of automation. These have had a negative impact on monitoring and evaluation and service delivery to our customers. This plan, therefore, draws from lessons learnt from the implementation of the 2014 - 2018 Plan combined with the need to embrace best practices in regulation, advisory, coordination and promotion of matters of science, technology and innovation. It identifies specific achievable goals which have been made in light of the Commission's vision towards 'A Knowledge-Based Economy'.

The various initiatives for the identified four Key Result Areas (KRAs) will be implemented through annual work-plans. A performance management system shall be put in place to ensure accountability for results. The work environment will be founded on an improved organization structure, competitive schemes of service for staff, a robust institutional knowledge management system and outreach strategy.

I wish to thank the Board, Staff, Strategic Planning Committee and all stakeholders for their valuable contribution towards the Strategic Plan development process.

Dr. Moses K. Rugutt, PhD, OGW
Director General

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EXECUTIVE SUMMARY

The development of the Third 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 Kenya's national, regional and international obligations as outlined in the the Kenya Vision 2030 (with special reference to MTP III and the Big Four Agenda) and other prevailing policy and legal documents, the African Union (AU) Agenda 2063 and the Sustainable Development Goals (SDGs).

The Commission's mission, which is **'To facilitate quality in the research, science, technology and innovation sector through regulation, promotion and provision of advisory services'** and the core values of **'Customer focus, Professionalism, Teamwork, Integrity and Leadership,'** underpin its vision of **'A Knowledge-Based Economy'.** The Commission is committed to the highest standards of corporate governance in the implementation of this Strategic Plan.

The Strategic Plan is organized into five Chapters:

Chapter One presents the historical development of the Commission. It also provides the institutional framework which expounds on the mandate of the Commission as stipulated in the Science, Technology and Innovation Act, 2013, Laws of Kenya. The chapter further outlines the role of the Commission in the realization of international, regional and national obligations: the SDGs, Africa 2063 aspirations, MTP III of Vision 2030 and the Big Four Agenda.

Chapter Two expounds on the situational and environmental analyses. The chapter further assesses undertaken using the Strengths, Weaknesses, Opportunities and Threats (SWOT) and Political, Economic, Social-Cultural, Technological, Infrastructural, Environmental and Legal (PESTIEL) models. It also provides a stakeholder analysis indicating their expectations and the Commission's expectations.

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

1. Regulation of Research;
2. Advisory Services for Research, Science and Technology;
3. Knowledge Management; and
4. Institutional Capacity.

To operationalize the achievement of the KRAs, seven strategic objectives will be pursued. These include:

1. To assure relevance and quality of research;
2. To advise on research, science and technology programmes;
3. To mainstream research, science and technology into planning processes;
4. To facilitate acquisition and sharing of knowledge on research, science and technology;
5. To facilitate utilization of knowledge on research, science and technology;
6. To strengthen the institutional capacity; and
7. To improve mobilization and prudent utilization of resources.

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

Chapter Five highlights the monitoring, evaluation, reporting and learning framework. The chapter also outlines Strategy Implementation and Methodology.

CHAPTER ONE: INTRODUCTION

1.0 Background

Kenya's colonial government established a number of scientific research and development facilities especially in the country's agriculture and health sectors. These included the Scott Agricultural Laboratories in 1903, Coffee Research Services in 1908, Veterinary Research Laboratories in 1910 and Medical Research Laboratory in 1958.

After attaining independence in 1963, Kenya established other research institutions to harness science and technology for the country's development. In response to the growth in Science and Technology activities, the Government enacted 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. This also led to the establishment of research institutions to serve specific sectors of the economy including agriculture, health, industry, marine and fisheries and forestry.

In 2013, the Science and Technology Act, Cap 250 was repealed with the enactment of the Science, Technology and Innovation Act, 2013. The Act established the National Commission for Science, Technology and Innovation (NACOSTI) as a body corporate and succesor of NCST.

1.1 Compliance with the Constitution

The Commission shall respect, uphold and defend the Constitution of Kenya through the programmes and services offered to its stakeholders. The Articles of the Constitution of Kenya, 2010, that are relevant to the Commission's mandate include: Article 11 (2) (b) that recognizes the role of science and indigenous technologies in the development of the country and; Article 33(1) (c) that provides for academic freedom and freedom of scientific research.

1.2 Mandate

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

As stipulated in section 6(1) of the Act, the functions of the Commission include:

    (a) develop priorities in scientific, technological and innovation activities in Kenya;

    (b) advise the national and county governments on the science, technology and innovation policy, including general planning and assessment of the necessary financial resources;

(c) lead inter-agency efforts to implement responsive policies and budgets, in collaboration with organizations involved in research, science and technology;

(d) ensure co-ordination and co-operation between the various organizations involved in research, science and technology development;

(e) accredit research institutions and approve all scientific research in Kenya;

(f) assure relevance and quality of research programmes in research institutions;

(g) advise on science education and innovation at both basic and advanced levels; and

(h) promote the adoption and application of scientific knowledge and information.

1.3 Legal and Policy Documents

Documents relevant to the functions of the Commission include:

(a) Science, Technology and Innovation (ST&I) Act, 2013;

(b) Kenya Vision 2030;

(c) Third Medium Term Plan (2018-2022) (MTP III);

(d) The Big Four Agenda (Enhancing Manufacturing, Food and Nutrition Security, Universal Health Coverage and Affordable Housing),

(e) African Union Agenda 2063; and

(f) Sustainable Development Goals (SDGs).

1.4 Rationale for Development of the Commission's Strategic Plan

The development of this Strategic Plan is necessitated by three broad factors, namely:

(a) the need to plan for the next period following the expiry of the Strategic Plan for the period 2014-2018;

(b) the need for the Strategic Plan to outline the Commission's strategies in order to achieve its mandate; and

(c) the need to align the Commission's Strategic direction with the National Development Agenda with a view to ensuaring effective coordination with the wider government policy agenda.

The third Strategic Plan (2018-2022) has been prepared based on the government policy guidelines on Strategic Planning.

1.5 Process of Developing the Strategic Plan

The strategic planning process involved a consultative and participatory approach that enabled sharing of information, ideas and insights specific to the Commission's mandate.

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The process ensured involvement of key stakeholders including Ministries, Departments and Agencies (MDAs), academia and the private sector. The challenges and lessons learnt during implementation of the Strategic Plan 2014-2018 were taken into consideration in the development of the Strategic Plan.

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

(a) Administration of questionnaire to stakeholders;

(b) Desk review of the Commission's relevant documents;

(c) Development of a working document;

(d) Interactive workshop with Management and Heads of sections;

(e) Submission of first draft Strategic Plan;

(f) Validation workshop by stakeholders;

(g) Presentation of second draft Strategic Plan to the Board of Directors for adoption;

(h) Finalization of Strategic Plan with the Board's input; and

(i) Launch of the Strategic Plan 2018-2022.

1.6   Global, Regional and National Challenges

Globally, there are significant efforts to close the three-missing links, which are key to leveraging science, technology and innovation for national development. These are; the need to establish a culture that respects knowledge and embed this in the various education curricula; the need to focus on active knowledge creation and acquisition and a deliberate and conscious effort to link knowledge creation to actual opportunities aimed at enhancing productivity and creating employment opportunities in existing or new sectors.

At the national level, a number of challenges face the Science, Technology and Innovation (ST&I) sector. These include:

(a) Inadequate infrastructure for research, science and technology development.

(b) Inadequate funding and lack of comprehensive science and technology development.

(c) Limited contribution of the private sector to research and technology development.

1.7   The Commission's Development Role in International, Regional and National obligations

The role of the Commission in realizing the Sustainable Development Goals, the Africa 2063, the Kenya Vision 2030, MTP III and the Big Four Agenda is outlined below:

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1.7.1   Sustainable Development Goals

The Government of Kenya is committed to the attainment of the United Nation's Sustainable Developments Goals (SDGs) as agreed upon by the international community. There is a total of 17 SDGs which aim to enhance the quality of life of the world's citizens. Each goal has a specific target to be achieved over the next 15 years. The Commission will contribute towards the attainment of these goals through research, science and technology development.

1.7.2   African Union Agenda 2063

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.

1.7.3   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.

1.7.4 Third Medium Term Plan (MTP III) 2018-2022

The theme of MTP III, which is "Transforming Lives: Advancing Socio-economic development through the Big Four," focuses not only at increasing the level of investment but also enhancing the productivity of investment, as well as raising productivity in all sectors of the economy. MTP III accords priority to enhancing and developing foundations and enablers such as infrastructure, public sector reforms, science, technology and innovation and ICT. The Commission will regulate, coordinate and advise on implementation of research, science and technology programmes and projects that have been identified under MTP III.

1.7.5 The Big Four Agenda

The Government has prioritized policy objectives under the Big Four Agenda that will lead to accelerated growth of the economy. Science, technology and innovation has a critical role to play in achievement of the Big Four Agenda. The Agenda targets to:

i.   Support value addition and raise the manufacturing sector share of GDP to 15 per cent by 2022;

ii. Focus on initiatives that guarantee food security and nutrition to all Kenyans by 2022;

iii. Provide Universal Health Coverage thereby guaranteeing quality and affordable healthcare to all Kenyans; and

iv. Provide Housing to all Kenyans by targeting construction of at least five hundred thousand affordable houses by 2022.

The Commission, in consultation with stakeholders, will set research and development priorities and coordinate implementation of the programmes. It will also promote application of appropriate technologies in targeted areas.
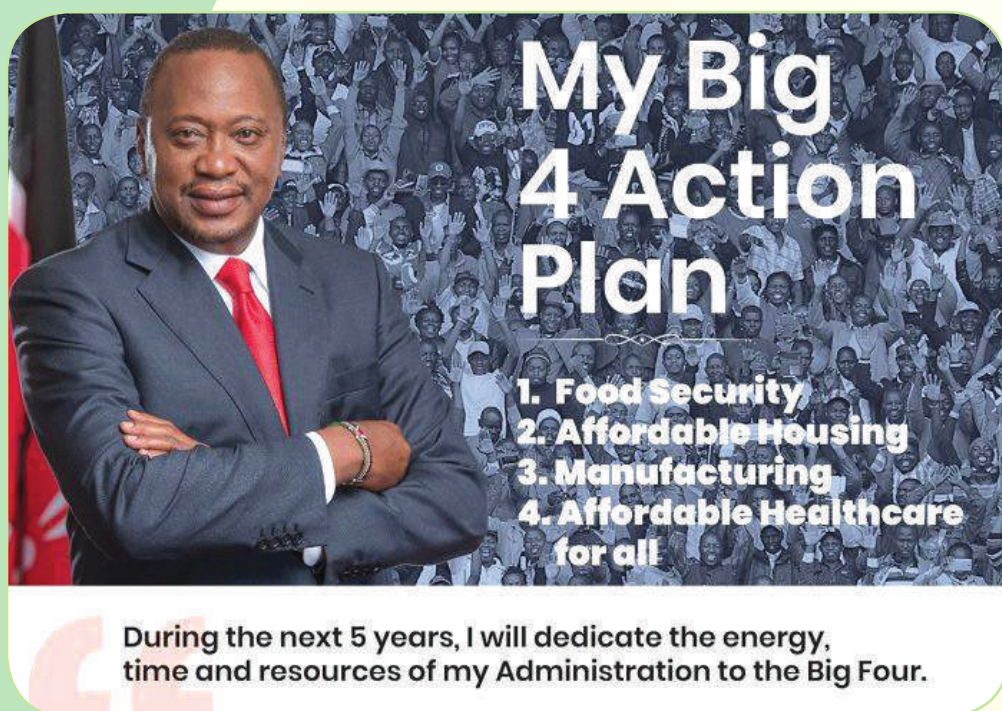
Figure 1: His Excellency, Hon. Uhuru Kenyatta, C.G.H. President and Commander-in-Chief of the Defence Forces of the Republic of Kenya, launching the Big 4 Agenda.
(Source: https://www.kenyans.co.ke/news)

CHAPTER TWO: SITUATIONAL ANALYSIS

2.0 Introduction

The situational analysis focuses on review and assessment of key achievements, challenges and lessons learnt from the 2014-2018 Strategic Plan period. An internal and external analysis using the Strengths, Weaknesses (SW), and Political, Economic, Socio-cultural, Technological, Infrastructural, Environmental and Legal (PESTIEL) analysis was carried out to generate the Opportunities and Threats (OT). A stakeholder analysis was also undertaken for inclusion in implementation of the strategy.

2.1 Performance Review of the Second Strategic Plan (2014-2018)

An assessment of the status on implementation of the second Strategic Plan (2014-2018) was undertaken and key achievements, challenges and lessons learnt identified.

2.1.1 Achievements

The key achievements of the Commission for the 2014-2018 Plan period include:

Table 2.1: Key Achievements

Strategic Issue No. 1: Regulation of Research and Development		
S/No.	**Goal**	**Achievement**
1.	To improve the quality of research and development outputs	• Creation of the Research, Accreditation and Quality Assurance Directorate • Regulations and Guidelines were developed and implemented • Registration of research institutions • Licensing of research projects (Fig. 2) • Monitoring and evaluation of research programmes
Strategic Issue No. 2:Policy Advise on matters of research, science, technology and innovation		
S/No.	**Goal**	**Achievement**

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| 1. | To provide research, science, technology and innovation policy advisory services | • Provided policy and strategy advice to national and regional institutions |
| | | • Provided advisory on four (4) emerging technologies, namely: Nanotechnology, Biotechnology, Space science and Nuclear energy |

Strategic Issue No. 3: Coordination of Science, Technology and Research Activities

S/No.	Goal	Achievement
	To harmonize efforts towards research, science and technology development.	• Developed and implemented national research agenda
		• The Commission coordinated research programmes under International Atomic Energy Agency (IAEA), Comprehensive Test Ban Treaty Organization (CTBTO), Biological and Toxin Weapons Convention (BTWC) and International Centre for Genetic Engineering and Bio-technology (ICGEB)

Strategic Issue No. 4: Promotion and Socialization of Science, Technology and Innovation

S/No.	Goal	Achievement
1.	To popularize research, science, technology and innovation	• Created awareness through various fairs and fora

Strategic Issue No. 5: Institutional Strengthening

S/No.	Goal	Achievement
1.	To strengthen institutional capacity to deliver on the mandate of the Commission	• Human Resource Policies and Procedures Manual were developed and implemented
		• The construction of the office complex was completed
		• The Commission maintained the ISO 9001: 2008 and transitioned to ISO 9001: 2015

Strategic Issue No. 6: Resource Mobilization for Research, Science and Technology Development

S/No.	Goal	Achievement
1.	To mobilize resource and promote investment in ST&I sector	• Increased A-in-A from KES 14.9M in FY 2013/2014 to KES. 24.0M in FY 2017/2018
		• Received increased Government support through recurrent budget grants from KES. 234.0M in FY 2013/14 to KES. 270.9M in FY 2017/18

Figure 2: Processed Research License Applications 2013/14 - 2017/18
(Source: NACOSTI Database, 2018)

2.1.2 Challenges and Interventions

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

Table 2.2: Challenges and Interventions

S/No.	Challenges	Interventions
1.	Inadequate human capacity	Enhance human resource capacity
2.	Inadequate monitoring, evaluation and reporting system	Establishment of the Directorate of Strategy, Planning and Compliance
		Develop an effective monitoring, evaluation, reporting and learning system
3.	Inadequate Standards and Guidelines to operationalize the ST&I Regulations	Review regulations and develop relevant Standards and Guidelines
4.	Low public awareness on the Commissions mandate	Enhance public awareness
		Strengthen stakeholder engagement
5.	Challenges in operationalization of research advisory committees as provided for in the ST&I Act, 2013	Review of legislation
6.	Inadequate capacity in science communication	Develop capacity in science communication
7.	High dependency on GoK grants to finance the Commission's operations	Diversify sources of funding

2.1.3 Lessons Learnt

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

(a) link the Strategic Plan implementation with performance management;
(b) enhance human resource capacity;
(c) strengthen monitoring, evaluation and reporting system;
(d) review and harmonize the regulatory framework;
(e) enhance awareness on the Commission's mandate; and
(f) diversify sources of funding.

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

An analysis of the Commission's internal and external environment was undertaken to provide information on how internal and external environments impact on the operations of the Commission. The internal environment has analysed the strengths and weaknesses while the external environment has provided the opportunities that are available and the threats that may inhibit success.

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2.2.1 Strengths and Weaknesses

Table 2.3: Strengths and Weaknesses

S/No.	Strength	Strategic Implication	Strategic Response
Strengths			
1.	Established by Act of parliament, ST&I Act, 2013	• The Commission is a body Corporate • Recognition of ST&I	• Comply with the Act • Sensitize stakeholders on the provisions of the Act
2.	Adequate premises	• Conducive working environment for our staff • Cost saving by not renting office space	• The Commission should leverage on this opportunity to generate funds by renting out the unutilized space
3.	Competent staff	• Capacity to deliver on the mandate	• Proper placement and utilization of employees • Competitive compensation
4.	Rich legacy in research, science and technology inherited from NCST established in 1977	• Goodwill from stakeholders	• Enhanced stakeholder engagement
5.	Diverse, competent and committed Board	• Able to spearhead strategic direction	• Enhance Board capacity
6.	Sound Quality Management System- ISO 9001:2015 certified	• Continuous improvement of processes and services • A marketing tool	• Maintain the ISO Certification • Rebrand
7.	Existence of strong collaborations and partnerships	• Diverse sources of technical and financial support	• Maintain and strengthen

Weaknesses			
S/No.	**Weakness**	**Strategic Implication**	**Strategic Response**
1.	Low visibility	• Inadequate public awareness	Corporate rebranding
2.	Centralization of services	• Delayed service delivery	Decentralization of services Utilization of E-services
3.	Low staffing levels	• Inadequate capacity to deliver on the mandate	Recruit staff to optimal levels
4.	Inadequate resource mobilization	• Slow levels of programme implementation	Develop and implement a resource mobilization strategy
5.	Weak coordination frameworks	• Poor service delivery	Strengthen coordination frameworks

2.2.2 Opportunities and Threats

Table 2.4: Opportunities and Threats

Opportunities			
S/No.	**Opportunity**	**Strategic Implication**	**Strategic Response**
1.	Recognition of the role of ST&I in development	• Goodwill of stakeholders	• Leverage on the goodwill to support ST&I programme
2.	Existence of other regulators within the ST&I sector	• Adequate safeguards in the sector	• Enhance partnerships
3.	The Commission is a focal point for various treaties	• Opportunity to interact with the international research, science and technology actors	• Enhance regional and international partnerships
4.	Devolved system of Government	• Region specific science and technology development	• Develop county engagement frameworks

	Opportunities		
5.	Existing national, regional and International organizations	• Availability of resources applied in the sector	• Establish Collaborations and partnerships
6.	Continuous reforms in education	• Improvement in STEM education programme	• Enhance engagement with education stakeholders
	Threats		
S/No.	**Threat**	**Strategic Implication**	**Strategic Response**
1.	Overlapping regulatory mandate in ST&I sector	• Conflict	• Review policy and legal frameworks
2.	Changing government priorities	• Reduced budgetary allocation for ST&I Sector • Inability to fulfil the mandate	• Diversify sources of revenue

2.3 Environmental Scanning (PESTIEL Analysis)

PESTIEL analysis was undertaken in order to appreciate the environment under which the Commission operates and allow the Commission to find the best match between environmental trends and internal capabilities. The following are highlights of the PESTIEL issues considered important for this Strategic Plan:

2.3.1 Political factors

Table 2.5: Political Factors

S/No.	**Factors**	**Strategic Implication**	**Strategic Response**
1.	Political stability	• Long term planning for research, science and technology development	• Develop policy and strategy for advancement of research, science and technology

S/No.	Factors	Strategic Implication	Strategic Response
2.	Political leadership	• Changes in development funding priorities	• Align research, science and technology programmes to Government funding priorities • Diversify sources of funding

2.3.2 Economic factors

Table 2.6: Economic Factors

S/No.	Factors	Strategic Implication	Strategic Response
1.	High cost of research infrastructure	• Low investment in research and development	• Develop partnerships for research and development
2.	High demand for quality goods and services	• High standards of living	• Promote application of science and technology
3.	Low foreign direct investments	• Low investments in research and development	• Advocate for collaborations and partnerships
4.	National budget constraints	• Low allocation on ST&I Sector activities • Disruption of planned activities	• Align with available resources • Diversify sources of funding

2.3.3 Social factors

Table 2.7: Social Factors

S/No.	Factors	Strategic Implication	Strategic Response
1.	High population growth	• Increased demand for products and services	• Promote emerging and appropriate technologies
2.	Low socialization of science and technology	• Low adoption of new technologies	• Promote multidisciplinary research and technology development. • Promotion of STEM program • Advocate for establishment of science centres • Build capacity for communicating science
3.	Marginalized groups	• Under-representation in matters of ST&I	• Develop mainstreaming framework

2.3.4 Technological factors

Table 2.8: Technological Factors

S/No.	Factors	Strategic Implication	Strategic Response
1.	Increase in adoption of information and communication technologies	• Effective and efficient business processes	• Leverage on ICT to enhance service delivery.
2.	New and emerging technologies	• Production of new products • Value addition to local products	• Policy advise on new and emerging technologies • Promote adoption
3.	Commercialization of research and technology outputs	• Management of IP assets	• Develop model IP policy and strategy
4.	Cyber security	• Increased cyber-crime and threats	• Develop the Commission's cyber security system

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2.3.5 Infrastructural factors

Table 2.9: Infrastructural factors

S/ No.	Factors	Strategic Implication	Strategic Response
1.	Improved transport infrastructure	• Improved service delivery	• Scale up activities to cover the whole country
2.	Improved telecommunications and Interconnectivity	• Ease of access and sharing of research information	• Enhance research information sharing systems
3.	High cost of energy	• Increased costs	• Promote research and development in alternative energy sources
4.	Rapid development of built environment	• High demand for building and construction materials and expertise	• Promote use of appropriate technologies

2.3.6 Environmental Factors

Table 2.10: Environmental factors

S/No.	Factors	Strategic Implication	Strategic Response
1.	Climate change	• Opportunities for multi-disciplinary research	• Promotion of environmental friendly technologies • Promote multi-disciplinary research
2.	Waste management	• Pollution • Environmental degradation	• Promote research in conversion of waste into useful products • Promote environment friendly technologies

2.3.7 Legal Factors

Table 2.11: Legal Factors

S/No.	Factors	Strategic Implication	Strategic Response
1.	Constitution of Kenya, 2010	• Recognition of science and technology in national development	• Develop research, science and technology management framework
2.	ST&I Act, 2013	• Mandate of the Commission	• Comply with the provisions of the Act.
3.	International and regional treaties, Protocols, Conventions, legislations and policies	• International obligation	• Coordinate national implementation
4.	Litigations and Suits	• Increased costs • Poor corporate image	• Enhance compliance with statutory requirements and legal obligations

2.4 Stakeholder Analysis

Stakeholders play an important role in our ability to deliver on our strategy and meet our customer expectations. The Commission is committed to stakeholder engagement and building good working relationships with a view to meeting stakeholder expectations and galvanizing their support for business sustainability. A summary of the stakeholder analysis is as shown in table 2.12:

Table 2.12: Stakeholder Analysis

S/No.	Stakeholders	Stakeholder Expectations	The Commission's Expectations
1.	National Government	• Implement the provisions of the ST&I Act, 2013	• Facilitation
2.	County Government	• Information on research system	• Facilitate research • Support research, science and technology programmes

3.	Local and International Research Institutions	• Develop a national research agenda. • Share information on the research system	• Translation of research findings into products and services • Strengthen multi-disciplinary Research
4.	Institutions in the Education sector	• Favourable policies to support research and development and collaborations	• Capacity building • Strengthen multi-disciplinary research • Translation of research findings into products and services
5.	Media	• Provide information of research system	• Disseminate data and information on research, science and technology
6.	Non-Governmental Organizations	• Involvement in policy formulation and implementation	• Support adoption of new and emerging technologies
7.	Private Sector/ Industry	• Provide information on research system	• Partner with academia and research institutions • Promote research and development
8.	Public	• Provide information on research, science and technology	• Support science and technology development
9.	Internal Stakeholders	• Conducive work environment	• Commitment to service delivery
10.	Development Partners	• Provide information on research, science and technology programmes	• Support research, science and technology programmes
11.	Regulatory agencies	• Collaborate on development and implementation of policies, legislations and regulations	• Share relevant information on research, science and technology programmes
12.	Intergovernmental Organizations	• Provide information on national research, science and technology programmes	• Support research, science and technology programmes
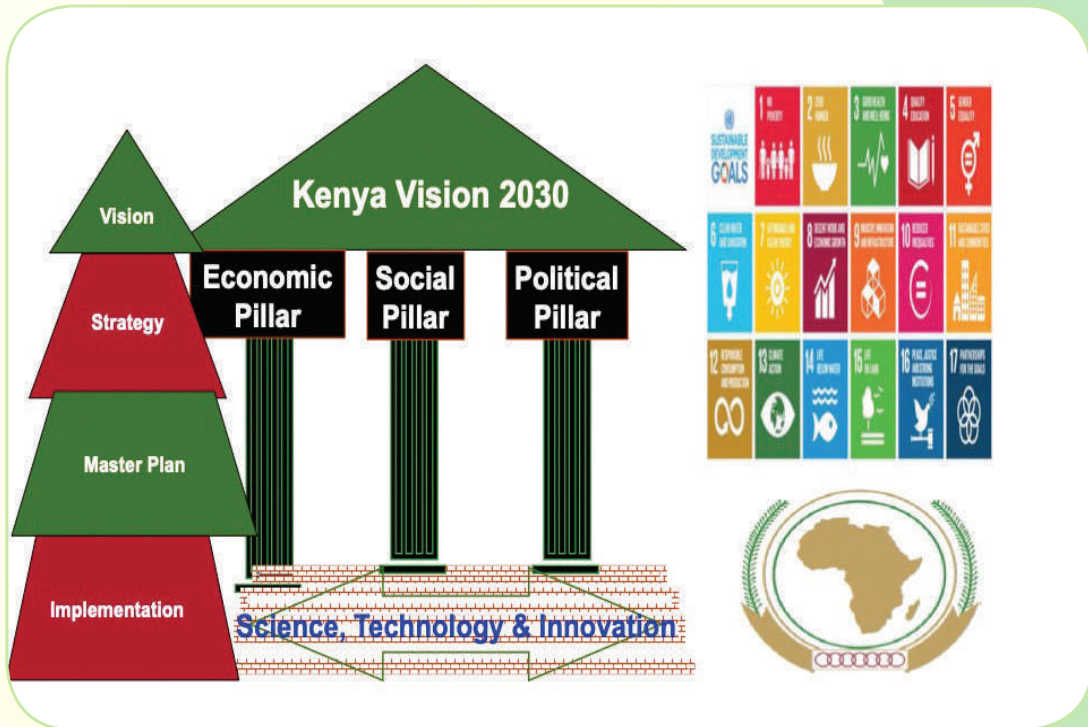
Figure 3: Kenya Vision 2030 Framework

CHAPTER THREE: STRATEGIC MODEL

3.0 Introduction

The strategic intent of the Commission as captured by the expression of the Commission's Vision, Mission, Core Values, Key Results Areas, Strategic Objectives and Strategies, is informed by the analysis undertaken in Chapter 2.

3.1 Vision, Mission, Motto and Core Values

The Vision, Mission and Core Values will guide and inspire the Commission's direction towards realization of its mandate. The strategic Vision is a pre-requisite for effective strategic leadership while the Mission gives the Commission an identity and unique purpose. The Core Values inform decision making through common guiding philosophy.

3.1.1 Our Vision

A knowledge-based economy.

3.1.2 Our Mission

To facilitate quality in the research, science, technology and innovation sector through regulation, promotion and provision of advisory services.

3.1.3 Our Motto

Science for Prosperity.

3.1.4 Core Values

The ideals by which the Commission strives to carry out its operations and conduct its business are embodied in the following:

(a) Customer focus

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

(b) Professionalism

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

(c) Teamwork

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

(d) Integrity

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

(e) Leadership

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

3.2 Key Result Areas (KRAs)

In line with the Commission's Vision and Mission, key result areas which reflect its mandate and functions in the realization of Kenya Vision 2030 have been identified and will be the pillars of this Strategic Plan. The Key Result Areas are:
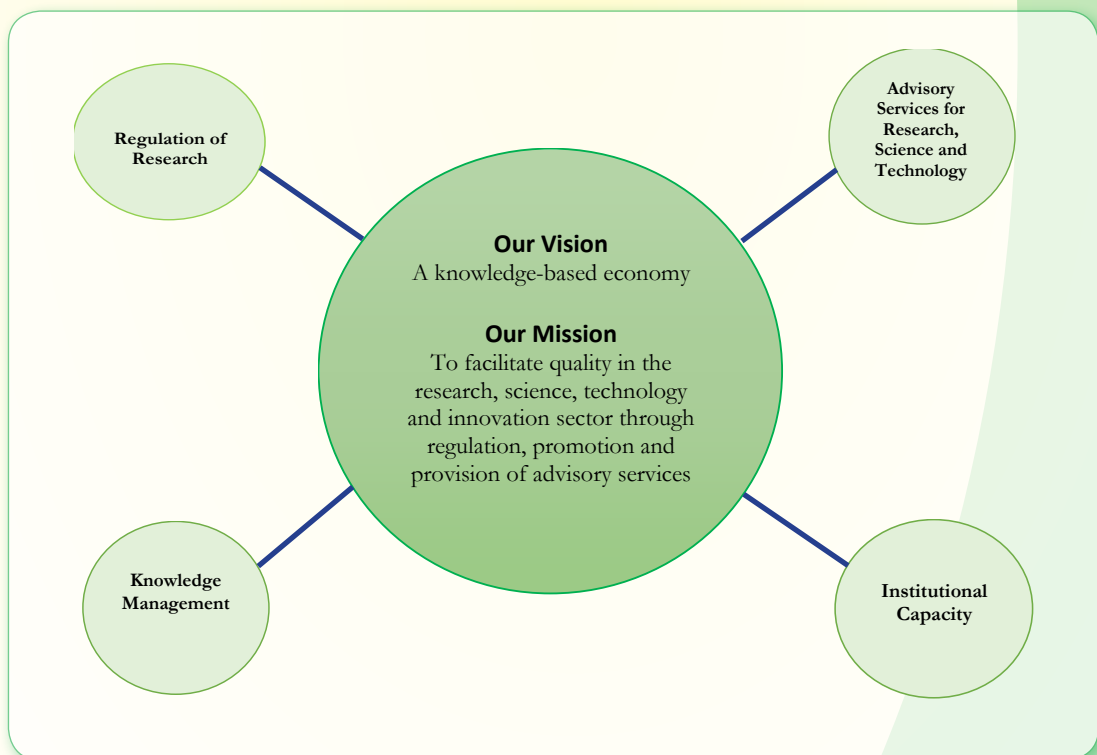
Figure 4: Pillars of the Strategic Plan

3.3 Strategic Objectives

The Key Result Areas will be achieved through the following strategic objectives:

KRA 1: Regulation of Research

1. To assure relevance and quality of research.
2. To enhance co-ordination and co-operation of research and development.

KRA 2: Advisory Services for Research, Science and Technology

1. To advise on research, science and technology programmes.
2. To mainstream research, science and technology into planning processes.

KRA 3: Knowledge Management

1. To facilitate acquisition and sharing of knowledge on research, science and technology.
2. To facilitate utilization of knowledge on research, science and technology.

KRA 4: Institutional Capacity

1. To Strengthen Institutional Capacity.
2. To Improve mobilization and prudent utilization of resources.

3.4 Strategy Matrix

The following strategies were formulated in order to address the strategic objectives identified in 3.3 above:

Table 3.1: Strategy Matrix

No.	Key Result Areas	Strategic Objectives	Strategies	
1.	**Regulation of Research**	1.1 To assure relevance and quality of research	1.1.1	Strengthen policy and regulatory framework
			1.1.2	Enhance compliance with regulatory requirements
			1.1.3	Strengthen monitoring and evaluation of research programmes and projects
		1.2 To enhance co-ordination and co-operation of research and development	1.2.1	Strengthen collaboration and partnership in research, science and technology
			1.2.2	Implementation of international commitments in science and technology
2.	**Advisory Services for Research, Science and Technology**	2.1 To advise on research, science and technology programmes	2.1.1	Policy analysis
			2.1.2	Advise on implementation of research, science and technology programmes
			2.1.3	Develop research priorities
		2.2 To mainstream research, science and technology into planning processes	2.2.1	Linking research, science and technology to development agenda
			2.2.2	Advocate for more resources for research, science and technology

No.	Key Result Areas	Strategic Objectives	Strategies	
3.	**Knowledge Management**	3.1 To facilitate acquisition and sharing of knowledge on research, science and technology	3.1.1	Strengthen research coordination mechanisms
			3.1.2	Enhance sharing of research outputs
		3.2 To facilitate utilization of knowledge on research, science and technology	3.2.1	Institutionalize knowledge management
			3.2.2	Promote intellectual property management
4.	**Institutional Capacity**	4.1 To Strengthen the Institutional Capacity	4.1.1	Enhance Corporate Image
			4.1.2	Enhance human capital capacity
			4.1.3	Enhance infrastructural capacity
			4.1.4	Enhance internal processes and controls
			4.1.5	Leverage ICT for business processes
		4.2 To Improve mobilization and prudent utilization of resources	4.2.1	Enhance resource mobilization
			4.2.2	Ensure prudent utilization of resources

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CHAPTER FOUR: IMPLEMENTATION, COORDINATION AND RESOURCES FRAMEWORK

4.0   Introduction

The Commission will put in place a coordination framework and strengthen its institutional capacity to be able to effectively deliver on its mandate.

4.1   Strategy Implementation

Successful implementation of this Strategic Plan is dependent on the availability of adequate resources, their efficient deployment, accountability and effective monitoring, evaluation and reporting of the entire process. The responsibilities for implementing this Strategic Plan shall be cascaded by developing and implementing annual corporate and business plans for all functional areas.

4.1.1   Pre-Implementation

The Commission will seek to:

(a) Communicate the plan to all stakeholders to ensure clarity of vision and purpose;

(b) Align the organization structure to the strategy;

(c) Assign roles and responsibilities to different players;

(d) Mobilize, allocate and utilize resources as identified in the plan;

(e) Align annual departmental and individual work plans to the corporate plan and budget;

(f) Put in place an appropriate monitoring, evaluation and reporting framework; and

(g) Strengthen staff capacity to deliver on the mandate.

4.1.2   During Implementation

The Board is responsible for policy formulation and providing strategic leadership. The Director General (DG) is the principal accounting officer and will ensure the overall coordination, implementation, monitoring, and evaluation of the Strategic Plan, including acting on decisions made by the Board. The Heads of Directorates and Departments will be responsible for the day-to-day implementation, monitoring, and evaluation of the plan so as to ensure that the planned activities are implemented.

The Director General shall ensure:

    (a) Annual work programmes and the annual budget are prepared;

    (b) A performance management system is implemented;

    (c) Review of progress on implementation of the Plan; and

    (d) Actual performance is measured against targets at all levels.

4.1.3 Post Implementation

A review of the strategy implementation process shall be carried out and lessons drawn that shall inform the next planning cycle. The Board will play an oversight role in the implementation, monitoring and evaluation of the Strategic Plan.

4.2 Governance Structure

The Commission is managed by a Board that is responsible for policy and strategic guidance. The Director General is responsible for the day-to-day management of the affairs of the Commission. The Commission has four Directorates. Each Directorate is headed by a Director who reports to the Director General. Additionally, the Legal and Supply Chain Management Departments report to the Director General. Internal Audit Department reports directly to the Board. The Commission has developed an organizational structure as presented in Fig 5.

The following are the four Directorates:

4.2.1 Directorate of Research, Accreditation and Quality Assurance

The Directorate is responsible for registration of research institutions, accreditation and quality assurance, licensing, monitoring and evaluation of research programmes and projects. The Directorate has two departments namely:
1. Research Licensing, Monitoring and Evaluation; and
2. Registration, Accreditation and Quality Assurance.

4.2.2 Directorate of Scheduled Sciences

The Directorate is responsible for advisory, promotion and coordination of matters related to research, science and technology. The Directorate has six departments namely:
1. Agricultural and Natural Resource Sciences;
2. Biological and Health Sciences;
3. Earth and Space Sciences;
4. Humanities and Social Sciences;
5. Infrastructure, Information and Communication Sciences; and
6. Physical, Industrial and Energy Sciences.

4.2.3 Directorate of Strategy, Planning and Compliance

The Directorate is responsible for strategy, planning, compliance, quality assurance, performance management and risk management. The Directorate has three departments namely:

1. Planning;
2. Quality Assurance and Risk Management; and
3. Information Communication and Technology.

4.2.4 Directorate of Corporate Services

The Directorate provides guidance to ensure optimal utilization and management of the Commission's resources. The Directorate has two departments namely:

1. Finance; and
2. Human Resource Management.

4.3 Staffing Levels

The Commission currently has thirty eight (38) members of staff and plans to employ forty nine (49) additional staff bringing the number to eighty seven (87) during the Plan period. NACOSTI has an approved establishment of one hundred and seventy two (172) members of staff. However, the proposed staffing level for the next five years is provided in table 4.1

Table 4.1: Proposed Staffing Levels

Directorate/Departments/Divisions	Current staffing level	Staffing Levels				
		YR 1	YR 2	YR 3	YR 4	YR 5
Director General's Office	6	10	10	12	12	12
Directorate of Scheduled Sciences	16	27	30	32	32	32
Directorate of Research, Accreditation and Quality Assurance	4	10	10	12	12	12
Directorate of Strategy, Planning and Compliance	-	2	2	6	8	9
Directorate of Corporate Services	12	16	18	22	22	22
Total	38	65	70	84	86	87

4.4 Human Resource Strategy

To realize its mandate and effectively implement the envisaged activities, recruitment of optimal human resource capacity will be given priority during this planning period. In addition, an appropriate succession plan will be put in place.

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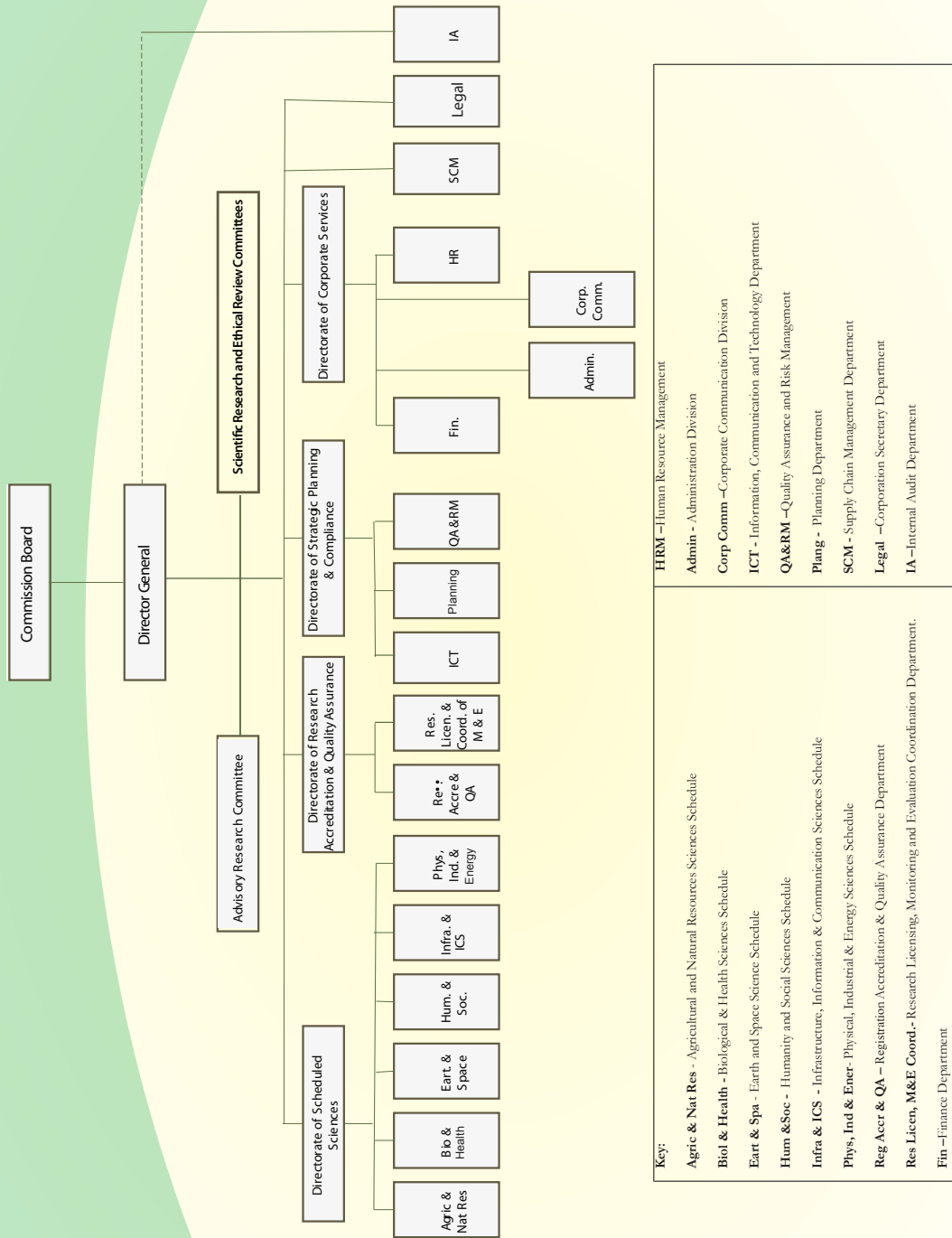
Figure 5: Organizational Structure

Key:

Agric & Nat Res - Agricultural and Natural Resources Sciences Schedule

Biol & Health - Biological & Health Sciences Schedule

Eart & Spa - Earth and Space Science Schedule

Hum &Soc - Humanity and Social Sciences Schedule

Infra & ICS - Infrastructure, Information & Communication Sciences Schedule

Phys, Ind & Ener- Physical, Industrial & Energy Sciences Schedule

Reg Accr & QA – Registration Accreditation & Quality Assurance Department

Res Licen, M&E Coord.- Research Licensing, Monitoring and Evaluation Coordination Department.

Fin –Finance Department

HRM –Human Resource Management

Admin - Administration Division

Corp Comm –Corporate Communication Division

ICT - Information, Communication and Technology Department

QA&RM –Quality Assurance and Risk Management

Plang - Planning Department

SCM - Supply Chain Management Department

Legal –Corporation Secretary Department

IA –Internal Audit Department

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4.5 Financial Implication

The Programmes identified in this Strategic Plan will be accomplished through activities which shall be allocated resources through the Programme-Based Budgeting (PBB) which has been adopted by the Commission as required by the Public Finance Management Act.

The Commission has identified eight (8) Strategic Objectives that will be achieved through implementation of the activities outlined in the implementation matrix (Appendix I). The matrix indicates the resources required for implementing these activities. The Commission's projected resource requirements for implementation of Strategic Plan 2018-2022 is **KES.2,481,600,000 (2.5 Billion)**

Table 4.2: Total resources required for the period 2018-2022

Key Result Area	Strategic Objective	Financial Resource Requirements Estimate (KES. Million)					
		2018/19	2019/20	2020/21	2021/22	2022/23	Total
Regulation of Research	To assure relevance and quality of research	24.9	29.7	23.4	24.4	24.4	126.8
	To enhance co-ordination and co-operation of research and development	3.7	7.5	6.5	7.0	9.0	33.7
	Sub Total	**28.6**	**37.2**	29.9	31.4	33.4	160.5
Advisory Services for Research, Science and Technology	To advise on research, science and technology programmes	6.5	4.0	9.5	10.0	10.5	**40.5**
	To mainstream research, science and technology into planning processes	0.2	7.5	3.5	0.5	0.5	12.2
	Sub-total	**6.7**	**11.5**	**13.0**	**10.5**	**11.0**	**52.7**
Knowledge Management	To facilitate acquisition and sharing of knowledge on research, science and technology	10.5	26.0	13.0	13.0	13.0	75.5
	To facilitate utilization of knowledge on research, science and technology	3.5	1.5	0.0	1.5	0.0	6.5
	Sub Total	**14.0**	**27.5**	**13.0**	**14.5**	**13.0**	**82.0**

Institutional Capacity	To Strengthen Institutional Capacity	97.6	84.1	41.3	44.8	42.6	310.4
	To Improve mobilization and prudent utilization of resources	1.8	1.8	1.8	1.8	1.8	9.0
	Sub Total	**99.4**	**85.9**	**43.1**	**46.6**	**44.4**	**319.4**
Total		**148.7**	**162.1**	**99.0**	**103.0**	**101.8**	**614.6**
Recurrent Expenditure Projections (KES. Millions)							
		2018/19	2019/20	2020/21	2021/22	2022/23	Total
Personnel Emoluments		114.0	127.0	142.0	156.0	172.0	**711.0**
Operations and Maintenance		191.0	209.0	230.0	251.0	275.0	**1,156.0**
Strategy Implementation Cost		**148.7**	**162.1**	**99.0**	**103.0**	**101.8**	614.6
Subtotal Recurrent expenses		**453.7**	**498.1**	471	510	548.8	2481.6
Grand Total (Strategy Implementation + Recurrent costs)2481.6							
Sources of Funds							
		2018/19	2019/20	2020/21	2021/22	2022/23	Total
Internally generated revenue		30.0	35.0	40.0	45.0	50.0	**200.0**
Grants from GoK		231.0	270.0	300.0	330.0	360.0	**1491.0**
Externally generated revenue		50.0	60.0	70.0	80.0	90.0	**350.0**
Total Revenue		**311**	**365**	410	455	500	2041.0
Resource Gap		142.7	133.1	61	55	48.8	440.6

a) Projected Recurrent Expenditure

The planned Strategic Objectives will be achieved through activities falling under recurrent expenditure. These will cover personnel costs, implementation of Commission's core mandate, administrative costs, maintenance costs, board expenses and acquisition of operating assets. The Commission will continue to rely on the Government for financing of its recurrent expenditure while at the same time enhancing efforts to financial resource mobilization. A breakdown of the resource requirements during the Strategic Plan Period is tabulated in Table 4.2 .

b) Projected Development Expenditure

The planned development expenditure during the strategic plan period is the completion of NACOSTI Headquarters and implementation of the Square Kilometre Array (SKA) Project.

The Commission has been relying on the Government for financing the construction

of NACOSTI Headquarters building in Kabete. The building was handed over to the Commission in March 2017 and the Commission moved into the offices in June 2017. The Commission still requires to install lifts, furnish the conference facility and settle the outstanding bills to the contractor which is expected to cost a total of Kshs. 300 Million. In the Third Medium Term Plan of Vision 2030, NACOSTI has been assigned the role of leading the implementation of the Square Kilometre Array (SKA) Project. This is a global project being implemented by nine African countries (Kenya, South Africa, Ghana, Mozambique, Madagascar, Mauritius, Botswana, Zambia and Namibia) and Australia. The objective is to build a large radio telescope with a node in Kenya. The project will entail the acquisition of the Longonot Earth Station from Telkom Kenya for conversion into a radio telescope to be used as a research facility for astrophysics, engineering, surveying, mathematics and information technology to generate "Big Data". The project is expected to cost Kshs. 800 Million over a period of five years commencing from FY 2019/2020.

4.6.1   Sources of Funds

The main source of funding for the Commission since its inception has been GoK budgetary support through recurrent budget and development grants. The Commission also raises funds through fees collected from authorization of research projects and registration of research institutions. In addition, the Commission has partnered with external agencies to support collaborative research programmes.

4.6.2   Resource Mobilization

In order to finance the planned activities and ensure financial sustainability, resource mobilization is key in this Strategic Plan period. The Commission will develop a resource mobilization strategy and will mobilize financial resources for its activities as follows:

    (a) Lobby for increased Government budgetary allocation;
    (b) Review Research Licence fees;
    (c) Utilization of the Commission's Hostel and Conference facilities;
    (d) Lease out unused office space at the Commission's Headquarters;
    (e) Establish strategic collaborations and partnerships; and
    (f) Provide consultancy services in areas of research, science and technology and related fields.

4.7   Risk Management

Strategic Plan implementation faces potential risks that have to be mitigated if the Commission's mandate is to be realized. Possible risks to which the Commission may be exposed to in its operations have been identified, ranked and suggested mitigation strategies provided. Table 4.3 gives a list of the risks to which the Commission may be exposed to:

4.7.1   Risk Analysis

Table 4 3: Risk Analysis

S/No.	Risk Factor	Risk identified	Severity	Probability	Risk Score	Mitigation
1.	Physical Assets/ Infrastructure development	Inadequate finances to acquire physical assets	3	1	3	Seek for alternative funding sources through resource mobilization
		Destruction of physical properties due to fire and theft	3	1	3	Insure assets
2.	Human capital	Inadequate human resource to undertake the Commission's functions	2	2	4	Recruit more staff to meet the demand for services
		Failure to attract and retain adequate and skilled human resources	3	1	3	Improve terms and conditions of service
3.	Commission's image and reputation	Loss of public confidence	3	1	3	Effective Communication
4.	Technological Risks	Low level of automation leading to delays in service provision	3	2	6	Acquire and upgrade technology
		Inadequate resources to handle modern information communication platforms	2	2	4	Purchase of equipment and training of personnel
		Loss/destruction of records, website, and policy documents	3	1	3	Put in place an information security management system

5.	Legal and Policy Risks	Contraventions of laws and regulations	3	1	3	Adhere to existing laws and regulations
						Carry out legal audit
		Change of government policies and priorities	3	2	6	Adapt to the new policies
						Lobby for favorable policies
6.	Financial	Inadequate finances	2	3	6	Resource mobilization
		Late disbursements	1	3	3	Diversify sources of funds
7.	Security	Loss of life, equipment, records	1	3	3	Put in place policy on disaster preparedness and management

Key:

Range	Description	Colour Code
1 - 3	Low	
4 – 6	Medium	

CHAPTER FIVE: MONITORING, EVALUATION, REPORTING AND LEARNING

5.0 Introduction

An effective Monitoring, Evaluation, Reporting and Learning (MERL) system is critical to the successful implementation of this Plan. The system will seek to measure progress towards planned objectives and provide feedback on the status of implementation for informed decision making.

5.1 Monitoring, Evaluation, Reporting and Learning Framework

In determining the Strategic objectives and targets, the Commission took cognizance of relevant development agenda including:

1. Kenya Vision 2030, MTP III, the Big Four Agenda and other policy documents;

2. The mandate and core functions of the Commission; and

3. Relevant strategies not implemented from the previous plan.

5.1.1 Monitoring and Evaluation Team

Institutionalization of the Monitoring and Evaluation Framework requires the establishment of a Strategic Plan Monitoring and Evaluation Committee within the Strategy, Planning and Compliance Directorate that will be responsible for coordinating, monitoring and reporting on the Commission's programme activities as outlined in the Strategic Plan.

The Committee shall comprise of the following:

1. Director, Research, Accreditation and Quality Assurance (Chairperson);
2. Director, Corporate Services;
3. Director, Scheduled Sciences;
4. Director, Strategy, Planning and Compliance (Secretary); and
5. Four other members to be appointed by the Director General.

The Committee shall:

1. Develop a MERL framework;
2. Ensure annual work plans are developed and cascaded to individual departments;
3. Generate, maintain and review a set of strategic objectives drawn from the MERL framework of the Plan;

4. Undertake monitoring of programmes;
5. Coordinate meetings to evaluate progress; and
6. Provide relevant reports to management on the Plan implementation status.

5.2 Strategy Implementation Methodology

Successful implementation of this strategic plan will be achieved through collaborative efforts among departments and coordination of MER&L activities by the Director, Strategy, Planning and Compliance.

The Heads of Department/Schedule/Division will ensure that strategies are being implemented, performance is being measured, and progress reports are made and discussed in their respective schedules/departments/divisions meetings and corrective actions undertaken where necessary.

5.2.1 Cascading the Plan to all Staff

The strategic plan shall be cascaded to all staff to enable them understand and plan for their respective roles.

5.2.2 Functional Areas and Individual Annual Work Plans

Detailed work plans with clear performance indicators and responsibility for their achievement shall be developed taking into consideration the activities in the Plan. The Director, Strategy, Planning and Compliance will take responsibility to coordinate with other departments in case of joint activities. Key indicators that will inform management decision making will be identified and the frequency of reporting on these indicators determined. This will form the foundation of the MERL system.

5.2.3 Preparation of the Resources Plan

Each and every activity will have resources earmarked in the Commission's annual budget. Each department should include resource requirement in their Annual Work Plan.

5.2.4 Data and Information Collection Procedures

Elaborate data and information collection templates and procedures will be developed to measure performance as per the indicators and report to management. The reports will describe actions taken by the departments toward achieving the specific strategies of the Plan and will include achievements, challenges and emerging issues, costs and recommendations.

5.2.5 Scheduled Meetings

(a) Monthly review meetings at the functional levels shall be convened to ensure implementation is on track;

(b) Quarterly review meetings at the functional levels and board level shall be convened to receive reports on implementation of the Plan;

(c) The overall oversight of the Strategic Plan and its implementation is a critical role of the Board. Therefore, progress reporting will be an Agenda Item in quarterly Board Meetings; and

(d) A Strategy implementation review meeting will be held annually to evaluate the progress made on the implementation of the Plan.

5.3 Progress Reports

Reporting the progress of implementation is critical in adjusting strategic directions and measuring performance. Reports on the implementation status of the Plan will be made available on quarterly and annual basis by the Commission's management. The Director, Strategy, Planning and Compliance will be required to submit the following progress reports to management as well as to the Board on implementation of the Strategic Plan:

(a) Monthly reports to the management;

(b) Quarterly reports to the management and the Board; and

(c) Annual report to the management and the Board.

5.4 Compliance with Budget

Actual results will continually be checked against planned results and variances investigated. If necessary, action plans will be changed so that they are brought in line with the budgeted results or the budget will be amended to take into account new developments that require action.

5.5 Performance Review

Performance review shall be undertaken annually, mid-term and at the end of the Plan period.

(a) Annual Review

At the end of each financial year, a report will be produced giving details on the implementation of the Plan and circulated to the stakeholders.

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(b) Mid-Term Review

A mid-term review will be undertaken after two and a half years giving a status report on the implementation of the Plan and circulated to the stakeholders.

(c) End Term Review

The main purpose of the final evaluation for this Strategic Plan, expected to be carried out at the end of June 2023, will be to determine:

(a) the extent to which the activities undertaken achieved the objectives;

(b) sustainability of the achievements made;

(c) challenges faced;

(d) lessons learnt;

(e) mitigation measures; and

(f) ToRs for the subsequent Plan

5.6 The Implementation Matrix

The implementation matrix is presented below and consists of:

(a) Key result areas;

(b) Strategic objectives;

(c) Strategies;

(d) Activities;

(e) Output indicators;

(f) Targets;

(g) Responsibility; and

(h) Budget

Appendix 1: Implementation Matrix

KRA 1: REGULATION OF RESEARCH

Strategic Objective 1: To assure relevance and quality of research

S/No.	Strategy	Key Activities	Output Indicator	Reporting Schedule	Target for 5 years	Annual Targets					Budget (KES. Million)					Resp.	Total Budget
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
1.1	Strengthen policy and regulatory framework	Review existing policy and regulatory framework	No. of reviewed regulatory documents	Quarterly	4	3	1				1.5	0.5				DRAQA	2.0
		Develop Standards and Guidelines	No. of standards & Guidelines	Quarterly	3	3					3.0					DRAQA	3.0
1.2	Enhance compliance with regulatory requirements	Sensitize the public	Number of public events participated in	Quarterly	20	4	4	4	4	4	4.0	4.0	4.0	4.0	4.0	DRAQA	20.0
		Media outreach programmes	No. of programmes	Quarterly	15	3	3	3	3	3	5.0	5.0	5.0	5.0	5.0	DCS	25.0
		License research projects	No. of licensed projects	Quarterly	40,000	6,000	7,000	8,000	9,000	10,000	3.0	3.0	3.0	3.0	3.0	DRAQA	15.0
		Register research institutions	Report; No. of institutions registered	Quarterly	27	7	5	5	5	5	1.0	1.0	1.0	1.0	1.0	DRAQA	5.0
		Accredit research institutions	No. of accredited institutions	Quarterly	12		3	3	3	3		1.5	1.5	1.5	1.5	DRAQA	6.0
		Accredit institutional ethics review committees	No. of Committees accredited	Quarterly	15	3	3	3	3	3	2.3	2.3	2.3	2.3	2.3	DRAQA	11.5
		Establish level of compliance	% level of compliance	Quarterly	100%	100	100	100	100	100	2.0	2.0	2.0	2.0	2.0	DRAQA	10.0
		Develop a model Research Policy	Policy document	Quarterly	1							4.8				DSS	4.8

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S/No.	Strategy	Key Activities	Output Indicator	Reporting Schedule	Target for 5 years	Annual Targets					Budget (KES. Million)					Resp.	Total Budget
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
1.3	Strengthen monitoring and evaluation of research programmes and projects	Develop and implement M&E framework	M&E Framework	Quarterly	1	1						1.0				DRAQA	1.0
		framework	No. of projects monitored	Quarterly	500	100	100	100	100	100	2.5	2.5	2.5	2.5	2.5	DRAQA	12.5
		Develop and maintain an inventory of research programmes and projects	Inventory	Quarterly	1						0.6	0.1	0.1	0.1	0.1	DRAQA	1.0
		Impact assessment of research programmes	Number of programmes assessed	Annual	10		2	2	3	3		2.0	2.0	3.0	3.0	DRAQA	10.0
Strategic Objective 2: To enhance co-ordination and co-operation of research and development																	
2.1	Strengthen collaboration and partnership in research, science and technology	Review collaborations at institutional and national levels	Status report	Quarterly	1	1					1.2					DSS	1.2
		Advise on establishment of collaborations in RST	No. of policy briefs	Quarterly	2		1			1		1.5			1.5	DSS	3.0
		Establish new collaborations and partnerships	No. of collaborations established	Quarterly	4		1	1	1	1		1.0	1.0	1.0	1.0	DSS	4.0
2.2	Implementation of international commitments in science and technology	Review existing international commitments	No. of commitments reviewed	Quarterly	8		2	2	2	2	2.0	2.0	2.0	2.0	2.0	DSS	8.0
		Coordinate international programmes	No. of programmes	Quarterly	7	3	4	5	6	7	2.5	3.0	3.5	4.0	4.5	DSS	17.5

KRA 2: ADVISORY SERVICES FOR RESEARCH, SCIENCE AND TECHNOLOGY

Strategic Objective 3: To advise on research, science and technology programmes

S/No.	Strategy	Key Activities	Output Indicator	Reporting Schedule	Target for 5 years	Annual Targets					Budget (KES. Million)					Resp.	Total Budget (Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
3.1	Policy analysis	Develop guidelines for policy analysis	Guideline	Quarterly	1						1.0					DSS	1.0
		Analyse the policies	No. of policy briefs, reports	Quarterly	8		2	2	2	2		1.0	1.0	1.0	1.0	DSS	4.0
3.2	Advise on implementation of research, science and technology programmes	Operationalize the Advisory Research Committees	No. of committees operationalized	Quarterly	6		6				0.5	2.0	2.0	2.0	2.0	DG	8.5
		Commission studies on specific areas	Reports	Quarterly	3			1	1	1			5.0	5.0	5.0	DSS	15.0
		Disseminate advisories on RST	No. of advisories	Quarterly	10	2	2	2	2	2	0.5	0.5	0.5	0.5	0.5	DSS	2.5
		Advise County Governments on research, science and technology	No. of advisories	Quarterly	10	2	2	2	2	2	0.5	0.5	0.5	0.5	0.5	DSS	2.5
3.3	Develop research priorities	Develop a concept paper	Approved concept paper	Quarterly	1	1					0.5					DSS	3.0
		Engage stakeholders for research priority setting	Report, proposed national research priorities	Quarterly	4	4					2.5					DSS	
		Share and disseminate research priorities	National research priorities	Quarterly	2	1			1		1.0			1.0		DSS	2.0
		Review implementation of research priorities	Report	Quarterly	2			1		1			0.5		1.5	DSS	2.0

Strategic Objective 4: To mainstream research, science and technology into planning processes

S/No.	Strategy	Key Activities	Output Indicator	Reporting Schedule	Target for 5 years	Annual Targets					Budget(KES. Million)					Resp.	Total Budget (Million)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
4.1	Linking research, science and technology to development agenda	Establish the status	Report	Quarterly	1							1.5				DSS	1.5
		Develop a strategy for implementation	Strategy	Quarterly	1							1.0				DSS	1.0
		Monitor implementation	No. of reports	Quarterly	3								0.5	0.5	0.5	DSS	1.5
4.2	Advocate for more resources for RST	Determine the contribution of RST	Report	Quarterly	1						0.2	5.0				DSS	5.2
		Disseminate findings	Policy brief	Quarterly	1								3.0			DSS	3.0

KRA 3: KNOWLEDGE MANAGEMENT

Strategic Objective 5: To facilitate acquisition and sharing of knowledge on research, science and technology

S/No.	Strategy	Key Activities	Output Indicator	Reporting Schedule	Target for 5 Yrs	Annual Targets					Budget (KES. Million)					Resp.	Total Budget
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
5.1	Strengthen research coordination mechanisms	Develop a County Engagement Framework	Engagement Framework	Quarterly	1						0.5					DSPC	0.5
		Share information on the existing research, equipment and expertise	No. of fora	Quarterly	4		1	1	1	1		1.0	1.0	1.0	1.0	DSPC	4.0

	Strategy	Activity	Output	Frequency	Baseline										Cost	Responsible
5.2	Enhance sharing of research outputs	Establish knowledge sharing platform	Knowledge sharing platform established	Quarterly	1		1					15.0	2.0	2.0	21.0	DRAQA
		Organize fora to disseminate research and technology outputs	No. of fora	Quarterly	10	2	2	2	2	2	10	10	10	10	50.0	DSS

Strategic Objective 6: To facilitate utilization of knowledge on research, science and technology

	Strategy	Activity	Output	Frequency	Baseline										Cost	Responsible
6.1	Institutionalize knowledge management	Develop and implement policy	Policy document, Reports	Quarterly	1					1.0			0.5	1.5	DCS
		Establish knowledge management centre	Functional office	Quarterly	1					0.5				0.5	DCS
6.2	Promote intellectual property management	Develop institutional framework for management of IP	Framework	Quarterly	1		1			2.5				2.5	DRAQA
		Advice on Intellectual Property	Policy briefs	Quarterly	2	1	1	1			1.0		1.0	2.0	DSS

S/No.	Strategy	Key Activities	Output Indicator	Reporting Schedule	Target for 5 years	Annual Targets					Budget (KES. Million)					Resp.	Total Budget (M)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
KRA 4: INSTITUTIONAL CAPACITY																	
Strategic Objective 7: To Strengthen the Institutional Capacity																	
7.1	Enhance corporate image	Promote corporate Governance	No. of capacity building sessions for Board and management	Quarterly	10	2	2	2	2	2	3.0	3.0	3.0	3.0	3.0	DG	15.0
			Board Charter implemented	Quarterly	1				1		4.5	4.5	4.5	4.5	4.5	DG	22.5
			No. of Board evaluations	Quarterly	5	1	1	1	1	1	0.5	0.5	0.5	0.5	0.5	DG	2.5
			Annual corporate plans	Quarterly	5	1	1	1	1	1	3.0	3.0	3.0	4.0	3.0	DSPC	16.0
		Develop Corporate Communication Strategy	Strategy	Quarterly	1	1					1.0					DCS	1.0
		Establish corporate communication office	Functional office	Quarterly	1						0.5					DCS	0.5
		Develop a branding Manual	Manual	Quarterly	1	1					0.5					DCS	0.5
		Undertake customer satisfaction survey	Reports	Quarterly	2		1		1			1.0		1.0		DCS	2.0
			Level of satisfaction		80%	72	74	76	78	80							

S/No.	Strategy	Key Activities	Output Indicator	Reporting Schedule	Target for 5 years	Annual Targets					Budget (KES. Million)					Resp.	Total Budget (M)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
7.2	Enhance Human capital capacity	Recruit and maintain optimal staff levels	Level of staffing	Quarterly	100%	32	58	75	93	100	0.6	0.6	0.6	0.6	0.6	DCS	3.0
		Harmonize terms and conditions of service	Level of harmonization	Quarterly	100%		100									DCS	-
		Develop and implement staff development programmes	TNA report	Quarterly	2	1		1			0.5	-	0.5	-	-	DCS	1.0
			% of staff trained	Quarterly	100%	100	100	100	100	100	12.0	12.0	15.0	15.0	15.0	DCS	69.0
		Develop and implement performance management system	Performance management tool	Quarterly	1	1					0.2					DCS	0.2
			Performance evaluation reports	Quarterly	5	1	1	1	1	1						DCS	-
		Carry out job evaluation	Report	Quarterly	1			1					1.0			DCS	1.0
		Implement staff welfare programmes	No. of programme	Quarterly	2		2					25.0				DCS	25.0
		Domesticate employee relations programmes	Programme	Quarterly	1		1					0.3				DCS	0.3
		Review HR Instruments	No. of Instruments	Quarterly	4				4					3.0		DCS	3.0
		Develop and implement succession planning and management	Succession Plan	Quarterly	1		1					0.5				DCS	0.5
		Implement affirmative action	Level of implementation	Quarterly	100%	100	100	100	100	100	0.2	0.2	0.2	0.2	0.2	DCS	1.0
		Undertake employee satisfaction survey	Employee satisfaction index	Quarterly	71	63	65	67	69	71		0.8			1.0	DCS	1.8

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S/No.	Strategy	Key Activities	Output Indicator	Reporting Schedule	Target for 5 years	Annual Targets					Budget (KES. Million)					Resp.	Total Budget (M)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
7.3	Enhance infrastructural capacity	Assess infrastructure needs	Assessment report, Master Plan	Quarterly	1	1					0.1					DCS	0.1
		Acquire and maintain the requisite infrastructure	Updated asset register	Quarterly	1	1	1	1	1	1	68.0	10.0	5.0	5.0	5.0	DG	93.0
			Maintenance reports	Quarterly	5	1	1	1	1	1	2.0	2.0	2.0	2.0	2.0	DCS	10.0
7.4	Enhance internal processes and controls	Review risk management framework	Risk Management Framework	Quarterly	1		1					1.0				DSPC	1.0
		Maintain quality management system	Reports	Quarterly	5	1	1	1	1	1	1.0	1.0	1.0	1.0	1.0	DSPC	5.0
		Undertake Customer satisfaction survey	Customer satisfaction index	Annual	80	72	74	76	78	80		1.5			1.8	DCS	3.3
		Implement the audit charter	Internal Audit Report	Quarterly	5	1	1	1	1	1						IA	-
7.5	Leverage ICT for business processes	Review ICT strategy	Approved ICT Strategy	Quarterly	1		1					0.2				DSPC	0.2
		Improve ICT infrastructure	No. of Modules installed	Quarterly	6		5	1				5.0	5.0	5.0	5.0	DSPC	20.0
			Level of automation	Quarterly	80%	72	74	76	78	80		12.0				DSPC	12.0

Strategic Objective 8: To Improve mobilization and prudent utilization of resources

S/No.	Strategy	Key Activities	Output Indicator	Reporting Schedule	Target for 5 years	Annual Targets					Budget (KES. Million)					Resp.	Total Budget (M)
						Y1	Y2	Y3	Y4	Y5	Y1	Y2	Y3	Y4	Y5		
8.1	Strengthen resource mobilization	Develop and implement Resource mobilization strategy	Strategy	Quarterly	1		1				0.5					DCS	0.5
		Increase A-in -A	Amount generated (Million)	Quarterly	50.0	30	35	40	45	50	1.0	1.0	1.0	1.0	1.0	DCS	5.0
		Increase externally generated funds	Amount generated (Million)	Quarterly	90	50	60	70	80	90		0.5	0.5	0.5	0.5	DCS	2.0
8.2	Ensure prudent utilization of resources	Adhere to approved budgets	Printed Estimates	Quarterly	100%	100	100	100	100	100	0.3	0.3	0.3	0.3	0.3	DCS	1.5
		Comply to statutory requirements	Certificates	Quarterly	100%	100	100	100	100	100						DCS	-
		Identify and implement cost saving measures	% saved	Quarterly	25%	5	5	5	5	5						DCS	-

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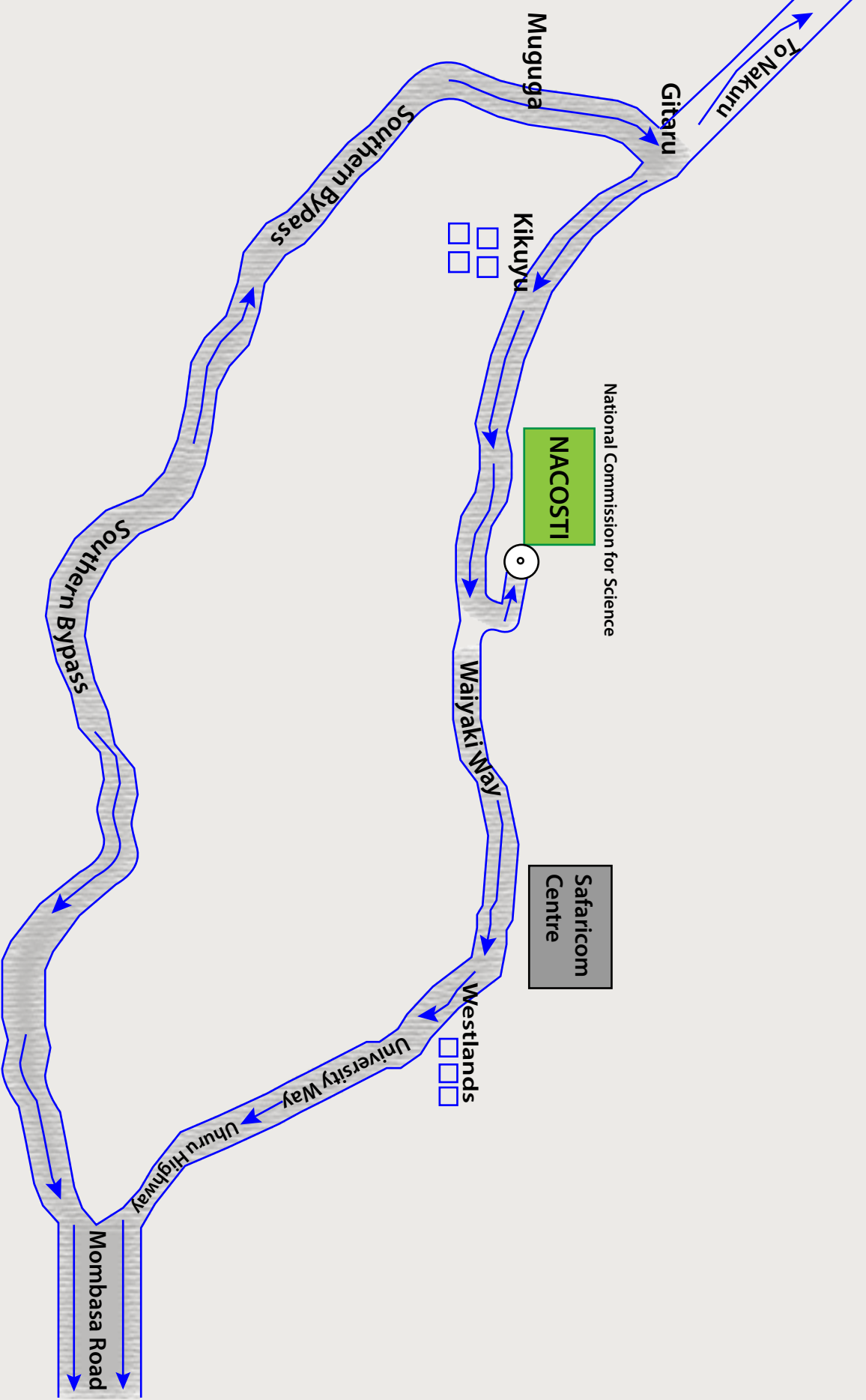# Appendix II: Key Performance Metrics 2018-2022

In implementing the strategic plan, a number of outcomes are expected to be realized. The table below summarizes the projected key performance indicators (KPIs) for targets set for the year 2018 to 2022.

Appendix II: Key Performance Metrics 2018-2022

S/No	Indicator	Baseline	Financial Year				
			2018/19	2019/20	2020/21	2021/22	2022/23
1.	Number of registered research institutions	8	15	20	25	30	35
2.	Number of accredited research institutions	0	0	3	6	9	12
3.	Number of Research Licenses	4600	6000	7000	8000	9000	10000
4.	Number of fora organised to disseminate research and technology outputs	1	2	2	2	2	2
5.	Number of media outreach programmes	1	3	3	3	3	3
6.	Amount of internally generated revenue (million KES.)	24	30	35	40	45	50
7.	Amount of externally generated revenue (million KES.)	40	50	60	70	80	90
8.	Automation index	68%	72%	74%	76%	78%	80%
9.	Employee satisfaction index	61.1%	63%	65%	67%	69%	71%
10.	Customer satisfaction index	69.5%	72%	74%	76%	78%	80%

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Figure 6: NACOSTI Headquarters, Upper Kabete, Nairobi

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To Nakuru

Muguga

Gitaru

Southern Bypass

Kikuyu

National Commission for Science

NACOSTI

Southern Bypass

Waiyaki Way

Safaricom
Centre

Westlands

University Way

Uhuru Highway

Mombasa Road