NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

CONCEPT NOTE FOR THE ESTABLISHMENT OF SCIENCE, TECHNOLOGY INNOVATION AND RESEARCH NETWORK (STIRN)

A. EXECUTIVE SUMMARY

The Science, Technology and Innovation Act assigns seventeen (17) functions to the National Commission for Science, Technology and Innovation (NACOSTI). One of these functions is ensuring co-ordination and co-operation between the various agencies involved in science, technology and innovation (ST&I). Implementation of this function is critical for Commission to effectively play its regulatory, promotion and policy advisory roles.

In consideration of its coordination and cooperation function, the Commission has developed a concept for the establishment of a Science, Technology, Innovation and Research Network (STIRN). The establishment of a multi-stakeholder ST&I network is critical to facilitate policy dialogue and improve interaction among stakeholders to foster the development and strengthening of ST&I policies and investment plans that benefit all sectors. The establishment of such networks of ST&I stakeholders is already captured in STISA-2024 as one pathway for achieving thematic areas of the strategy. Further, the urgent need for such a network is further highlighted by the unprecedented impacts of Covid-19 Pandemic on the health, human life and economy. The pandemic calls for unique STI response measures which are embedded in strong partnerships and collaborations of actors from diverse sectors. The Science, Technology, Innovation and Research Network (STIRN) provides a strong mechanism for mobilizing actors and resources to support Kenya's Covid-19 response and post-recovery measures by providing scientific evidence to inform policy formulation and enhance preparedness for future pandemics. Membership of the Network will comprise STI based organizations in Kenya, and will accommodate international organizations as associate members. The governance of the Network will comprise an Advisory Board of eminent persons leading diverse thematic areas, assisted by NACOSTI as the Secretariat in line with the functions of NACOSTI as listed in the STI Act. The network will undertake resource mobilization to fund its activities.

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1. Background

Science, Technology, and Innovation (ST&I) is widely recognized as critical for the realization of socioeconomic development across different countries. It is also seen as fundamental for the achievement of regionally and internationally agreed development goals. The United Nations Commission on Science and Technology for Development (UNSTD) has stated in all its Resolutions that ST&I provides the means for implementing the Sustainable Development Goals (SDGs).

The AU Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024) places ST&I at the epicentre of Africa's socio-economic development goals and aspirations espoused in Africa's Agenda 2063. The African Union further emphasizes the need to use science and technology in reorienting Africa's education and training systems to meet the knowledge, competencies, skills, innovation and creativity required to nurture African core values and promote sustainable development at the national, sub-regional and continental scale.

Kenya's Economic Development Blueprint, the Vision 2030 and its successive medium-term plans has identified ST&I as one of the keys enabling sectors to drive the country's long-term development. The Vision 2030 aims to transform Kenya into an industrialized middle-income country offering a high quality of life to all our citizens. The realization of the Third Medium Term Plan 2018 – 2022 titled "Transforming Lives: Advancing Socio-economic development through the Big Four" is premised on generation of new knowledge through scientific research in areas that contribute to food and nutrition security, affordable housing, manufacturing and universal health coverage.

The Science and Technology (S&T) sector is anchored on **a robust constitutional, legislative, policy and institutional framework.** The Science, Technology and Innovation

(ST&I) Act of 2013 provides a framework for a coordinated approach to the governance of the Research, Science, Technology and Innovation sub-sector through establishment of key institutions namely – National Commission for Science, Technology and Innovation (NACOST&I), Kenya National Innovation Agency (KENIA) and National Research Fund (NRF). The functioning of these institutions has however been impeded by the myriad challenges which bedevil the S&T sector. This has impeded constructive and systematic interaction among stakeholders of the national innovation system.

The key challenges facing the sector include; **slow implementation of the policy framework**; lack of coordination among the stakeholders; inadequate funding and support; non-alignment of education and training curricula to industry needs; inadequate ST&I data to quantify contribution of the ST&I sector to the national economy; and weak advocacy for ST&I at high political and policy levels among others. These challenges coupled with weak mechanisms for implementation, evaluation and review of ST&I initiatives have significantly limited the chances for ST&I to effectively catalyze economic activities and create an environment for stakeholders to interact dynamically and respond to societal needs as envisaged in development policies.

2. Objectives of the Science, Technology, Innovation and Research Network

The objective of the network is to advance apt strategy and networking in education, training, research, commercialization, and outreach in science, technology and innovation. The network employs scientific evidence to create awareness on technological innovations/solutions, assess their impacts and advocate for the mainstreaming of such innovations and solutions into national development plans and policies. The purpose of the Network includes:

a) Participation in the development of **policy tools/methodologies, and evidence-based policies and strategies** for the furtherance of science, technology and innovation sector

b) Nurturing young researchers, and fostering sustainable **capacity building and STEAM Education** through; conferences, symposia, seminars, workshops, training, meetings and international scientific exchange,

c) **Collating, assessing, and integrating STI information** into education and training systems, as well as into national, and country integrated industrial/technology development strategies

d) Generating knowledge and **nurturing the development of indigenous technologies and innovations** backed by strong scientific evidence

e) Deepening and expanding the commitment of members to the **mainstreaming and application of STI for sustainable socio-economic national development**.

3. Establishing Kenya's Science, Technology, Innovation and Research Network

The cross-sectoral nature of ST&I and a multitude of development actors emerging in the field, and the need to maximize the impacts of ST&I on economic transformation and sustainable development in Kenya requires an inter-disciplinary approach. There is need to transform the ways in which the different ST&I stakeholders (researchers, policymakers, civil society, NGOs, the private sector etc.) interact to properly develop, package and apply technological innovations and solutions that are viable for addressing development challenges.

Arguably, the coordination, communication, and exchange of information on ST&I among stakeholders has been very weak due to the lack of appropriate strategies to establish a fruitful dialogue between the researchers (producers of ST&I knowledge) and decision-makers. Very often, the lack of platforms to facilitate engagement between the stakeholders, or the adequate instruments for disseminating research results do not allow quick access and clear understanding of data and evidence to inform policy making and implementation.

To address this problem, establishment of a multi-stakeholder ST&I network to facilitate policy dialogue is considered an opportunity to improve interaction among stakeholders to foster the development and strengthening of ST&I policies and investment plans that benefit all sectors. The establishment of such networks of ST&I stakeholders is already captured in STISA-2024 as one pathway for achieving thematic areas of the strategy.

African Union Heads of State and Government have called for all the African Scientific and Technical community, (researchers, development partners, academics, knowledge managers and other innovators) from the continent and the Diaspora, to mobilize into networks for joint actions that foster the realization of the goals of STISA-2024. The Commissioner for Human Resources, Science & Technology of the Africa Union Commission has also stressed the need to forge strong partnerships, driven by African shared values and policy objectives to deliver impact on the ground.

Considering that ST&I attracts a lot of actors and interests; a participatory approach will be used to set up the ST&I Network. Such participatory approaches provide objective and institutional settings for developing a multi-stakeholder platform to represent cognitive diversity and interest in ST&I decision-making process.

3.1 Interim Governance and Coordination of the Network

In the interim and taking note of the functions of NACOSTI as listed in the STI Act, the governance of the Science, Technology, Innovation and Research Network (STIRN) will comprise an Advisory Board of Eminent Persons in the STI Sector covering diverse thematic areas. The Eminent persons will be nominated by NACOSTI in consultation with the Principal Secretary in charge of Science, Technology and Research, currently PS-SDUER. The Chairman of the Board of NACOSTI, and the Chairman of the Board Technical Committee of NACOSTI will be members of the Advisory Board. Key agencies in the Kenya Innovation System will be represented in the Advisory Board. NACOSTI will provide the secretariat for STIRN under the Coordination/Chairmanship of the Director General, NACOSTI assisted by Technical Directorates.

3.2 Membership

Membership of the Network will be open to STI based organizations/institutions in Kenya, and will accommodate international organizations. The secretariat will send invitations to various agencies and institutions informing them of the intention to establish STIRN, and requesting them to indicate interest. Based on outcomes of the initial request to institutions/agencies, a plan for stakeholder engagement shall be prepared. The engagement of stakeholders for the establishment of the Science, Technology, Innovation and Research Network (STIRN) may follow the following steps:

Step 1: Stakeholder/institutional mapping

The institution's role will be the key determinant in constituting the Network. Institutions will be categorized into four depending on the roles they perform in a) policy formulation and investment frameworks (national and county government bodies); b) knowledge development and sharing (research institutes, universities); c) technological development (research institutes, private sector, producers' associations) and d) delivery of financial and non-financial incentives for ST&I investments (financial institutions, trust funds, multilateral donor agencies etc.).

To identify the main actors engaged in ST&I, a stakeholder mapping exercise will be conducted. The stakeholders represent actors (institutions, i.e. public, private, not-for-profit) that have an explicit or implicit interest in ST&I. The stakeholder mapping exercise will consist of data collection (using questionnaires and informal discussions) on specific ST&I activities/ projects of a given institution, mandate, ST&I-related activities carried out including budget and implementation partners.

Step 2: Organization of a stakeholder consultative meeting

NACOSTI as the Secretariat of the Network, in collaboration the UNESCO and other key players in the sector will bring together key persons of institutions identified by the stakeholder analysis. The workshop will have high level representation of decision makers and policy advisors to discuss the relevance of and methodology of establishing and institutionalizing the ST&I Network in order to sustain its operations. Other issues to be discussed will be the operational framework, size and functions of the Network.

Step 3: Composing the ST&I Network

Following the stakeholder analysis and recommendations from the consultative meeting, the Network shall be composed based on the following considerations: -

i.   Nature of representation - governmental, non-governmental or private institution
ii. Engagement in ST&I should be related to one of the following activities:
   - production of knowledge and information related to ST&I (research)
   - provision of financial and non-financial incentives for ST&I promotion and/ or scale-out (financing)
   - development and promotion of ST&I-based solutions (technological development)
   - development of policies and strategies that enable ST&I implementation and/or scale out (policy and institutional support)
   - emerging global issues and technologies
iii. Geographical location

Step 4: Inaugural ST&I Network meeting

Following the composition of the Network team and membership, NACOSTI as the secretariat will organize the inaugural meeting of the ST&I Network together with UNESCO and other key stakeholders. Each member institution shall be represented by the head or a senior staff appointed by the said institution.

4. Functional role of the ST&I Network

The Network will provide a national platform for different actors in the ST&I sub-sector to engage in ST&I policy dialogue and provide recommendations to inform policy formulation and implementation. More importantly, the Network will provide evidence on promising technologies and innovations that can set the country on the pathway to achieving its national development goals, the SDG's, and the aspirations of the AU Agenda 2063.

Through regular meetings, the core teams established by the Network will lead the development of annual work plans. The work plans will be validated by the Network members and the institutions represented encouraged to adopt them into their individual work plans for consideration in resource allocation.

NACOSTI, as the secretariat of the Network will in close collaboration with UNESCO, organize fora, workshops and science and technology exhibitions for knowledge sharing and learning around ST&I topics. Other areas of consideration will be regular policy analysis, research projects and co-creation of evidence-based information and addressing uncertainties; and high-level policy engagements to advocate and inform policy changes and decision-making using scientific evidence and other knowledge products on ST&I.

5.0 Sources of Resources

The establishment and operations of the Network will be funded using publicly and externally generated resources. NACOSTI will serve as the Secretariat and will provide part of the finances and human resources to support operations of the Network. Resource mobilization will be one of the key responsibilities of the Network members. They will be required to develop and implement a resource mobilization by developing grant proposals focusing on thematic research areas, undertaking consultancies, collecting membership fees and organizing join activities with national and international actors in the public and private sector.