



National Commission for Science, Technology and Innovation (NACOSTI)



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EDITORIAL

“Science and Technology for Prosperity”



One of the main priorities of the Government towards the attainment of Kenya Vision 2030 is the realization of Science, Technology and Innovation. The National Commission for Science, Technology and Innovation (NACOSTI) newsletter is a brief summary of the activities that the commission engages on a day-to-day basis including workshops, conferences and meetings.

National Commission for Science, Technology and Innovation (NACOSTI) is established under the Science Technology and Innovation Act, 2013. The mandate of NACOSTI is to regulate and assure quality in the research, science, and technology and innovation sector and advise the Government in matters related thereto. The Commission Regulates, Coordinates, Advises and promotes Science, Technology, Innovation and Research activities in the country.

The Big Four Agenda by the Government of Kenya focuses on manufacturing, food security, affordable health care and housing. The attainment of the big four Agenda is intertwined with the accomplishments of the functions of NACOSTI which include: Develop priorities in scientific, technological and innovation activities in Kenya, Advise the national and county governments on the science, technology and innovation policy,

Lead inter-agency efforts to implement responsive policies and budgets, in collaboration with organizations involved in research, science and technology, Ensure co-ordination and co-operation between the various organizations involved in research, science and technology development, Accredite research institutions and approve all scientific research in Kenya, Assure relevance and quality of research programmes in research institutions, Advise on science education and innovation at both basic and advanced levels and Promote the adoption and application of scientific knowledge and information.

I wish you happy reading as you interact with this issue of the NACOSTI STIR Journal.

Mr. Gideon Kirui
Journal Committee Chairman

REMARKS FROM THE DIRECTOR GENERAL/CEO

“Science and Technology for Prosperity”



I take this opportunity to welcome you to read the STIR Journal, Volume 2, a publication of the National Commission for Science, Technology and Innovation (NACOSTI). STIR Journal captures the latest news and featured articles from the Science, Technology and Innovation (STI) sector, and is therefore the voice of stakeholders in the STI Ecosystem as communicated by the STI Regulator, NACOSTI.

NACOSTI is established under the Science, Technology and Innovation Act, 2013 (Rev. 2014) with a unique mandate of regulating and assuring quality in the research, science, technology and innovation sector, and advising the Government in matters related thereto. In so doing, the Commission shall Regulate, Coordinate, Advise and Promote Science, Technology, Innovation and Research activities in the country.

Among other functions of NACOSTI include; developing priorities in scientific, technological and innovation activities in Kenya, Registering and Accrediting Research Institutions, Licensing of Research and assuring relevance and quality of research programmes in research institutions, coordinating and evaluating activities relating to scientific research and technology development, annually reviewing the progress in scientific systems, and promoting the adoption and application of scientific and technological knowledge in attaining national development.

Further, the Science, Technology and Innovation (STI), Legal Notice No. 108 (Research Licensing) Regulations, 2014 obligates all persons intending to undertake scientific research in Kenya to obtain a license in accordance with the Act. In this regard, we have made this process easy and convenient for you all by making it available online.

I trust that you will enjoy interacting with the information presented herein. Feel free to contact us through our telephone numbers, email and all our social media platforms.

Prof. Walter O. Oyawa, PhD
National Commission for Science, Technology and Innovation (NACOSTI)

NACOSTI MANDATE, VISION, MISSION, CORE VALUES, & FUNCTIONS

Mandate

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

Vision

Accelerate the Transformation of Kenya as 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

The Commission upholds Integrity, Customer Focus, Professionalism, Teamwork and Leadership in the discharge of its mandate.

Functions

- a) Develop, in consultation with stakeholders, the priorities in scientific, technological and innovation activities in Kenya in relation to the economic and social policies of the Government, and the country's international commitments.
- b) Lead inter-agency efforts to implement sound policies and budgets, working in collaboration with the county governments, and organizations involved in science and technology and innovation within Kenya and outside Kenya.
- c) Advise the national and county governments on the science, technology and innovation policy, including general planning and assessment of the necessary financial resources.
- d) Liaise with the National Innovation Agency and the National Research Fund to ensure funding and implementation of prioritized research programmes.
- e) Ensure co-ordination and co-operation between the various agencies involved in science, technology and innovation.
- f) Accredite research institutes and approve all Scientific research in Kenya.
- g) Assure relevance and quality of science, technology and innovation programmers in research institutes.
- h) Advise on science education and innovation at both basic and advanced levels.
- i) In consultation with the National Research Fund Trustees, sponsor national scientific and academic conferences it considers appropriate.
- j) Advise the Government on policies and any issue relating to scientific research systems.
- k) Promote increased awareness, knowledge and information of research system.
- l) Co-ordinate, monitor and evaluate, as appropriate, activities relating to scientific research and technology development.
- m) Promote and encourage private sector involvement in scientific research and innovation and development.
- n) Annually, review the progress in scientific research systems and submit a report of its findings and recommendations to the Cabinet Secretary.
- o) Promote the adoption and application of scientific and technological knowledge and information necessary in
- p) Develop and enforce codes, guidelines, and regulations in accordance with the policy determined under this Act for the governance, management and maintenance of standards and quality in research systems.
- q) Undertake, or cause to be undertaken, regular inspections, monitoring and evaluation of research institutions to ensure compliance with set standards and guidelines.

SCIENCE AND RESEARCH KEY TO UNLOCKING KENYA'S DEVELOPMENT POTENTIAL, PRESIDENT KENYATTA SAYS



Figure 1: President Kenyatta giving his speech during the 50th anniversary celebrations of the International Centre of Insect Physiology and Ecology (ICIPE) in Nairobi

H.E President Uhuru Kenyatta has emphasized science and research as key to unlocking Kenya's development potential, especially in finding solutions to challenges slowing down the country's progress.

The President, therefore, said the Government will continue implementing programmes aimed at nurturing its growing scientific talent pool to create wealth and expand employment opportunities for Kenyans.

President Kenyatta spoke during the 50th anniversary celebrations of the International Centre of Insect Physiology and Ecology (ICIPE) in Nairobi.

In his pre-recorded video address, the Head of State applauded ICIPE for its prominent contribution to the growth of science and research in Africa over the last five decades.

"As this pioneering institution commemorates its 50 years of service, in partnership with governments across the continent, we note with appreciation the central role you have and continue to play, in insect research, plant health, animal health, environmental health, all aimed at bettering human health and welfare," the President said.

He said Africa must continue to expand its investment in science and research for it to achieve the aspiration of becoming a prosperous and peaceful continent. "Indeed, Africa will continue to rely on scientific organizations not only to address present and future development challenges, but also to provide the platform upon which we may be able to take advantage of the emerging opportunities in the digital and the biological economic sectors," he said.

The President praised ICIPE's training programmes delivered through the African Regional Postgraduate Programme in Insect Science (ARPPIS) and the Dissertation Research Internship Programme (DRIP), saying the initiatives have helped to significantly increase the number of scientists and researchers in sub-Saharan Africa.

"Likewise, I note with appreciation that in 2008, ICIPE was selected by African governments to run the Regional Scholarship and Innovation Fund (RSIF) of the Partnership for Skills in Applied Sciences, Engineering and Technology (PASET). The central objective of this Fund is to train up to 1,000 doctoral level scientists annually from sub-Saharan countries in the various core fields of science," he said.

President Kenyatta said Kenya's Vision 2030 and the African Union Agenda 2063 both recognize the vital role played by science and scientific organizations like ICIPE in achieving developmental objectives.

With this knowledge, the President said his administration will continue working closely with scientific and research organizations as key development partners adding that the Kenyan Government had contributed more than Shs 200 million to the Regional Scholarship and Innovation Fund (RIF) of the Partnership for Skills in Applied Sciences, Engineering and Technology (PASET) where he is the current Chairperson.

“Our contribution in this regard is consistent with the Kenya Vision 2030, the UN Sustainable Development Goals and the Africa Union Agenda 2063,” he emphasized.

The Head of State assured that the Kenyan Government will continue rolling out progressive policies to promote science and innovation, not only as the engine for economic growth but also as a means of addressing enduring social inequalities.

“We have made a commitment to invest up to 2% of our annual national budget in research and innovation which is in line with our national development programmes,” he said.

The President noted that science and research institutions such as ICIPE are important partners in realizing Kenya's development aspirations as outlined in Vision 2030 and Big 4 Agenda blueprints which he said are consistent with UN Sustainable Development Goals.

“Indeed, ICIPE and other similar organizations in Kenya have contributed essential technical skills and scientific knowledge that have proved invaluable to our national development.

“These contributions have led to the creation of high-quality jobs, especially for young graduates, increased foreign exchange earnings for the country and strengthened our connections, particularly in the field of academia and research, with the rest of world,” the President said.

As part of the celebrations, the President launched ICIPE's Vision and Strategy for the period 2021 to 2025, which he described as bold and comprehensive noting that it will position the organization as a centre for discovery and provision of solutions.

Cabinet Secretaries Raychelle Omamo (Foreign Affairs) and Peter Munya (Agriculture) commended ICIPE for its scientific and research work which they said has been key in transforming the lives of many Africans.

CS Munya said ICIPE has been recognized globally for its research work, which has greatly helped farmers to improve productivity of their enterprises.

“This work has made ICIPE to be a household name in Africa, for it has contributed to providing solutions which are not harmful to animals, plants and human life,” the Agriculture CS said.

Other speakers included the Chairperson of ICIPE Governing Council Prof Bill Hansson and the organization's Director General Dr Segenet Kelemu.

Source: <https://www.president.go.ke/>

PROF. GEORGE MAGOHA, CBS, CABINET SECRETARY, MINISTRY OF EDUCATION TAKES A SWIPE AT SCHOLARS, RESEARCHERS OVER INACTION ON VIRUS



Figure 2: Prof. George A. O. Magoha, Cabinet Secretary, Ministry of Education

Education Cabinet Secretary Prof. George Magoha has faulted university professors and scholars for doing little on research and innovation in light of the Covid-19 pandemic.

Prof Magoha expressed disappointment at the little involvement of local scholars in finding basic solutions to the coronavirus challenges.

“Why are you not researching and giving Kenyans information on Covid-19? Why can’t someone even just research on why Kenyans are not wearing masks properly and give a solution to that,” he posed.

The CS faulted researchers for spending more time to prepare papers to publish in international journals and hoarding critical information that can be used at this time.

“It is good to publish, but can you also give out quick findings and information that can help Kenyans now? Where are you? Why are we not hearing you even in vernacular,” he said.

Kenya National Academy of Sciences chairman Raphael Munavu called for speedy release of Covid-19 research findings by local scientists. “Do not wait for research publications. Share your output as quickly as possible,” said Prof Munavu.

Magoha also criticised universities and research institutions for doing everything right theoretically, but with zero implementation.

“We get everything correct theoretically. But when we measure the effects of what has been done, it is zero,” he said.

The CS spoke during the opening of a three-day conference on the importance of coordinated approaches in combating coronavirus.

The meeting was organised by National Commission for Science, Technology and Innovation (NACOSTI), the regulator of the Science, Technology Innovation (STI) sector in Kenya.

The theme of the meeting was ***STI Response to COVID-19 Pandemic and Infusion into Post COVID Recovery Strategies***. In attendance was Chief Administrative Secretary - Ms. Mumina Bonaya, Principal Secretary - State Department of University Education and Research, Amb. Simon Nabukwesi, Heads of Institutions within the STI Sector, researchers, scholars, administrators Board and staff of NACOSTI.

NACOSTI Director General, Prof. Walter Oyawa said the meeting would highlight the contribution of the STI sector towards global and regional efforts in mitigating the effects of the Covid-19.

“The symposium will delve on possible science and technology-driven post-Covid strategies for governments and entities,” said Prof Oyawa.

Magoha faulted universities and research institutions for citing lack of funds for not leading the way in finding innovative solutions to the country’s problems. He termed as unwise, the culture by some researchers and universities to wait for government funding to start research.

“If you have been waiting for the government to allocate two per cent of the GDP towards research for you to start doing something then that is stupid,” he said.

Magoha said world over, research money was available for serious proposal pitch.

“We must identify scholars, have organised syndicates or small units trained on research who write proposals that are floated to

win research money. Find money for yourselves, we cannot wait for government funding,” he said.

The CS regretted that lack of coordinated research had created room for mass production of substandard items, including hand sanitisers. “Everyone is now manufacturing these items and we do not even know their quality,” said Magoha.

Prof Ratemo Michieka, the chairperson of African Scientific and Research Innovation Council, called for coordinated approach to research and enhanced linkages.

Magoha slammed the system for not allowing geniuses to upgrade their innovations, saying they are pushed aside for lacking scholarly backgrounds.

“We must now be malleable and take things seriously. These geniuses who produce scientific innovations must be nurtured and guided regardless of their academic backgrounds,” he said.

The CS criticised universities for sending old professors on retire, saying they could nurture young scientists and also offer necessary connections for international funding.

“We do not have enough critical nucleus to do research. And those who can do that are being sent home forcefully. Yet these top grade scientists and researchers have bigger output,” said Magoha.

Source: <https://www.standardmedia.co.ke/>

SCIENCE COMMUNITY CHALLENGED TO COME TOGETHER IN COVID-19 FIGHT



Figure 3: Principal Secretary for University Education and Research Ambassador Simon Nabukwesi giving his remarks during the Symposium.

Principal Secretary for University Education and Research Ambassador Simon Nabukwesi called on local scientists and researchers to play an active role in finding solutions to challenges currently facing the region. Amb. Nabukwesi specifically urged the science community to collaborate and assist each other by devising ways on how to combat covid-19 pandemic mainly through sharing of some of the best practices.

Speaking during inaugural research symposium organized by National Commission for Science, Technology and Innovation (NACOSTI), the PS cited South Africa as one of the African countries, that has carried out research on COVID-19 by collecting daily data to gauge improvements in terms of response.

Amb. Nabukwesi said scientists must aspire to do better by constantly utilizing the knowledge they have acquired over the years.

“Great ideas have emerged in the conference, therefore let us be consistent and do what we can do, motivate our scholars and scientists since the government is in full support of scholars as transformers of this nation” he said.

According to Amb. Nabukwesi, scientists play a significant role in improving lives and therefore encouraged them to prioritize research areas that can greatly impact the country’s well-being

economically. This he noted has a direct influence on social economic conditions of Kenyans.

He further emphasized change of attitude as a major step towards achieving meaningful, productive and impactful research. “We must change our culture and influence every person to take various responsibilities in Kenya if we are to win the fight against covid-19,” Ambassador Nabukwesi remarked.

The three-day symposium was held under the theme “STI response to Covid-19 pandemic and infusion into post Covid-19 recovery strategies.”

The workshop was organized by the National Commission on Science Technology and Innovation – NACOSTI.

At the same time, Nabukwesi delivered a presentation on proposed higher education reforms containing five thematic areas recommended for review among them governance and management of institutions of higher learning, funding and recruitment.

He said the Government is reviewing the existing policies to make them relevant and enable dealing with emerging challenges. He acknowledged the efforts and great ideas which emerged at the conference deliberations and presentations by scholars noting that the workshop “should not just be a mere formality, it should inspire us, put us on the trajectory to have focus, an ounce of practice is better than tonnes of teaching”.

PICTORIAL HIGHLIGHTS OF THE SYMPOSIUM



Figure 4: The Cabinet Secretary of MOE; Prof. George Magoha, giving his speech during the Symposium on STI Response to Covid-19 Pandemic, and Infusion into Post-Covid Recovery Strategies.



Figure 5: CAS Ms. Bonaya and PS Amb. Nabukwesi, Ministry of Education engage during the NACOSTI organized symposium.



Figure 6: Ms. Mumina Bonaya Chief Administrative Secretary Ministry of Education giving her remarks during the Symposium.



Figure 7: Amb. Simon Nabukwesi PS State Department for University Education & Research giving his address; Ongoing Deep Dive Reforms in the Higher Education Sector in Pandemic-Affected Context, during Symposium on STI Response to Covid-19 Pandemic, & Infusion Into Post-Covid Recovery Strategies.



Figure 8: The Board Chair of NACOSTI; Prof. Tom P. Migun Ogada giving his keynote address on STI Priorities and Regulatory Framework, during the 3rd day of the Symposium on STI Response to Covid-19 Pandemic, and Infusion into Post-Covid Recovery.



Figure 9: The Director-General of NACOSTI; Prof. Walter O. Oyawa giving his opening remarks during the Symposium on STI Response to Covid-19 Pandemic, and Infusion into Post-Covid Recovery Strategies.



Figure 10: A few Participants following the proceedings physically.



Figure 11: Prof. Raphael Munavu, giving his keynote address on Afrocentric Indigenous Knowledge in the Prevention of Emerging Infectious Diseases during the Symposium on STI Response to Covid-19 Pandemic, and Infusion into Post-Covid Recovery Strategies.



Figure 12: Prof. Ratemo W. Michieka, Chairman, African Scientific and Research Innovation Council (ASRIC) giving his keynote address on STI response to COVID-19 and Infusion into Post COVID Recovery Strategies.



Figure 13: Dr. Roy Mugiira giving his keynote address on Nurturing Bioeconomy in the Eastern African Region, during the 2nd day of the Symposium on STI Response to Covid-19 Pandemic, and Infusion into Post-Covid Recovery Strategies.



Figure 14: Dr. Tonny Omwansa CEO, KENIA giving his keynote address on Technology Development & Commercialization, Kenya's pathway to a developed economy during the 2nd day of the Symposium on STI Response to Covid-19 Pandemic, & Infusion into Post-Covid Recovery.

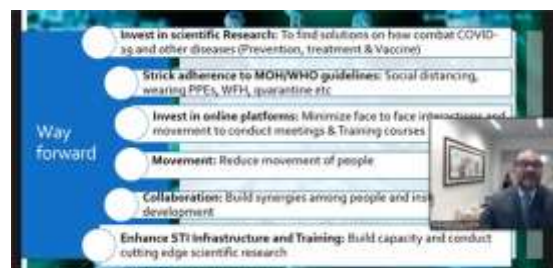


Figure 15: Prof. Shaukat Abdulrazak giving his keynote address on IAEA response to assist member states to respond to COVID-19 pandemic during the 2nd day of the Symposium on STI Response to Covid-19 Pandemic, and Infusion into Post-Covid Recovery Strategies.



Figure 16: Dr. Stephen Karimi giving his keynote address on Intellectual Property Policy Guidelines for Academic and Research Institutions during the 2nd day of the Symposium on STI Response to Covid-19 Pandemic, and Infusion into Post-Covid Recovery Strategies.



Figure 17: Prof. Raphael Munavu, giving his keynote address on Afrocentric Indigenous Knowledge in the Prevention of Emerging Infectious Diseases during the Symposium on STI Response to Covid-19 Pandemic, and Infusion into Post-Covid Recovery Strategies.



Figure 18: Prof. Meoli Kashorda; Executive Director, KENET giving his keynote address on a scalable & innovative research computing platform supporting STEM graduate students & researchers during the Symposium.

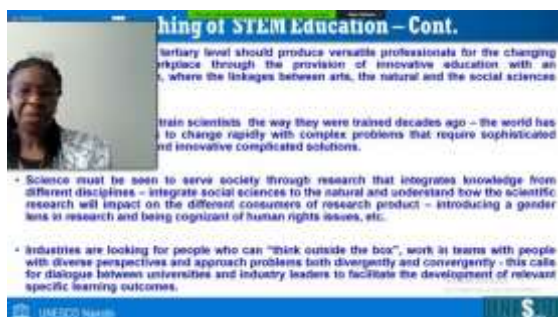


Figure 19: Dr. Alice Ochanda, Programme Specialist, UNESCO giving her keynote address on the Interdisciplinary Approaches in STEM Education in preparation for a rapidly changing world during the Symposium.

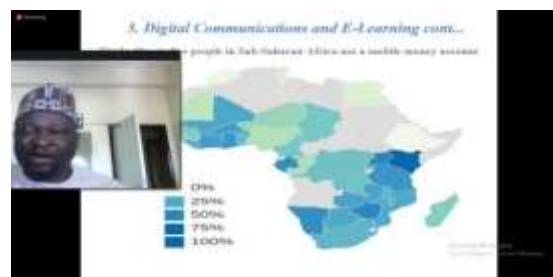


Figure 20: Dr. Nicholas Ozor Executive Director, ATPS giving his keynote address on the Impact of STI in mitigation of Covid-19 pandemic during the Symposium.



Figure 21: Dr. Danika Ramljak; Senior Science and Innovation Consultant at the World Bank giving her keynote address on The STI landscape & Indicators in Kenya & likely impact of Covid during the Symposium.



Figure 22: Dr. Jemimah Onsare, Ag. CEO, NRF giving her keynote address on Resource Mobilization for R&D:

*Status and Need for Enhanced Budgetary Allocation,
during the 3rd day of the Symposium*

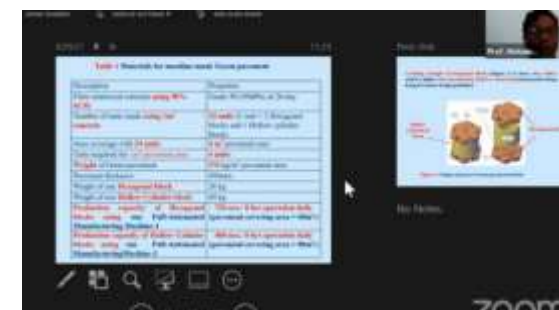
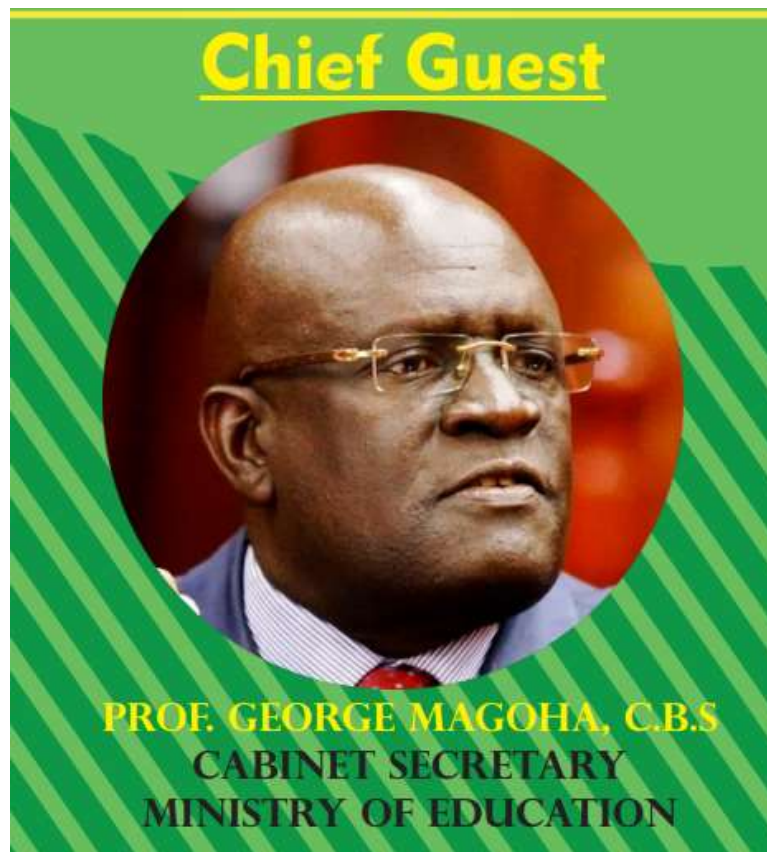


Figure 23: Prof. Mohammad Mannan, giving his keynote address on Green Pavement technology through contactless fabrication in mitigating COVID-19 pandemic, during the 3rd day of the Symposium.



Figure 24: Winnie Bulimo giving her keynote address on Realignment of National Qualifications Framework in Kenya on behalf of Dr. Juma Mukhwana during the 2nd day of the Symposium.

SYMPOSIUM CHIEF GUEST, KEYNOTE ADDRESS AND LEAD SPEAKERS



VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

19th November 2020
10:00 a.m. - 10:45 a.m.

LEAD SPEAKER



Dr. Dunica Ramdjak,
Senior Science and
Innovation Expert for The
World Bank

The STI landscape and
Indicators in Kenya, and likely
impacts of COVID

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

19th November 2020
10:45 a.m. - 11:00 a.m.

LEAD SPEAKER



Prof. Shoukat A.
Abdulrazzak,
Director for Africa,
Technical Cooperation,
International Atomic
Energy Agency (IAEA)


IAEA response to assist
Member states to respond to
COVID-19 Pandemic

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

19th November 2020
11:00 a.m. - 11:15 a.m.

LEAD SPEAKER



Prof. Katusa W.
Mchicha,
Chairman,
African Scientific and
Research Innovation
Council (ASRIC)

STI Interventions and
Roadmap on COVID-19
Pandemic: African Context

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

19th November 2020
11:15 a.m. - 12:10 p.m.

LEAD SPEAKER



Prof. Meshi Kashorda,
Executive Director,
Kenya
Education Network
(KENET)

Available and innovative
research computing platforms for
supporting STEM graduate
students and researchers - the case
of the KENET research cloud

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

19th November 2020
11:15 a.m. - 11:30 a.m.

LEAD SPEAKER



Dr. Nicholas Oloo,
Executive Director,
African Technology
Policy Studies Network
(ATPS)

Impact of STI in mitigation of
COVID-19 Pandemic

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

19th November 2020
11:30 a.m. - 11:45 a.m.

LEAD SPEAKER



Prof. Raphael M.
Mwanja,
Chairman,
Kenya National Academy
of Sciences (KNAS)

Afro-centric Indigenous
Knowledge in the Prevention of
Emerging Infectious Diseases

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

19th November 2020
11:45 a.m. - 12:00 p.m.

LEAD SPEAKER



Eng. John Tatum,
CTD,
Kenya Technology
Development Authority (KotDA)

SMART City Ecosystem
Framework and Model for
Kenya

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

19th November 2020
12:00 p.m. - 12:05 p.m.

LEAD SPEAKER



Prof. Muhammad Abdul
Mannan, FICE (UK),
Universiti Malaysia
Sarawak, UNIMAS,
Malaysia

Green Pavement technology
through contactless fabrication
in mitigating COVID19
Pandemic

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

16th November 2020
11:00 a.m. - 11:45 a.m.

LEAD SPEAKER


Dr. Tony Ombaka,
CEO
Kenya National
Innovation Agency
(KENIDA)

Technology Development and Commercialization, Kenya's Pathway to a developed economy Kenya

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

16th November 2020
11:00 a.m. - 11:45 a.m.

LEAD SPEAKER


Prof. Stephen G. Agong,
Vice Chancellor,
Jeremngi Oginga Odinga
University of Science
and Technology
(JOOUST)

Impact of JOOUST ACE II in enhancing the higher education landscape

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

16th November 2020
11:00 a.m. - 11:45 a.m.

LEAD SPEAKER


Dr. Joshua Omari,
Ag. CEO
National Research Fund
(NRF)

Resource Mobilization for R&D: Status and Need for Enhanced Budgetary allocation

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

16th November 2020
11:00 a.m. - 11:45 a.m.

LEAD SPEAKER


Mr. John Onyango,
CIO,
Kenya Industrial
Property Institute
(KIPI)

Intellectual Property Management: Kenya status report

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

16th November 2020
11:00 a.m. - 11:45 a.m.

LEAD SPEAKER


Prof. Alice Mutungi,
Chairperson,
National Bioethics
Committee
(NBC)

Ethical Issues in Research, Science, Technology and Innovation in a captive world

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

16th November 2020
11:00 a.m. - 11:45 a.m.

LEAD SPEAKER


Dr. James Mubwana,
CEO,
Kenya National
Qualifications Authority
(KNQA)

Realignment of National Qualifications Framework in Kenya

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

16th November 2020
11:00 a.m. - 11:45 a.m.

LEAD SPEAKER


Dr. Ray Mugira,
Deputy
Scheduling Secretary,
NACOSTI

Nurturing Bioeconomy in the Eastern African Region

VIRTUAL SYMPOSIUM

Theme: "STI Response to COVID-19 Pandemic, and Infusion into Post COVID Recovery Strategies"

16th November 2020
11:00 a.m. - 11:45 a.m.

LEAD SPEAKER


Dr. Stephen Karimu,
Director-General,
Accreditation & Quality
Assurance,
NACOSTI

Intellectual Property Policy Guidelines for Academic and Research Institutions

STI SECTOR RESPONSE TO COVID 19 PANDEMIC

Advances in science, technology and Innovation remain the game-changing factor to mitigate against widespread effects of global disaster such as the current COVID-19 pandemic.

The pandemic was declared as a public Health Emergency of International Concern (PHEIC) in January 2020 by WHO, and thereafter measures were agreed upon to contain the spread of the virus. COVID-19 has presented an unfettered prospect for countries and institutions to increase investments in research, science, technology, and innovation for the betterment of society. During the pandemic, it has been observed that countries that leveraged on emerging technologies e.g., Big Data, AI and robots have been more successful in limiting the number of fatalities, while managing to keep most of their economies and societies operational.

This STI sub-sector response to COVID 19 pandemic report presents a situational analysis of the sub-sector in relation to its response to the pandemic, proposals of programmes for addressing the pandemic and the policy, legal and institutional framework for the response.

INTRODUCTION

During this period of a global public health emergency, countries have prioritized policy support to research and innovation diagnostics, treatments, vaccines, and effect mitigation including social and economic effects. Consequently, a national Science, Technology and Innovation (STI) policy coordination is critical for ensuring effectiveness of these initiatives.

The Kenya Government in line with the WHO guidelines has instituted several measures to slow down the COVID - 19 spread and infection prevention. These have been achieved through pronouncement of directives, policies, and enactment of laws on public health and administration of justice. Various protocols have also been developed for the different sectors. Despite these measures Kenya's cases and fatalities continue to increase and the economy is expected to remain strained. The Pandemic and attendant containment measures have negatively impacted on the Kenyan economy as seen in the performance of the financial markets, disruption of global supply chains, volatility of the Kenyan currency, reduction in diaspora remittances, and reversal of prior monetary and fiscal policies.

A National Emergency Response Committee (NERC) on Corona virus was established by the President through Executive order No. 2 of 2020 and a fund for the same has also been set up. The terms of reference for NERC which is Chaired by the Cabinet Secretary for Health include: coordination of the country's preparedness, prevention and response to the threat of COVID-19; capacity building of medical professionals and other professional; enhances surveillance at entry points and develop mitigation strategies with regards to the disease; the preparation of isolation and treatment facilities; medical supplies and PPEs; and domestic and external financial and human resources support. Additionally, the committee is responsible for conducting economic impact assessments, developing mitigation strategies, and creating and maintaining entry requirements for travelers coming from affected areas. Science and technology need to be represented in this committee in line with the best practices globally.

In January 2020, a team of Chinese and Australian researchers published the first genome of the new novel virus. They made the genetic map freely available for access by researchers worldwide. This has paved the way for researchers globally to undertake activities geared towards a vaccine development.

Kenya is part of the global effort for development of quality and standardized COVID-19 treatment dubbed “Solidarity Trials”. NACOSTI on 11th July 2020 granted a Research License for this project. The Solidarity Trials include thousands of patients from more than forty-five (45) countries in all the six (6) WHO Regions and has encouraged all hospitals with confirmed cases to participate. In Kenya seven (7) hospitals are participating under the guidance of the Ministry of Health.



Figure 25: Robots for Health Monitoring

The Kenya and UK partnership Oversight Board has developed a joint action plan in coronavirus research. It brings together and builds on existing programmes to enable Kenyan and UK academics, innovators, and entrepreneurs to share skills and

ideas on how to respond to the Pandemic. The action plan identifies three key areas namely:

Licensed Research Projects in Response to COVID-19 Pandemic

Several research projects have been initiated since April 2020 in response to the pandemic. These projects are mainly in the areas of social and economic impact; clinical trials geared towards management and treatment of COVID-19; and compliance with government policy and regulations. The National Research Fund (NRF) launched a strategic call for research proposals to support interventions to combat the COVID-19 pandemic. The Call was aimed at funding the scientific community to contribute to generation of rapid and novel interventions to contain the Pandemic through areas such as detection, prevention, management and strengthening health systems, among others. It focused on priorities identified by the Africa Taskforce for Novel Coronavirus (AFTCOR) namely: Rapid laboratory testing; Infection prevention and control; Case management; Enhanced surveillance; Communication and community engagement; Rapid response and simulations; Developing and evaluating innovative approaches to managing COVID-19; and Strengthening the evidence based on how to improve public health outcomes.

The COVID-19 ICT advisory committee has made requests for submission of proposals on local ICT innovations to address the impact of COVID-19 in Kenya in the areas of health, economy, food, livelihoods, logistics/transport and security. This Committee was appointed through Gazette Notice No. 3236 of 2020 to co-ordinate ICT specific responses to the effects of the

COVID-19 pandemic and beyond in Kenya. According to Devex's analysis of COVID-19 funding, as of August 9 2020, about KES 490 billion (US\$4.9 billion) had been committed to Kenya's response to the pandemic. Over half of the committed funds, KES 260 billion (US\$2.6 billion) target the country's public health response efforts, KES 170 billion (US\$1.7 billion) is for its economic response, while most of the remaining funds focus on development of vaccines and treatments KES 54.7 billion (US\$547 million) i.e only or 11% of the funding is earmarked for development of vaccine and treatment. Out of the above funding for COVID 19 pandemic the Kenya government has committed to provide about KES 50.8 billion (US\$508 million).

Government Funding for Research on COVID-19 Pandemic

The Government of Kenya through National Treasury has provided funds to public institutions address the pandemic and its impacts. The National Research Fund made strategic calls for research proposals under collaborative research on corona virus disease (COVID-19). The objective of the call was to provide opportunities for researchers to develop targeted rapid response mechanisms and novel interventions to contain the COVID-19 outbreak and address resulting community needs. The Institute for Primate Research (IPR) has been funded by the government to operationalize a COVID-19 testing and research Centre. Government has also given grants to Kenya Medical Research Institute (KEMRI) for testing and research. STI is a key foundation upon which the economic, social and political pillars of the Kenya Vision 2030 are anchored.

The sub-sector has planned to implement several programmes to develop the capacity of STI. These include: Develop STI human resource capacities; Strengthen regulation, coordination, and quality assurance of research; Strengthen Science, Technology, Engineering and Mathematics (STEM) in education and training; Develop infrastructure and provide State of Art equipment to support STI; Improve intellectual property rights regimes of STI; Develop systems for technology transfer and commercialisation; and Strengthen governance and accountability for STI.

Coordination of STI Responses to COVID-19

The urgency of tackling COVID-19 has led the state and non-state actors including individual innovators and entrepreneurs in Kenya to launch several short-term and fast-tracked initiatives. Without proper coordination amongst the various players in government and private sector, there is a risk of duplicating efforts or missing opportunities to design large, scalable and sustainable programmes which would have effects in addressing immediate and long-term needs occasioned by COVID-19. In addition, these sporadic initiatives could slow down progress in responding to COVID-19 and lead to economic inefficiencies. There is need to develop STI COVID Response strategy that incorporates multi-agency response strategies.



Figure 26: Tracking millions of people

Research Regulation and Coordination

STI sub-sector is regulated under various regulatory frameworks which have established various institutions mandated to carry out the relevant functions. NACOSTI has the overall mandate of research authorization the other institutions also issue access permits to enable the researcher to proceed with their respective research. In a situation of health emergency such as the COVID-19 pandemic, research authorization requires to be expedited. Such a regulatory framework is likely to cause delays. There is need for the STI sub-sector to develop a coherent and focused R&D policy framework for the enhancement of regulation, quality assurance and accreditation of multi-disciplinary multi-sectoral scientific research, as well as for promotion of commercialization of R&D outputs into Kenyan and global socio-economic pathways/market. Regarding Research Coordination, there is need to expedite the implementation of the approved National Research Priorities Framework by establishing the National Research Steering Committee, Research Delivery Secretariat, Research Consortia, and Special Committees in key priority areas that have already been identified.

Intellectual Property Regime

The rapid emergence of innovations does not match the level of efforts put in awareness creation on industrial property rights, commercialization and patenting. Consequently, start-ups and innovators run the risk of losing benefits accruing to their innovations as seasoned players in the private sector take over their ideas and products for patenting and commercialization.

Monitoring and Evaluation Framework

The rapid emergence of innovations does not match the level of efforts put in awareness creation on industrial property rights, commercialization and patenting. Consequently, start-ups and innovators run the risk of losing benefits accruing to their innovations as seasoned players in the private sector take over their ideas and products for patenting and commercialization. There is need for awareness creation and advocacy in the Kenya research ecosystem as regards intellectual property (IP) development and protection.

Further, curriculum enhancement as well as customizable tools and templates for IP management and exploitation should be embedded in institutions of higher learning to ensure students are well exposed to exploit their intellectual and innovative capacity.

Conclusion

The availability of a robust STI system and efficient inclusive STI policies and strategies are of crucial importance during the global crisis, such as the COVID-19 pandemic.

The key institutions in the STI Ecosystem, NACOSTI, KENIA and NRF will be strengthened for effective implementation of programmes in STI in the post COVID-19 era. The need for International collaboration between scientists and experts cannot be overemphasized as this would facilitate a faster building of scientific and technological consensus that would then inform decision making and action by policy makers. Key policies and implementation frameworks will be developed or reviewed in consultation with stakeholders.

VISIT BY REPRESENTATIVES OF EMBASSY OF FRANCE AND FRENCH RESEARCH INSTITUTIONS

On Wednesday 27th January 2021, the Director General, Prof. Walter Oyawa hosted a team from the Embassy of France and three French research institutions with operations in Kenya namely, the French Agricultural Research Centre for International Development (CIRAD), the French Institute in Africa (IFRA) and the French Research Institute for Sustainable Development (IRD). The team was led by Dr. Mathieu Guerin, Attaché for Science and Higher Education at the Embassy of France in Kenya. The purpose of the meeting was to share information on the cooperation between France and Kenya in research and training in higher education, and to identify opportunities for partnership in strengthening research in accordance with the provisions of the Science, Technology and Innovation (STI) Act of 2013.



Figure 27: Visit by Representatives of Embassy of France and French Research Institutions, Wednesday 27th January 2021

From the discussions, it emerged that the French government has been supporting numerous research projects in Kenya under collaborative agreements with universities, research institutions

and the Ministry of Education. There are many programmes supporting students from the two countries to undertake their studies in respective institutions of higher education. It was observed that there is need to have a systematic way of documenting the research activities being undertaken under the French-Kenya cooperation to enable NACOSTI's reporting to the Cabinet Secretary in charge of Education on the status of research in the country.

The team was briefed on the requirements for research licensing and registration of research institutions as provided in the STI Act 2013. This was found to be an important area since there are French students and researchers who require research permits to undertake their research in Kenya. Further, the French research institutions operating in Kenya were encouraged to seek registration to access opportunities for sharing their work, offer affiliation to foreign researchers and host research ethical review committees.

There were concerns on the research licensing fees which sometimes inhibits researchers particularly students who are interested in conducting research in Kenya but cannot afford to pay the USD400. The issue of multiple research licensing requirements which sometimes causes delays particularly for donor funded projects which are time-bound was also discussed. It was agreed that there is need for further engagement to resolve the two outstanding issues to facilitate researchers who have an interest in undertaking studies in the country.

VICE PRESIDENT FOR SCIENCE AND TECHNOLOGY AND HEAD OF NATIONAL ELITES FOUNDATION, IRAN H. E. SOURENA SATTARI MEETS CHIEF ADMINISTRATIVE SECRETARY AND PRINCIPAL SECRETARY - MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY TO DISCUSS PARTNERSHIP ON STI PROMOTION



Figure 28: From Left: H.E Jafar Barmaki, vice President Sourena Sattari, S. Ahmadreza Alael and other delegates; Right Top: CAS, Ms Mumina Bonaya, PS, Amb. Simon Nabukwesi; Right Bottom: Dr. Mwangi, Prof. Walter Oyawa, Mr. Darius Ogutu

The Vice President for Science and Technology and Head of National Elites Foundation, Iran H. E. Sourena Sattari, accompanied by H.E. Jafar Barmaki, Ambassador to Kenya and Director General, Technology Exchange office and a delegation of experts in Innovation and Research paid a courtesy call to the office the cabinet secretary Prof. Magoha on 26th January 2021 at Jogoo house. They were received by CAS, Ms Mumina Bonaya, PS, Amb. Simon Nabukwesi, Personal Assistant to CS Maghoha, Mr. Machogu, Director General (NACOSTI) Prof. Walter Oyawa, Director of Higher Education Mr. Darius Ogutu, Director, Directorate of Research Science and Technology Dr. Mwangi, Ag. Chief Executive Officer, National Research Fund (NRF) Dr. Jemimah Onsare, Chief Executive Officer, Kenya National

Innovation Agency (KeNIA), Dr. Omwansa and other technical experts from the different Agencies.

The Chief Administrative Secretary, Ms. Mumina Bonaya, welcomed the visitors and appreciated that they paid a courtesy call to the ministry to discuss matters of collaboration and partnerships in Science, Technology, and Innovation. She acknowledged the earlier visit by the Ambassador to NACOSTI and requested Prof Oyawa to give a summary brief and highlights of what was discussed then. Prof. Oyawa informed the delegation that during the visit to NACOSTI by H.E Jafar, the two identified areas of common interest and priorities for the two countries which included STEM education and training in new and emerging technologies, Technology transfer and commercialization and Nanotechnology as one of the emerging technologies. He also highlighted the priorities by the Iranian ambassador which included operationalizing the Iran House of Innovation and Technology Centre (Innovation Hub), Nanotechnology training project and Trainer of Trainers (TOT) project. The Iranian Ambassador indicated that he wanted to fast track the implementation of prioritized projects. Prof. Oyawa noted that they agreed a way forward was to establish a coordinating multi-sectoral and multi-agency team under the leadership of the Cabinet Secretary, chaired by both the PS and Iranian Ambassador and secretariat by NACOSTI to roll out programs and activities.

H. E. Sattari acknowledged the warm welcome he received and informed the members that he was in Kenya two years ago following the same agenda of pursuing collaboration and partnerships in Science and Innovation. He reinforced that the purpose of the visit was to discuss more on cross cutting issues in the Science, Technology and Innovation ecosystem between Kenya and Iran particularly to strengthening cooperation and partnerships between the Innovation hub at Iranian Embassy in Nanotechnology Education and training and Kenyan companies.

He informed the delegation that Iran had established cooperation with three Kenyan Universities and are ready to roll-out trainings in Nanotechnology at a master's level this year (2021) beginning in September after the approval by the CS. He requested the CS to consider fast tracking the approval process since the universities are ready to commence the program in September 2021. He also noted that Iran has highly developed ecosystems in technologies in Science, Innovation and Education (Innovation centers or science Parks, Capital ventures or education (in Nanotechnology, oil, and gas). He requested Kenya to select and focus one ecosystem from which they can develop collaborations and partnerships with Iranian counterparts. He noted that they produce highly specialized instruments and chemicals for laboratories. Kenya should try and explore on how they can get partner with them.

Amb. Nabukwesi expressed his appreciation and apologized for not meeting H.E Amb. Jafar when he visited NACOSTI. He acknowledged that Iran is advanced in science especially in fields such as pharmaceuticals and medicine more than India where

most Kenya seek medication. He emphasized that Kenya was ready to partner and collaborate with Iran. This was confirmed by the presence of all heads of departments and agencies responsible for university education and research in Kenya. He highlighted some areas of focus like dry farming which can be pursued by universities in collaboration with willing partners and that NACOSTI, NRF, KeNIA and universities are willing to develop respective partnerships and collaborations.

H. E. Sattari informed the Kenyan delegation that they could explore seeking funding from their biggest funding agencies, National resource fund and Innovation fund for start-up projects. It was agreed to have collaborations at two different levels: Government to Government and Agencies to Agencies of similar interests (NACOSTI, NRF, KeNIA and Universities each to form collaborations with similar institutions from Iran)

In conclusion it was agreed that a coordinating team will be established through the guidance of the CS. The team will be chaired by PS Amb. Nabukwesi and the secretariat to be NACOSTI. The office will also guide the engagement between the two countries and the roll-out of programs. Iran offered to share examples of documents of collaborations they have with China, Russia, Australia etc. to have an idea of how they be engaged. The other alternative was that each institution to develop MoUs with interested parties as they deem suitable. Iranian vice president extended an invite to the Kenya delegation to visit Iran and have a picture of the technologies, resources, and people and the Iranian ecosystem in the context of what was being discussed.

STI AS FRONTLINE FORCE IN RESPONSE TO COVID-19

Investment in Science, Technology and Innovation (STI) is essential for economic development and social wellbeing of society. This is according to Director General, National Commission for Science, Technology & Innovation, Prof. Walter Oyawa.



Figure 29: Participants during the 15th JKUAT Scientific, Technological and Innovation Conference

He said research was an enabler of STI and that there was need for academia and research institutes to increase investment in research of STI for the betterment of society.

Prof. Oyawa, who was the Chief Guest during the 15th JKUAT Scientific, Technological and Innovation Conference, said although the COVID-19 pandemic has ravaged the globe taking its toll on the research ecosystem, he was impressed by the increase in Research and Development (R&D) and innovation efforts in developing vaccines, diagnostics and treatment.

“Covid-19 pandemic has reaffirmed the vital role of Science, Technology and Innovation to mitigate the virus while at the

same time cushioning the impact of the scourge on households,” attested Prof. Oyawa.

Acknowledging that the pandemic is here to stay, the Director General urged researchers to think outside the box and leverage on emerging technologies such as big data, artificial intelligence and robotics, to keep the economy and society operational during the pandemic.

He implored on the university researchers in collaboration with peers across the globe to take centre stage and guide the adoption of technologies in the fight against COVID-19 saying, “our institutions such as JKUAT, will need an advance digital framework to keep pace with the pandemic by initiating a systematic approach to digital transformation.”

To be effective, Prof. Oyawa however conceded that infrastructure development, technology transfer in both public and private R&D need to be nurtured and regulated through effective STI policies.

“The need for institution collaboration is extremely important. These collaborations should be multi-disciplinary and utilize a quadruple helix approach, engaging the government, university, industry and civil society,” said the Director General.

Echoing the Chief Guest, Vice Chancellor Prof. Victoria Wambui Ngumi, said as the globe enters the uncharted territory brought about by the pandemic, universities and research institutions need to reinvigorate research and innovation.

“We need to innovate, reach out to new partners, re-engage and build synergies across the board. If we can pull together and generate renewed momentum in the areas of physical, medical and social sciences, agriculture, environment and technology, we can reignite passion and the zeal for research and innovation, hence, achieve sustainable development for our countries,” said Prof. Ngumi in a speech read by Deputy Vice Chancellor, Prof. Bernard Ikua.

On the conference, Prof. Ngumi said, it is an important event in JKUAT’s academic calendar and serves as a rich opportunity for researchers and scholars to share their findings with peers and other stakeholders, both nationally and internationally.



Figure 30: JKUAT researcher hard at work

“I implore on you to effectively and efficiently present and interrogate one another’s paper. Let us be aware that we are indeed addressing felt needs identified in the society. Keep in mind that each of the papers being presented in this forum is a testimony of commitment and hard work by the scholars involved,” Prof. Ngumi told the gathering.

On her part, the Deputy Vice Chancellor, Research, Production and Extension, Prof. Mary Abukutsa said for science and research to make an impact, there must be synergy between basic, applied, economic and social science to help leverage the developed technologies and effective communication to the public.

“The conference gives an avenue to disseminate the research outputs to all stakeholders and provides an opportunity for multi-disciplinary interaction as evidenced by the diversity of the subthemes,” said Prof. Abukutsa.

The conference being held virtually, March 25-26, 2021, in strict observance of the COVID – 19 containment measures, attracted stakeholders from academia, government and private sector to discuss a wide range of issues aimed at refocusing research, innovation and entrepreneurship for excellence in higher education in the era of COVID-19.

The theme, *“Refocusing Research, Innovation and Entrepreneurship for Excellence in Higher Education in the Era of COVID-19”* resonates well with the JKUAT vision of being a University of global excellence in training, research, innovation and entrepreneurship for development,” said Dr. John Kinyuru, the Director, Research.

The conference attracted over 260 participants from over 15 countries namely Kenya, Uganda, Tanzania, Zimbabwe, Zambia, Zanzibar, Cameroon, Belgium, Germany, Japan, Finland, Ethiopia, UK, Mauritania and USA.

Source: <http://www.jkuat.ac.ke/sti-as-frontline-force-in-response-to-covid-19/>

NAGOYA 10TH ANNIVERSARY AND LAUNCHING OF LAKE BOGORIA NATIONAL RESERVE MANAGEMENT PLAN 2019 TO 2029



Figure 31: Professor Walter Oyawa the DG NACOSTI making remarks during the celebrations of Nagoya Protocol 10th anniversary and the Launch of Lake Bogoria National Reserve Management Plan, 2019-2029 on 5th November 2020 at Lake Bogoria Spa Hotel in Baringo County

The Director General NACOSTI and Dr. Benson Mburu of Earth and Space Sciences Schedule, NACOSTI had been invited by the Governor Baringo who was hosting the celebrations of Nagoya Protocol on Access Benefit Sharing (ABS) 10th anniversary. Nagoya protocol on Access Benefit Sharing (ABS) and Cartagena

Protocol on Biosafety are the two protocols under the United Nations Convention of Biological Diversity (UNCBD) which Kenya is a signatory hence part of our domestic laws as per our constitution. NACOSTI and its precursor NCST has been participating in the Global and National meetings held bi-annually, and was the focal point for Cartagena Protocol on Biosafety from 2003 to 2009 when NBA was established and the focal point moved to NBA. During the period NCST hosted the National Biosafety Committee that developed the National Biotechnology Development Policy of 2006 and the Biosafety Act of 2009. NACOSTI is one of the implementing agencies of the Nagoya Protocol that fulfills the third objective of the UNCBD on Access Benefit Sharing (ABS) of Genetic Resources for research and associated purposes. Other players include NEMA, KWS, KEPHIS, KFS, DVS, NMK, County Governments and Local Communities. Nagoya protocols is assisting developing countries to provide their Genetic Resources (GR) and Traditional Knowledge (TK) with legally bidding and globally acknowledged Materials Transfers Agreements (MTAs) that captures Mutually agreed Terms (MAT) and Prior informed Consent (PIC) signed by County Governments on behalf of local communities who owns the GR and holds the TK.

The meeting also launched the Lake Bogoria National Reserve Management Plan, 2019-2029. The plan was developed through participatory process involving the Endorois Welfare Council

(EWC) representing the Indigenous Endorois Community around Lake Bogoria, Baringo County Government (BCG) and Kenya Wildlife Services (KWS). The funding was provided by GEF and implemented by UNEP through KWS in a project titled *“Developing the Microbial Biotechnology Industry from Kenya’s Soda Lakes in line with Nagoya Protocol”*. GIZ Access Benefit Sharing (ABS)-Initiative, through Endorois Welfare Council (EWC) funded the Bio-cultural Protocol (BCP) and some of the Community engagement Process.

During his remarks, Prof. Oyawa thanked the organizers of the celebration for a job well done, and informed participants that NACOSTI as the regulator of STI Sector is happy to be associated with development agenda in the counties. He informed participants of NACOSTI’s mandate, as well as its key functions that include licensing research and registering Research Institutions. Prof. Oyawa noted that NACOSTI has stream-lined the licensing process for research, and registration of research Institutions. He further stated that NACOSTI is ready to engage stakeholders to extensively promote research work and Science, Technology and Innovation activities in Kenya, especially in the wake of COVID 19 pandemic. The occasion was also graced by the CAS Ministry of Tourism and Wildlife RTD. Inspector General of Kenya Police Service Mr. Joseph Kipchirchir Boinnet and the Principal Secretary Professor Fred Segor.

PS STATE DEPARTMENT OF UNIVERSITY EDUCATION AND RESEARCH – AMB. SIMON NABUKWESI MEETS CEOS OF SAGAS BASED AT NACOSTI BUILDING



Figure 32: From Left to Right: Mr. Geoffrey Monari (Universities Fund Board), (KNQA), Dr. Jemimah Onsare (NRF), Prof. Dorington Ogoi (National Biosafety Authority), Amb. Simon Nabukwesi (PS – UE&R), Prof. Walter Oyawa (NACOSTI), Dr. Tony Omwansa (KENIA)

The Principal Secretary, State Department for University Education visited NACOSTI Headquarters on 10th February 2021 to get firsthand knowledge on progress made towards relocation of several SAGAs to NACOSTI Building. Present during the visit were the Director General, NACOSTI as the host, CEOs of Universities Fund, KNQA, NRF, National Biosafety Authority and KENIA. In his remarks during the joint meeting, the Principal

Secretary-SDUER thanked NACOSTI Management for accommodating the SAGAs and facilitating their comfortable stay. He noted that the SAGAs had settled well, where some had already partitioned the space allocated. He noted that his Ministry will make effort to assist SAGAs wherever necessary. In response, the host of the meeting, Prof. W. Oyawa thanked the Principal Secretary for finding time to visit NACOSTI Headquarters to share his words of wisdom. He noted that the relocation of SAGAs has facilitated a near one-stop-shop/service of key agencies in the Science, Technology and Innovation (STI) sector.

NACOSTI MANAGEMENT SUBMITS REVISED DOCUMENTS TO SRC / SCAC



The Salaries and Remuneration Commission (SRC) commenced the Job Evaluation for the FY 2021/2022 to 2024/2025 for all State Corporations effective September 2020. Management with blessings from the Board, proposed a review of Key HR Policy Instruments, namely; Organisational Grading and Structure, Staff

Establishment, Career Guidelines and Human Resource Management Policy and Procedure Manual.

In October 2020, a Job Evaluation Committee was constituted to review the HR Instruments to facilitate enhanced job evaluation results and grading by SRC. The exercise entailed evaluation of 147 jobs for submission to SRC, completion of Job Description Template as provided by SRC, completion of substantive changes in Job Description content, completion of Job Description Analysis Committee report; and validation and sign-off of the Job Description manual by the Director General and Head of Human Resource.

Out of the exercise, the Organisational Grading and Structure, Staff Establishment and Career Guidelines documents were completed save for the Human Resource Policy and Procedures Manual which was still pending approval by the Board. The documents were submitted to SRC before the set deadline of 31st December 2020.

The Job Evaluation team was successfully led by Prof. Walter O. Oyawa, the Director General and was made up of the following members:

- | | | | |
|----|---------------------|----|----------------------|
| 1 | Mr. Godfrey Kalerwa | 7 | Mr. Stephen Situma |
| 2 | Mr. Gideon Kirui | 8 | Ms. Jennifer Murgor |
| 3 | Mr. Patrick Kurui | 9 | Ms. Esther Mbula |
| 4 | Mr. Boniface Wekesa | 10 | Ms. Christine Kayesi |
| 5 | Ms. Margaret Muthee | 11 | Ms. Millicent Okuku |
| 6. | Ms. Yasmin Hussein | | |

COURTESY CALL BY PROF. WALTER OYAWA DIRECTOR GENERAL TO UNIVERSITIES AT THE COAST

The Director General Prof. Walter Oyawa made courtesy visit to three universities (Pwani, Taita Taveta and Technical University of Mombasa) in the coast regions between 18th and 20th August 2020.



*Prof. Fred Simiyu Barasa
VC, Taita Taveta University*



*Prof Laila Abubakar
VC, Technical University of
Mombasa (TUM)*



*Prof. Mohammed S.
Rajab, PhD, EBS
VC, Pwani University*



*Prof. Walter O. Oyawa, PhD
Director General/CEO - NACOSTI*



*Mr. Bonface Wekesa
Ag. Director, Research, Accreditation and
Quality Assurance- NACOSTI*

During this visit the Director General held discussions with the Vice Chancellors and top management of each of the Universities. The Vice Chancellors shared with the Director General some of the research activities that taking place within their respective institutions and measures that they had put in place to mitigate

against the effects of COVID -19 Pandemic. The Director General on his part took the opportunity to outline the functions and mandate of NACOSTI as espoused in the STI Act 2013. He further briefed them on the on-going retreat of the Commission at the Pridelnn Paradise Beach Resort that was developing key documents that were crucial for the Science and Technology Sector as follows:

A Concept for proposing to establish a Science, Technology, Innovation and Research Network (STIRN). The 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 would benefit all sectors.

Review of STI policy that had been reviewed severally to align it to the Science, Technology and Innovation Strategy for Africa (STISA-2024) and the United Nations Sustainable Development Goals

STI Implementation Framework as a separate comprehensive document to track the progress of its implementation. The Framework was to identify the key institutions in the S&T sector and assigns them responsibilities based on the eight strategic issues which were identified in the ST&I Policy

Science and Technology indicators to guide the conduct of R&D and National Innovation (NI) surveys to track the status of R&D and innovation in the county.

The Kenyan STI Roadmap for SDGs an initiative that was being led by the State Department for Planning, (under the National Treasury), which is responsible for all matters related to SDGs and NACOSTI, the government agency responsible for Science, Technology and Innovation policy advisory.

The S&T sub-sector response strategy to COVID 19 pandemic which would propose programmes for addressing the pandemic and the policy, legal and institutional framework for the response.

NACOSTI response to COVID-19 Pandemic. Just like the other government institutions the Commission has had to adjust its operations to respond to these effects and is planning for the Post-COVID period

ADDITIONAL AGENCIES WITHIN THE MINISTRY OF EDUCATION RELOCATE TO NACOSTI BUILDING

NACOSTI Building constructed with support from the Government was aimed at providing adequate and conducive office space for NACOSTI. In addition, it was envisaged to provide a one stop shop Science Hub where science, technology and innovation institutions could have a home.

This vision was partially realized when the following two institutions were allocated space in the NACOSTI Building:

1. National Biosafety Authority (NBA)
2. Universities Fund (UF)



NATIONAL BIOSAFETY AUTHORITY
Championing for a Biosafe Nation

The two institutions moved into the building at the beginning of 2021 with NBA taking up the whole of second floor; Universities Fund taking up one wing of 1st floor. The presence of these institutions at NACOSTI building will enhance synergies in addressing common issues in the Science, Technology and Innovation sector.



Figure 33: Welcome e-shot Message

KENYA DISCUSSES CONFIDENCE-BUILDING MEASURES UNDER BIOLOGICAL WEAPONS CONVENTION

On 1 April 2021, the Implementation Support Unit (ISU) of the Biological Weapons Convention (BWC) and Kenya's National Commission for Science, Technology and Innovation (NACOSTI) co-hosted an online workshop on confidence-building measures under the BWC.



Figure 34: Figure 33: H.E. Dr. Cleopa Kilonzo Mailu, EBS, EGH

Confidence-building measures (CBMs) are designed to prevent or reduce the occurrence of ambiguities, doubts and suspicions and to improve international cooperation in the field of peaceful biological activities. The workshop's aim was to highlight

practical ways to prepare and submit CBMs and explore how such measures benefit Kenya's implementation of the Convention.

"The COVID-19 pandemic has demonstrated the continued importance of the BWC and of international cooperation in this context", said the Permanent Representative of Kenya to the United Nations in Geneva and the current Chairperson of the BWC Meeting of States Parties, Ambassador Cleopa K. Mailu. In his opening remarks, the Ambassador added that Kenya remains actively engaged and committed to the goal of achieving the Convention's full implementation and universalization. The workshop, he concluded, would aim to further strengthen collaboration to this end at the national level and across borders.

Amb. Simon Nabukwesi, Principal Secretary, State Department for University Education and Research, echoed in his remarks, which were read out by NACOSTI's Director General, the hope to support the BWC's implementation and universalization. "This activity is part of our ongoing outreach, sensitization and training

efforts among national stakeholders on matters related to the BWC, biosafety and biosecurity”, Amb. Nabukwesi said.



Figure 35: Figure 35: Online "Training Workshop on the Preparation and Submission of Confidence Building Measures (CBMs) under the #BiologicalWeaponsConvention" for experts in Kenya.

Next, experts from the BWC Implementation Support Unit and National Commission for Science, Technology, and Innovation (NACOSTI) spoke with counterparts from South Africa and Switzerland about the role of CBMs under the BWC. They also shared experiences and best practices on how to prepare and submit such measures.

The workshop was attended by more than 100 participants active in the health and security sectors, as well as in research,

academia, and other relevant areas. Prof. Walter Oyawa - Director General, NACOSTI, expressed confidence that information from the workshop would help position the participants to actively contribute and benefit from the national CBMs preparation process.

Additional national events to further enhance Kenya's implementation of the Convention are planned for later this year.

The Biological Weapons Convention is the first multilateral disarmament treaty banning an entire category of weapons of mass destruction. It entered into force on 26 March 1975 and currently has 183 States parties. Kenya acceded to the BWC in 1976. The CBM system was introduced in 1987, following a decision by the Second Review Conference in 1986.

ON SENSITIZATION OF INSTITUTIONS ON ESTABLISHMENT OF RESEARCH CONSORTIA AND STI NETWORKS

NACOSTI is in the process of establishing Research Consortia and various STI networks and therefore the need to sensitize stakeholders such as universities, hospitals and research institutions on the upcoming stakeholder's engagement. The Director General, NACOSTI, accompanied by Dr. Stephen Karimi and Ms. Joan Chepleting paid a courtesy call to universities in the Rift Valley.



Figure 36: The Director General, NACOSTI Prof. Walter Oyawa paid a courtesy call to the University on 29th September 2020, where he was received by the University Vice-Chancellor Prof. Teresa Aken

Sn.	Institution	Date	Time
1.	University of Eldoret (UoE)	29th September 2020	10:00 am – 12:00 noon
2.	Moi Teaching and Referral Hospital (MTRH)	29th September 2020	2:00 pm – 4:00pm
3.	Moi University	30th September 2020	10:00 am – 12:00 noon

National Commission for Science, Technology and Innovation (NACOSTI)



Figure 37: Figure 34: Prof Walter Oyawa, Director General NACOSTI, paid a courtesy call on Moi Teaching and Referral Hospital's (MTRH) CEO Dr. Wilson K. Aruasa, MBS, at the MTRH offices in Eldoret on 29th September 2020

The key documents discussed by the DG, include: The operationalization of the National Research Priorities (NRP), ST&I policy and its implementation framework, ST&I indicators, ST&I roadmap for SDGs, ST&I response to COVID-19 and post – COVID-19, Constitution of National Steering Committee which has five consortia, 4 on Big 4 Agenda and 1 on Research and ST&I Research Network.

NACOSTI RETREAT FOR FINALISATION OF POLICY DOCUMENTS AT KISUMU HOTEL, KISUMU CITY FROM 20TH TO 24TH FEBRUARY 2021

Introduction

The purpose of the retreat was to finalize on policy documents; HR instruments; the draft HR instruments included the;

(1) Organizational Structure and Grading, (2) Establishment (3) Career Progression Guidelines, and (4) HR Manual. The retreat was also meant to review and update NACOSTI's Strategic Plan. Another objective of the retreat was to train senior staff on effective proposal writing.



Figure 38: Principal Secretary, State Department for University Education, Amb. Simon Nabukwesi (left) and Prof. Walter Oyawa giving their presentations during the retreat

DG's Opening Remarks

He welcomed the members to the retreat. The committee leading the review of the HR Instruments is being headed by Mr. Godfrey Kalerwa and will be guided by SCAC members present in the retreat.

The committee doing the review of the NACOSTI's Strategic Plan was being headed by Dr. David Njubi and will be guided by a consultant, Mr. Absalom.

The resource mobilization committee was being trained on effective proposal writing. The current released budget was cut by 30 million for the remainder of this financial year. All

senior staff therefore are expected to resource mobilize for further resource mobilization after the training availed during the retreat.

PS Speech

The PS appreciated the importance of the retreat and his engagement. He insisted in the need for staff to improve on Performance Contracting. The PC evaluations done in some government institutions after 2016 are very minimum and some are not done at all. He advised NACOSTI to be more visible and impactful in the research ecosystem. He commended the Partnerships that DG has commenced like the Richard Leakey Research Fund Programme, the Centre for Genetic Engineering etc. and encouraged that we see them through to mutual valuable outcomes.

Retreat Outcomes

- The committee on HR Instruments was able to review the (1) Organizational Structure and Grading, (2) Establishment (3) Career Progression Guidelines, and (4) HR Manual. and present to NACOSTI management for final inputs.
- The committee doing the review of the NACOSTI's Strategic Plan was being able to make some key reviews and updates on NACOSTI's strategic plan,
- Senior staff were trained on effective proposal writing to sharpen their skills on resource mobilization.

UNESCO SIGNS LETTER OF INTENT WITH NACOSTI AND ACTS FOR COLLABORATION IN SCIENCE, TECHNOLOGY AND INNOVATION



The United Nations Educational, Scientific and Cultural Organization (UNESCO) Office for Eastern Africa, the National Commission for Science, Technology and Innovation (NACOSTI) and the African Centre for Technology Studies (ACTS) recognise that the achievement of the United Nations Sustainable Development Goals (the “SDGs”) requires a concerted alliance between inter-governmental organisations, governments, non-governmental organisations and private sector entities. UNESCO, NACOSTI and ACTS wish to combine forces and actively collaborate, so that each party brings its competencies and skills to contribute, in an effective manner, to the achievement of the SDGs.

Following discussions held between the Natural Science Sector Team of the UNESCO Field Office in Nairobi and the senior leadership of NACOSTI and ACTS around a possible collaboration on advancing the use and application of science, technology and innovation in Kenya’s sustainable development agenda, this Letter of Intent highlights the opportunities to be explored by the Parties. The letter of intent came into effect on 20 November 2020.

The Parties have identified the following areas as initial priorities to build a strong partnership:

- Collaborate in establishing national STI baselines and database platform.
- Promote capacity building on STI indicators and development of STI policy instruments.
- Collaborate in the development of national STI policies, STI Priority activities, and investment plans.
- Coordinate the establishment and sustenance of a National Policy Platform on STI (NAPSTI).
- Collaborate in research on STI.
- Promote the adoption of STI in driving key sectors of Kenya’s economy.
- Coordinate efforts to promote STI catalytic programmes on gender and youth empowerment.
- Coordinate efforts to promote STEM education.
- Coordinate STI policy development and implementation efforts.
- Collaborate in STI awareness creation.
- Collaborate in resource mobilization.
- Coordinate monitoring and evaluation exercises; and
- Expert collaboration and exchange.

ROAD SAFETY



Figure 39: Road safety Banner

This Financial Year, the Performance Contracting Secretariat included Road Safety Mainstreaming as the latest cross cutting issue, to be coordinated by the National Transport and Safety Authority. In response, NACOSTI established a Road Safety Mainstreaming Committee, to coordinate road safety initiatives within the Commission. The Committee committed to a number of deliverables under this item. One such target was the participation in events organized by the National Transport and Safety Authority, one of which is the observance of the World Day of Remembrance of Crash Victims (WODR).

The World Day of Remembrance of Crash Victims is a day set aside by the United Nations General Assembly, dedicated to remembering the many millions killed or injured in road crashes, their families, communities as well as to pay tribute to the dedicated emergency crews, police and medical professionals who daily deal with the traumatic aftermath of road death and injury (indeed, close to 1.3 Million lives are lost worldwide and another 52 million are injured).

The event further offers an annual opportunity to increase public awareness on the burden of road traffic crashes on our nation, and to emphasize the need to promote efforts to manage this Socio-economic and public health challenge. Locally, about three thousand lives are lost annually due to road crashes and many more injured, all leading to a loss of about KShs 300 billion or at least 5% of our GDP. It is therefore not an understatement to say that we are all affected by the Road Crashes. The day is observed every third Sunday of November annually. This year's event shall be marked on the 15th of November 2020. There will however be no major physical event because of the current Covid protocols. The theme for this year's event is **REMEMBER, SUPPORT, ACT**.

REMEMBER those we have lost through road traffic injuries (RTIs), **SUPPORT** road traffic injury victims including the families who have lost their loved ones to RTI **ACT** by doing something practical within your capacity towards the reduction of RTIs.

NACOSTI through its Road Safety Mainstreaming Committee has prepared and will share some key road Safety messages with staff and partners by running them on its website and social media and posting them on other strategic areas such as the parking bays, reception areas and other entry points before, during and after the 15th of November 2020.

As road users, our wish is that we shall all join hands to make our roads safer. Do not hesitate to share any helpful feedback.

RESEARCH NEWS FROM THE WORLD

BIDEN TO ELEVATE SCIENCE ADVISER TO HIS CABINET

President-elect Joseph R. Biden Jr. announced on Friday that he will elevate the role of science in his cabinet as part of an effort to “refresh and reinvigorate our national science and technology strategy.”



Figure 40: Eric Lander has been nominated by President-elect Joseph R. Biden Jr. to serve as presidential science adviser

Mr. Biden will nominate Eric S. Lander, the director of the Broad Institute of M.I.T. and Harvard, to serve as director of the Office of Science and Technology Policy, and also appoint him to serve as

presidential science adviser. For the first time, the position will be elevated to the cabinet level.

The appointments signal a drastic switch from the role of science in the Trump administration. President Trump left the position of science adviser empty for 18 months, while his administration routinely ignored the guidance of government scientists on issues including the coronavirus pandemic, chemical pollution and climate change.

Mr. Biden has made other White House appointments that could elevate the importance of science in decision-making, such as naming John Kerry, the former secretary of state and a Democratic senator, a special presidential envoy on climate change, and creating a new White House Office of Climate Policy led by Gina McCarthy, who served as the administrator of the Environmental Protection Agency under President Barack Obama.

“Eric Lander is a true Renaissance scientist in his broad grasp of the many fields of science and their interrelationships,” said Marcia McNutt, president of the National Academy of Sciences. “At a time when the nation and the world face complex challenges that will require harnessing the full power of physical, life, environmental, social, biomedical and engineering sciences, Eric is an inspired choice of a scientist of international stature to ensure that science guides sound policy.”

In Friday’s announcement, Mr. Biden also announced that Alondra Nelson, a professor at the Institute for Advanced Study in Princeton, N.J., and president of the Social Science Research

Council in Washington, D.C., will serve as deputy director for the Office of Science and Technology Policy.

Frances H. Arnold and Maria Zuber will serve as the external co-chairs of the President's Council of Advisors on Science and Technology, a council of prominent eminent volunteer experts from outside the federal government. Dr. Arnold, a protein scientist at Caltech, won the Nobel Prize in Chemistry in 2018, only the fifth woman to do so. Dr. Zuber, vice president for research at M.I.T., was the first woman to lead a NASA spacecraft mission.

"Science will always be at the forefront of my administration — and these world-renowned scientists will ensure everything we do is grounded in science, facts and the truth," Mr. Biden said in his announcement. "Their trusted guidance will be essential as we come together to end this pandemic, bring our economy back and pursue new breakthroughs to improve the quality of life of all Americans. Their insights will help America chart a brighter future, and I am grateful they answered the call to serve."

In 2018, Mr. Trump appointed Kelvin Droegemeier, then vice In a letter to Dr. Lander that Mr. Biden released on Friday, the president-elect recalled how President Franklin Delano Roosevelt had asked his science adviser, Vannevar Bush, a series of questions about how science could benefit the United States. Mr. Biden presented his own queries to Dr. Lander about improving public health, climate change, technology and ensuring that the benefits of science are fully shared by all Americans. "I look forward to receiving your recommendations — and to working with you, your team, and the broader scientific

community to turn them into solutions that ease everyday burdens for the American people, spark new jobs and opportunities, and restore American leadership on the world stage," Mr. Biden wrote.

Mr. Biden and Vice President-elect Kamala Harris will introduce Dr. Lander, Dr. Nelson, Dr. Arnold and Dr. Zuber at a live event at 1:30 p.m. Eastern time on Saturday in Wilmington, Del.

Source: The New York Times

NACOSTI STAFF NEWS

NACOSTI BIDS FAREWELL TO RETIRED STAFF

The following employees have left service since January 2019 to date.

1. Dr. Roy Bundi Mugiira – Left Service upon End of Contract Term (Director, Scheduled Sciences)
2. Emily Moraa Ongaga – Left Service upon End of Contract Term (Director, Corporate Services)
3. Dr. Stephen Karimi Kibiru – Left Service upon End of Contract Term (Director, Research, Accreditation & Quality Assurance)
4. Fredrick Magu Kagoiya – Retired Records Management Officer
5. Lucy Waithira Mbugua – Retired Office Administrator
6. John Bore - Retired Senior Driver
7. Philip James Olualo – Retired Accounts Assistant
8. Jane Lugonzo – Retired Records Management Officer
9. John Gitau Karau Accounts Assistant
10. Henry Agamu Kidiavai - Retired Senior Customer Care Assistant
11. Samuel Mugane – Retired Internal Auditor

NACOSTI wishes them all the very best in their future endeavors and the next season of their lives.

STAFF ON APPOINTMENTS

In strengthening the Human Resource capacity and better service delivery at the Commission, the following were appointed to the positions indicated effective 1st April 2021;

The Management congratulates them on their appointments and welcomes them to the NACOSTI family with best wishes in their careers.



Mr. Rollex Opondo Records Management Officer



Mr. Phelix Onyango Pire - Records Management Officer



Ms. Ruth Moraa Asati - Senior Customer Care Assistant



Ms. Lourine Auma Okello - Accounts Assistant



Mr. Abdi Ibrahim - Senior Driver

Mr. Rollex Opondo was also appointed to the position of Records Management Officer effective 1st April 2021. Rollex has been serving as a Records Management Officer in Licensing, Monitoring and Evaluation (LM&E) since 1st October 2019 and on his appointment moved to Administration Division, Registry. The Management takes this opportunity to congratulate Rollex Opondo on his appointment.

NACOSTI STAFF TEAM BUILDING – NOVEMBER 2020

Team Building exercise by NACOSTI Staff held at PrideInn Paradise Beach Resort and Spa, Mombasa on 12th November 2020.

“TEAMWORK coming together is a beginning, keeping together is progress and working together is success – Henry Ford”



Figure 41: PS graces retreat for NACOSTI Board and Staff

TEAM BUILDING PICTORIALS





RESOLUTIONS OF PARTICIPANTS IN THE 1ST STI SYMPOSIUM

RESOLUTIONS/RECOMMENDATIONS



Figure 42: Figure 10: A few Participants following the proceedings physically.

We, the participants of the 1st National STI Symposium held as from 9th to 11th November, 2020 now therefore commit and make resolutions/recommendations as follows;

MITIGATING COVID-19 Pandemic

1. There is need to adequately invest (from Exchequer, private sector, and development partners) in multi-disciplinary multi-sectoral scientific research, and to Leverage on STI Frontier and Emerging Technologies

with a view to finding STI based solutions on how to combat COVID-19 and other diseases, focusing on mitigation, prevention, treatment, vaccine and drugs development, contact tracing and modelling, telemedicine, drones for supplies deliveries. Digital communication should be used in meetings and e-learning. While social aspects like public perception on the use of masks and social distancing should be researched on.

2. There is need to develop an STI-based National Pandemic Disaster Management Strategy (starting with COVID-19 Strategy) that includes significant scale up of support to the vulnerable communities on the frontline of any crisis. The Technology-based Disaster Management Strategy should include social aspects of disaster mitigation.

Integrating Rapidly Emerging Technologies/ICT

3. There is need for the establishment of a Special Rapid Documentation Team to record and synthesize any upcoming Technology, and submit periodic reports to NACOSTI for further action and dissemination.
4. There is need to enhance partnerships between the government, the private sector, diaspora, and academia in knowledge management and the use of frontier technologies for disaster prediction, detection, response and relief. The private sector controls significant amounts of personal information in Big Data sets, which are of immense use for the disaster prevention.

Diversification of Stem Education

5. There is urgent need for diversification and transformation in STEM Education and Training to be all inclusive with regard to gender and marginalized areas. This should

be incorporated in a gender transformative STI policy. Further, the impact of COVID 19 Pandemic on STEM Education needs to be identified and mitigated accordingly.

6. Taking cognizance that Africa Union's agenda 2063 needs an interdisciplinary approach to STEM education for the continent to realize the dream for the "Africa we want", and that STEM underpins the objectives of that agenda, it is strongly recommended that STEM Education and Training be approached as an interdisciplinary venture and model where academic concepts are coupled with real life lessons; the interdisciplinary venture and model should enable students to apply what they learn in STEM in the classroom with the issues in the world around them through application, creativity and innovation. Accordingly, there is need to visibly demonstrate the link or similarities between STEM Education and Competency Based

Curriculum as part of Kenya's development blueprint.

Afrocentric Indigenous Knowledge in the Prevention of Emerging Infectious Diseases

7. There is urgent need to amplify the provisions in the Constitution which provide for science, indigenous technologies and intellectual property rights as they relate to ownership of indigenous products and their use by the communities of Kenya. Accordingly, there is need to create a platform for documentation, research and development on indigenous technologies, and the development of drugs and other products and services using indigenous technologies, particularly in line with the National Research Priorities Framework.
8. There is need to repurpose selected traditional drugs for use in mitigating Pandemics, and to establish a Center for bio-assaying the promising plant-based drugs.

Further, there is need for systematic identification and evaluation of traditional Kenyan herbal remedies in order to:

- i. Identify new drugs for commercialization.
 - ii. Evaluate natural products against various diseases.
 - iii. Optimize the potency of any active compounds by derivatisation to make new drugs
9. A framework should be developed to protect any endangered indigenous plants, animals or microbial species. In this regard, a National Science Museum for identifying and preserving various indigenous technological artefacts should be established for the benefit of future generations.

Further, there is need for a Research Consortia and partnership with Counties, universities, colleges and Research Institutes to establish Botanical gardens and Herbarium for conservation and referencing of herbariums critical to social economic development.

Research and Development in Evidence-Based National Development Strategies

10. There is need to expedite the implementation of the approved National Research Priorities Framework by establishing the National Research Steering Committee, Research Delivery Secretariat, Research Consortia, and Special Committees in key priority areas that have already been identified. Relevant agencies should keep updated records of Research and Development activities, as well on funds spent on research, development and innovation activities in the country, and provide annual reports to the Ministry responsible for science and research.
11. The deep dive reforms in higher education should take cognizance of Performance of each university against set targets benchmarked with international best practice. In particular, the reforms should transform Research and Development Systems in Kenya and

promote commercialization of R&D outputs into Kenyan and global socio-economic pathways/markets.

Technology Development And Commercialization

12. There is need to work with Universities, research institutions and private sector to establish Regional Science and Technology Parks to highlight/promote the role and commercialization of indigenous and traditional technologies. In so doing, there is need to ensure that local communities benefit from exploitation of any commercialized technologies in all sectors (herbal medicine, clothing, architecture and food processing among others).
13. There is need to identify STI-based solutions to the challenges facing the communities and the nation at large, and to address the mismatch of knowledge and skills in the job market. In this regard, Research and Academic Institutions need well-defined internal policies that

support, incentivize, encourage and enable commercialization of knowledge and technology. The institutions should establish Technology Transfer Offices (TTOs) and Incubation Hubs to facilitate commercialization.

Promoting Investment and Financing if STI

14. There is need to develop a focused Resource Mobilization Strategy for promoting investments in the STI Sector including funds from the exchequer. Mobilized funds need to be allocated according to national priority areas/activities in R and D, as well as in the Commercialization of research outputs. Funding should target research whose expected outcomes demonstrates viability or potential for prototyping, extension to communities, and/or commercialization.
15. Further, there is need to attract qualified experienced pool of trainers of trainers build the capacity

of scientists and researchers on how develop winning grant proposals to attract funding targeting specific agencies. This will require the involvement of experienced researchers and scholars in multi-disciplinary teams set for research grant application and implementation, in partnership with the Diaspora, private sector and international partners.

16. There is need for a National Revolving Research Loan Scheme to enhance credit access for viable technology and research-oriented start-ups, technopreneurs, researchers and firms that lack alternative funding sources, as a means of growing the Kenyan economy, and generating technology-based jobs.

Intellectual Property Management




17. The relevant agencies (NACOSTI, NRF, KENIA, KIPI, KECOBO and Department of Culture among others) should exercise their mandate as well as collaborate to entrench the identification, development and protection of Kenya's indigenous wealth, knowledge, technologies, genetic resources, biodiversity, cultural heritage and intellectual property rights. There is need for awareness creation and advocacy in the Kenya research ecosystem as regards intellectual property (IP) development and protection. Further, curriculum enhancement as well as customizable tools and templates for IP management and exploitation should be embedded in institutions of higher learning to

ensure students are well exposed to exploit their intellectual and innovative capacity.



Figure 43: Prof. Walter O. Oyawa communicating the symposium resolutions/recommendations

Signed on Behalf of the STI Ecosystem

Director General, NACOSTI.....		Date: 15 th Dec 2020
	Prof. Walter O. Oyawa	
CEO, NRF.....		Date: 14 th Dec 2020
	Dr. Jemimah Onsare	
CEO, KENIA.....		Date: 13 th Dec 2020
	Dr. Tonny Omwansa	

CALL FOR APPLICATIONS FOR THE CREATION OF ICGEB RRC IN KENYA

Background

Kenya's International Obligations

The National Commission for Science, Technology and Innovation (NACOSTI) is mandated to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto. In this regard, NACOSTI continues to play its pivotal and central role of promoting, regulating, advising and coordinating all matters pertaining to Science, Technology and Innovation (STI) in Kenya in line with the STI Act 2013. In particular, STI Act Section 6(1)(a) specifies that the Commission shall develop, in consultation with stakeholders, the priorities in scientific, technological and innovation activities in Kenya in relation to the economic and social policies of the Government, and the country's international commitments. Accordingly, several conventions relating to STI which Kenya has ratified, form part of the legal and Institutional framework of the country as recognized in the constitution of Kenya 2010 article 2(5). NACOSTI on behalf of the government fulfills such international obligations and commitments in performing her functions as stipulated in the STI Act. One such commitment is recognized when the government of Kenya acceded on 30th July 2010 to the statutes that established International Center for Genetic Engineering and Biotechnology (ICGEB) along other 66 governments. As a member of ICGEB, Kenya is one of the 13 member states that are eligible to receive support and participate in the groups' activities. NACOSTI

Director General is a governor and a national liaison Officer of ICGEB.

The International Centre for Genetic Engineering and Biotechnology (ICGEB)

ICGEB is an intergovernmental organization established within the United Nations system to provide the developing world with a centre of excellence in research and training in genetic engineering and biotechnology with a specific focus on solving some of the major problems affecting health, nutrition, agriculture and industrial attachment. ICGEB has been in operation since 1983 and has three of its components established in Trieste Italy, New Delhi India and Cape Town in South Africa. ICGEB Board of Governors comprises a representative from each Member State and meets once a year. The Scientific Council includes Nobel laureates, who support scientific activities and makes recommendations to the Board.

ICGEB Regional Research Centers (RRCs)

At the 22nd session of the ICGEB Board of Governors held in South Africa in 2016 it was decided to explore the interest of Member Countries in establishing ICGEB Regional Research Centers (RRC). An ICGEB RRC is a National Research Centre, or a part thereof, with independent governance, which is shared between the ICGEB and the Member State Government. Its establishment should strictly be guided by the national law of the host. The RRC will contribute to strengthen research skills, knowledge and capacities of the local scientific community while

pursuing specific objectives for research, training, and technology transfer to industry, with the goal of promoting development and job creation which would benefit both the hosting country and the region where the RRC is located.

Main Objectives/Priorities of ICGEB RRCs

The main objectives and priorities of creating an RRC is to:

- i. Perform research at the highest international standards according to the needs of the hosting country and countries in the same geographical area;
- ii. Enhance international cooperation and recruit scientists at the international level.
- iii. Provide platforms for education and training of the highest international standards
- iv. Promote technology transfer to industry to foster the local biotech industry through the creation of start-ups
- v. Enhance the capacity of the scientific community in the geographical region in the field of biotechnology.

Expected Activities

Activities will be agreed upon based on the specific requirements of the host country and/or other countries in the geographical area. All staff and students of the RRC will have access to the ICGEB funding programmes and facilities for advanced experimentation (Genomics, proteomics, High throughput screening, microscopy, and others).

The activities of the RRC will be modeled on those of the ICGEB Component laboratories (in Trieste, New Delhi and Cape Town) and will include:

- a. Scientific research activities in the various fields of molecular genetics and biotechnology, to be agreed with the Host Country
- b. Hosting the activity of 5-10 research groups including international scientists. Some of the PIs of these groups might be seconded from existing national Universities or Research Centres others should be recruited internationally. At least some of the RRC research groups should ideally be involved in translational research and, eventually, in technology transfer to the national and regional biotech industry.
- c. Instituting dedicated Fellowship programmes, through which postdoctoral and PhD fellows will be eligible to receive support and participate in the groups' activities.
- d. Organizing and hosting international meetings, courses and workshops on the topics of greatest relevance to the activities of the RRC, that would attract international experts
- e. Exchange of staff and students to and from the ICGEB Components as required
- f. Provision of technical assistance and know-how to the Hosting country and other regional laboratories

Support and Funding

The decision to establish an RRC should be evaluated in the context of the science and technology development strategy of each country. Funding for an RRC and its activities will be the responsibility of the country hosting the RRC itself, which should be an ICGEB Member State. Within the region, Kenya is the only member State to ICGEB and is represented in the ICGEB Governing Board by the Director General of the National Commission for Science, Technology and Innovation (NACOSTI).

Responsible Institutions

Role of the ICGEB

ICGEB is expected to provide technical, operational, and fundraising support to the RRC, while the ultimate financial responsibility for the initiative will lie with the Hosting country. Throughout the process, the ICGEB will lend its brand and provide assurance of quality to the RRC, ensuring full compliance of the RRC activities with international standards in terms of performance and adherence of the best practices. ICGEB will also provide international visibility for the RRC operations by utilizing its own channels of Communication and dissemination. The ICGEB will collaborate by fundraising, organizing activities and sponsoring participation in the activities of scientists from the least developed countries of the region. The details and modalities of ICGEB support and participation will be defined on a case-by-case basis and specified in Agreements. The ICGEB and the ICGEB RRC will remain independent entities and will have separate legal personalities.

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

The Director General, NACOSTI is Kenya's representative in the Governing Board of ICGEB. Accordingly, the Director General, NACOSTI will spearhead the selection process for a suitable institution to host the ICGEB RRC largely based on ICGEB specified criteria and national priorities. Further, successful institution(s) will be expected to work closely with the Director General, NACOSTI in providing periodic and annual reports to ICGEB and Kenyan publics. It is also expected that successful institutions will make presentations about their RRC when called upon, and submit periodic and annual reports to the Director General, NACOSTI for review and submission to Kenya's Cabinet Secretary in charge of Science and Technology, as required by provisions in the Science, Technology and Innovation Act, (STI Act 2013 (Rev. 2014)). For this purpose, an advisory team of local and/or international experts appointed by the Director General, NACOSTI may

Expression of Interest/Application To Host An ICGEB-Regional Research Centre (ICGEB RRC)

Overview

The Director General, NACOSTI as the national focal point and member of ICGEB Board of Governors, will coordinate the process of identifying a Research Institution/University in Kenya which meets the requirements of an ICGEB Regional Research Centre as described above. To achieve this, NACOSTI is requesting institutions to express interest by making an application to host

an ICGEB Regional Research Centre (RRC) based on outlined requirements below. The requirements include a justification on the need of an RRC in Kenya/East African region, possible topics or focus of the proposed RRC, list of supporting agencies, proposed location of the RRC and propose infrastructure, personnel number and composition of research groups, possible topics or priority areas for investigation, relevance of proposed research for Kenya and Eastern Africa Region, expected economic support, time schedule for the implementation of activities, and any other useful information.

How to Apply

Interested Universities and Research Institutions who fulfill ICGEB requirements listed herein (and at <https://www.icgeb.org/wp-content/uploads/2019/05/Outline-RRC-Proposal.pdf>) are kindly requested to prepare their proposal and submit the proposal online through a covering/application letter by the head of institution/Vice Chancellor to the Director General, NACOSTI(ICGEB National Liaison Officer) at dg@nacosti.go.ke with a copy to walter.oyawa@nacosti.go.ke on or before 12th March, 2021, for review, evaluation and selection.

The Director General, NACOSTI will only endorse and forward one (1) selected proposal to ICGEB for consideration.

Successful applicants/institutions will be expected to work closely with the Director General, NACOSTI, who is the ICGEB National Liaison Officer, in providing periodic and annual reports

to ICGEB and Kenyan Government/Publics. It is also expected that successful applicants/institutions will make presentations about activities of their RRC when called upon and submit periodic and annual reports to the Director General, NACOSTI as required by provisions in the Science, Technology and Innovation Act, (STI Act 2013 (Rev. 2014)).

For this purpose, an advisory team of local and/or international experts appointed by the Director General, NACOSTI may from time to time undertake inspection visits, monitoring and evaluation of the RDC. The successful RRC will be expected to program and facilitate the aforementioned undertaking taking cognizance of the STI Act.

Details of selection criteria/components

(see <https://www.icgeb.org/wp-content/uploads/2019/05/Outline-RRC-Proposal.pdf>)

Summary of the Proposal

Indicate why an RRC is need in this particular country and region? Outline possible topics or focus of the proposed RRC taking cognizance of the country's national priorities, how it will benefit the country and the region. Interested institutions should also clearly explain the relevance of the proposed research for the country and the region.

Background Information

Indicate supporting agencies (e.g. national governmental, regional government, etc.) who would be able to provide financial

support. Further indicate potential links to local academic/research institutes and biotech industry.

Premises of the RRC

Each institution should demonstrate that they have the required infrastructure by stating the foreseen location of the RRC and proposed infrastructure to host an indicative number of 8 research groups of 5-8 scientists each. Include the amount of laboratory space and core facilities which could be made available (e.g. microscopy/proteomic platforms which could be accessed or provided). Indicate proposed available office and meeting room facilities, as well services which might be accessed locally – e.g. glassware washing/sterilization, media prep, animal house, etc.

Personnel

Indicate foreseen number and composition of the research groups (see above for our suggestion for obtaining a sustainable critical mass). Procedures envisaged for PI recruitment should also be included, as well as numbers of support personnel who might also be made available to the RRC (e.g. secretaries/technicians/lab managers/procurement officer).

Activities

Include possible topics or priority areas for investigation, which might synergise with already ongoing activities at the RRC location. Fellowships that might be available from other funding sources should also be listed, including meetings and courses that might be supported from other funding sources. Supporting

Technology Transfer offices and support for protecting IP and connections with Industry should also be included. Further, include outreach and visibility programmes – locally with possibilities for lay education and links to schools, and demonstrate National and international visibility that might be obtained. Interested Institutions should demonstrate that they can have a dedicated Fellowship programme, post-doctoral and Ph.D fellows where eligible persons will receive support and participate in the groups' activities. It is envisaged that the RRC would organize and host meetings, courses, and workshops on the topics of most relevance to the activities of the RRC and would bring international experts. This program would be managed in coordination with the Meetings and Workshops programme of the ICGEB on possible topics or priority areas for investigation which might synergise with already ongoing activities at the other RRC location.

Relevance of the Proposed Research for the Country and the Region

Explain the relevance of the proposed research taking cognizance existing gaps in the region, as well as the National Research Priority Areas, and relevant National Research Consortia.

See <https://www.nacosti.go.ke/images/docs/2019/National%20Research%20Priorities.pdf>

Economic Support

List and explain the sources of funding to allow establishment of the RRC and its running costs (PI and support staff salaries;

running budget/start-up package for PIs/building rental and maintenance/utilities). Include opportunities for PIs to attract external support from granting agencies (private and governmental)/local interested pharma. Provide a Budget plan for 5 years including expenses for personnel (PI, support staff, fellowships), research (consumables and start-up package/new equipment) and support activities.

Time Schedule for the Implementation

Provide an implementation matrix with clear timelines in terms of activities.

Other Useful Information

Provide any other useful information.

Appendix

Check list for applicants.

Check list according to ICGEB selection criteria for applicants.

(see <https://www.icgeb.org/wp-content/uploads/2019/05/Outline-RRC-Proposal.pdf>)

CALL FOR RESEARCH DESIGNATED CENTERS (RDCE) IN THE FIELDS OF NUCLEAR INSTRUMENTATION AND RADIO PHARMACY

Background

The African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA) is an intergovernmental agreement established under the auspices of the International Atomic Energy Agency (IAEA), which seeks to promote and implement cooperative activities for training, research, development and applications of nuclear science and technology according to the priorities defined by the Governments Parties. To promote the regional Cooperation AFRA developed a policy and institutional framework for the designation and operationalization of Regional Resource Centers (RRCs) called “AFRA Designated Centers”, which are meant to play a key role in fostering active cooperation among Government Parties through provision of training, expert advice and other relevant services.

Research Designated Centers (RDC) can be defined as an established African institution able to provide multi-national services on the basis of the AFRA Agreement and for which the IAEA and donor support may be sought within the context of approved programmes. Currently, there are 32 RDCs in 11 Member States covering 5 major thematic areas five (5) major thematic areas of Food and Agriculture; Human Health; water Resources Management - Industrial Applications; Radiation

Safety (Education) and Human Resources Development. Regarding the geographical distribution, 80% of the RDCs are located in North and South Africa, 3 in West Africa, 1 in Eastern Africa, and none in Central Africa. The one RDC of East Africa is in Kenya (KEMRI-Welcome Kilifi).

The broad criteria applicable to the selection of RDCs includes Availability of the necessary infrastructure, references (achievements), logistics, communication facilities as well as capacity to rapidly mobilize teams and resources; Financial autonomy or at least solid sources of funding when required among others (see attachments).

The AFRA secretariat is therefore pleased to announce calls for Research Designated Centres in the fields of nuclear Instrumentation and Radiopharmacy. Attached find the Strategic Action Plan Procedures and Guidelines and questionnaire to be completed by interested Member States for the pre-selection of suitable candidate centres to be audited through the AFRA auditing scheme.

How to apply

Interested institutions/Universities who fulfill listed requirements are kindly requested to submit their application by their head of institution/Vice Chancellor to the Director General NACOSTI/AFRA National Coordinator by close of business on Tuesday 9th February, 2021. The same will be considered for clearance, and forwarded to the IAEA (AFRA Focal Point).

Successful applicants/institutions will be expected to work

closely with the Director General, NACOSTI, who is the AFRA National Coordinator, in providing periodic and annual reports to AFRA and Kenyan publics. It is also expected that successful applicants/institutions will make presentations about activities of their RDC when called upon, and submit periodic and annual reports to the Director General, NACOSTI for review and submission to Kenya's Cabinet Secretary in charge of Science and Technology, as required by provisions in the Science, Technology and Innovation Act, (STI Act 2013 (Rev. 2014)). For this purpose, an advisory team of local and/or international experts appointed by the Director General, NACOSTI may from time to time undertake inspection visits, monitoring and evaluation of the RDC. The successful RDC will be expected to program and facilitate the aforementioned undertaking taking cognizance of the STI Act.

ADVISORY TO THE PUBLIC ON RESEARCH LICENSING



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION (NACOSTI)

Upper Kabete, Off Waiyaki Way, P.O. Box 30623 – 00100, Nairobi, Kenya

TEL: 020 400 7000, 0713 788787, 0735 404245; Email: info@nacosti.go.ke : Website: www.nacosti.go.ke

PUBLIC NOTICE

Licensing of Research in Kenya

The National Commission for Science, Technology and Innovation is established by the Science, Technology and Innovation Act, No. 28 of 2013 (the Act) as a State Corporation. The Commission **regulates and assures quality in Science, Technology and Innovation Sector and advises the Government in matters related thereto**. In this regard, the Act stipulates seventeen functions of the Commission.

Among the functions of the Commission, Section 6(1)(f) of the STI Act 2013 specifies that the **Commission shall** accredit research institutes and **approve all Scientific research in Kenya**.

Consequently, **Section 12(3) of the Act requires that any person undertaking or intending to undertake research in science and technology in the country**, or who accesses, handles, or transfers any material or technology or moves it within, from or into the country, **shall apply to the Commission for the grant of a licence in accordance with the Act**.

Section 12(5) of the Act further directs that no licence shall be granted by the Commission for any research involving activities which;

- (a) may **adversely affect the culture of any community** in Kenya;
- (b) may adversely affect the environment;
- (c) may result in the exploitation of intellectual property rights of communities to their traditional knowledge.

- (d) may, in the view of the Commission, **adversely affect the lives of Kenyans**.

Section 13(1) of the Act reinforces Section 12(5) by directing that the Commission shall, upon receipt of an application under section 12, evaluate the application, and if satisfied that the conduct of the research is beneficial to the country, and that the research shall not adversely affect any aspect of the nature, environment or **the security of the country**, issue to the applicant licence in the prescribed form.

Pursuant thereto, members of the public are hereby notified that according to the Science, Technology and Innovation Act 2013, all Scientific research in Kenya must be approved and licensed by the Commission.

As stipulated in Section 15 of the Act, any person who accesses, handles, transacts, transfers or moves any specified technology or any material necessary for scientific research within, into or from Kenya without a licence issued under this Act; or contravenes the provisions of Section 12 of the Act, **commits an offence** and shall, in addition to any other penalty which may be provided for in this Act or any other written law, **be liable on conviction to a fine not exceeding five million shillings or to imprisonment for a term not exceeding four years, or both.**

For further clarification kindly contact the Commission, or visit online services at <https://research-portal.nacosti.go.ke/>

PROF. WALTER O. OYAWA, PhD
DIRECTOR GENERAL
1st March 2021

SERVICE CHARGES

Fees/Charges for Research Licensing

Table 1: Current fees/charges for Research Licensing

No	Category of Research License	Reviewed
1)	Kenya Citizens: Diploma/Undergraduate	Ksh. 1,000
2)	EAC Citizens: Diploma/Undergraduate	Ksh. 1,000
3)	Kenya Citizens: MA/MSc	Ksh. 5,000
	EAC Citizens: MA/MSc	Ksh. 5,000
	Kenya Citizens: PhD	Ksh. 5,000
	EAC Citizens: PhD	Ksh. 5,000
	Kenya Citizens: Individual/Postdoc	Ksh. 20,000
	EAC Citizens: Individual/Postdoc	Ksh. 20,000
4)	Public Institutions	Ksh. 20,000
5)	Private Institutions	Ksh. 20,000
	Non-Africans: Diploma/Undergraduate	US\$ 400
	Non-Africans: MA/MSc	US\$ 400
	Non-Africans: PhD	US\$ 400
	Non-Africans: Individual/Postdoc/Non-academic	US\$ 400
6)	Non-EAC but from an African Country	US\$ 400

Notes:

1. Non-Kenyans in local institutions with work permits and/or Permanent Resident Permits to pay same as Kenya citizens.
2. Students in local institutions of higher learning pay same as citizens.
3. The Supervisor may apply on behalf of a class undertaking Diploma or Degree course, however the service cost will be dependent on the number of students

Fees/Charges pertaining to Research Institutions

Table 2: Current fees/charges for Registration of Research Institutions, Accreditation of Research Programmes, and Monitoring and Evaluation of Research Institutions

No.	Services	Current fee in KES
1)	Registration of Research Institutions	275,000
2)	Accreditation of Research Programmes	275,000
3)	Inspection, Monitoring and Evaluation of Research Institutions	A basic fee of 275,000 be levied in addition to any costs that will related to the inspection

CURRENT NACOSTI STAFF



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Director General/CEO*



*Mr. Bonface Wekesa
Ag. Director, Research
Accreditation and Quality
Assurance,*



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Ag. Director, Scheduled Sciences*



*Mr. Gideon Kirui
Ag. Director Corporate Services*



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Ag. Chief Analyst,
Earth and Space Science*



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Physical & Industrial Sciences*



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Ag. Chief Analyst,
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*Mr. Rollex Opondo
Records Management Officer*



*Mr. Phelix Awuor
Records Management Officer*



*Mr. Cyprian Karithi
Records Management Officer*



*Ms. Alice Otworu
Senior Office Administrator*



*Ms. Wairimu Ikua
Senior Officer Administrator*



*Ms. Christine Kayesi
Senior Officer Administrator*



*Ms. Millicent Okuku
Officer Administrator*



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Supply Chain Management
Assistant*



*Ms. Ruth Asati
Senior Customer Care Assistant*



Ms. Lourine Auma
Accounts Assistant



Mr. Paul Anuro
Senior Driver



Mr. Pius Samoei
Senior Driver



Mr. Abdi Ibrahim
Senior Driver

KENYA'S NATIONAL ANTHEM

Kiswahili

1

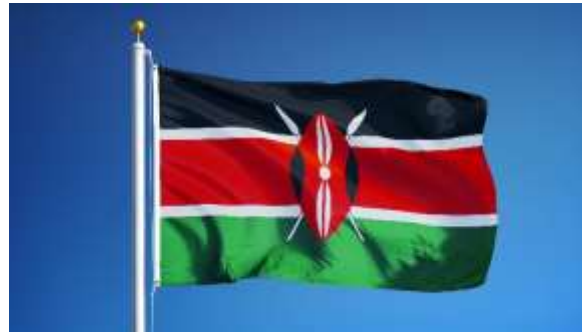
Ee Mungu nguvu yetu
Ilete baraka kwetu
Haki iwe ngao na mlinzi
Natukae na undugu
Amani na uhuru
Raha tupate na ustawi.

2

Amkeni ndugu zetu
Tufanye sote bidi
Nasi tujitoe kwa nguvu
Nchi yetu ya Kenya
Tunayoipenda
Tuwe tayari kuilinda

3

Natujenge taifa letu
Ee, ndio wajibu wetu
Kenya istahili heshima
Tuungane mikono
Pamoja kazini
Kila siku tuwe na shukrani



English

1

O God of all creation
Bless this our land and nation
Justice be our shield and defender
May we dwell in unity
Peace and liberty
Plenty be found within our borders.

2

Let one and all arise
With hearts both strong and true
Service be our earnest endeavour
And our homeland of Kenya
Heritage of splendour
Firm may we stand to defend

3

Let all with one accord
In common bond united
Build this our nation together
And the glory of Kenya
The fruit of our labour
Fill every heart with

THE EAST AFRICA COMMUNITY ANTHEM



1. Ee Mungu twaomba ulinde
Jumuiya Afrika Mashariki
Tuwezeshe kuishi kwa amani
Tutimize na malengo yetu.

Chorus

*Jumuiya Yetu sote tuilinde
Tuwajibike tuimarike
Umoja wetu ni nguzo yetu
Idumu Jumuiya yetu.*

2. Uzalendo pia mshikamano
Viwe msingi wa Umoja wetu
Natulinde Uhuru na Amani
Mila zetu na desturi zetu.

3. Viwandani na hata mashambani
Tufanye kazi sote kwa makini
Tujitoe kwa hali na mali
Tuijenge Jumuiya bora.



NACOSTI HOTEL AND CONFERENCE

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