National Commission for Science, Technology and Innovation (NACOSTI)

NACOSTI Plaza

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EDITORIAL

"Science and Technology for Prosperity"

Welcome to the 1st Volume of the STIR Bulletin of 2022, a publication that highlights the activities of National Commission for Science, Technology and Innovation (NACOSTI) as it pursues its mandate of regulating and assuring quality in the research, science, and technology and innovation sector and advising the Government in matters related thereto. This Volume covers the period from January 2022 to March 2022.

In this volume, we have highlighted the activities the Commission as it continues in the delivery of its mandate. Being the beginning of the third quarter of the Financial Year, the Commission had the hindsight of the first half of the Financial Year and was focusing on executing the activities planned for the second half.

The Commission continued playing its co-ordination role in the Country's STI sector and worked to create linkages both locally and internationally. Highlighted in this Bulletin are collaborative discussions between the Commission and local as well aas international partners. Amongst these partners are Kenya Agricultural and Livestock Research Organization (KALRO), Kenya Space Agency, International Center for Genetic Engineering and Biotechnology (ICGEB) and the UK Centre for Ecology and Hydrology amongst others.

The Bulletin also highlights the work of Kenyan research scientist which have gained international recognition as well as notable publications by researchers, amongst them staff of the Commission.

To build on its staff capacity, the Commission welcomed some new staff members and we are glad to share a pictorial layout of the Commission's staff component.

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

Mr. Gideon Kirui
Bulletin Committee Chairman

REMARKS FROM THE DIRECTOR GENERAL/CEO

"Science and Technology for Prosperity"

I take this opportunity to welcome you to read the 1st Edition of the STIR Bulletin of 2022, a publication of the National Commission for Science, Technology and Innovation (NACOSTI). STIR Bulletin 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. It serves as part of the avenues through which we endeavor to reach a wider network of our stakeholders. In the recent past, we have interacted with stakeholder in the STI ecosystem through hosting and participating in conference, seminars and meetings both physically and virtually. This has enabled NACOSTI to share ideas with local and international experts and stakeholders cutting across various science fields and as a result enriched our capacity to execute our mandate.

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 others, the 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

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) Accredit 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.

NACOSTI HOLDS INDUCTION RETREAT FOR NEW BOARD MEMBERS

Figure 1: NACOSTI Board and Management Retreat - PrideInn Paradise Beach resort & Convention Centre Mombasa, Kenya | 1st - 4th March 2022

NACOSTI received three new board members following their appointment by The Cabinet Secretary responsible for matters of Science, Technology and Innovation (STI) through Gazette Notice No. 10692 dated 5th October 2021. The three are; Prof. Francis Muregi, Ms. Rachel Shibalira and Prof. Rapahel Munavu, following the expiry of the term of the previous Board on 5th December 2020. The board and management retreat was organized for the members to be provided with adequate briefs by the

management team for the activities between January 2021 and January 2022. The retreat was held from 1st to 4th March 2022 in Mombasa, Kenya.

The overall objective of the retreat was to provide the Board of Directors with relevant information to enable them effectively transact Board business.

The specific objectives were to:

i. Appraise the Board Members on the activities of the Commission
ii. Train Members on Leadership and Corporate Governance
iii. Sensitize participants on key relevant programmes and activities of Ministry of Education

As a way forward:

i. Board to adopt the report formally during the next Board meeting
ii. Board Members agreed to implement key lessons and guidance derived from the speech of the Principal Secretary-SDUER and presentations.
iii. Management will act on the listed recommendations through the respective committees of the Board for deliberation and onward submission to the full Board for necessary action.

ICGEB VISIT TO KENYA: HOSTING OF SECOND ICGEB REGIONAL RESEARCH CENTRE.

Figure 2 ICGEB DG Dr Banks with NACOSTI DG Prof Walter Oyawa, meeting Kenyan researchers as part of the RRC Visit

From 31st January – 4th February 2022, The ICGEB Director-General Dr Lawrence Banks led an international Review and Assessment Committee conducting site visits to three shortlisted Kenyan Universities proposing to host an ICGEB Regional Research Centre (RRC) in Kenya. The RRC is envisaged to play a key role in serving Kenya and the East Africa region.

The International Review Committee, hosted by Prof Walter Oyawa (Director General of the Kenyan National Commission for Science, Technology and Innovation – NACOSTI) included, Prof. Mariano Garcia-Blanco, Chair of the ICGEB Council of Scientific Advisers, Dr. Dinakar Salunke, Director ICGEB New Delhi, India,

Dr Luiz Zerbini, Acting Director ICGEB Cape Town, South Africa, Dr. Vittorio Venturi, Scientific Coordinator-ICGEB, Trieste, Italy, Prof. Alice Mutungi , Chairperson-National Scientific and Ethics Committee, and Dean, School of Medicine and Health Sciences, Kenya Methodist University, Kenya, Dr. Catherine O. Taracha, Director Biotechnology Centre, KALRO, Kenya and Dr. Frank Sawanga Ndakala- Ministry of Education, Kenya.

The shortlisted Universities visited were **Kenyatta University, Jomo Kenyatta University of Agriculture and Technology** and **Egerton University**.

An ICGEB RRC is a National Research Centre, or a part thereof, with independent governance by the ICGEB Member State and to which ICGEB provides scientific support and advice. The RRC contributes to strengthen research skills, knowledge and capacities of the local scientific community while pursuing specific objectives for research, training and technology transfer to industry, to benefit both the hosting country and the region where the RRC is located.

Major priorities for an RRC are to:

i. Perform research at the highest international level.
ii. Increase 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.

Current discussions are underway to finalise the review findings, recommendations and way forward in establishing the RRC in Kenya.

Figure 3 Pictures of ICGEB visit to Kenya

Source:https://www.icgeb.org/icgeb-visit-to-kenya-hosting-of-second-icgeb-regional-research-centre

VISIT BY EXECUTIVE DIRECTOR -UK CENTRE FOR ECOLOGY AND HYDROLOGY TO NACOSTI

Figure 4: Left to Right Prof. Mark Bailey Executive Director UK Centre for Ecology & Hydrology, Deputy Director & Science Director Prof. Alan Jenkins paid a courtesy call to the Director General, NACOSTI Prof. Walter Oyawa at the Commission headquarters on 7th March 2022.

UK Centre for Ecology and Hydrology Executive Director Prof. Mark J. Bailey accompanied by Deputy Director and Science Director Prof. Alan Jenkins, paid a courtesy call to the Director General for National Commission for Science Technology and Innovation Prof. Walter Oyawa on 7th March 2022 at the Commission's headquarters. During the meeting, there were opportune discussions on possible areas of possible partnership and collaborations in ecology and hydrology. Other areas of discussion revolved around UK's funding to Kenya.

Prof. Bailey explained that The UK Centre for Ecology & Hydrology is an independent research institute, carrying out excellent environmental science across water, land, and air. Its core commitment is on the environment, how it sustains life, and the human impact on it.

Prof. Oyawa welcomed the guests. He briefly explained that NACOSTI is the chief regulator and promoter of Science, Technology, and Innovation in the country and a focal point to various international treaties. He highlighted that currently the Commission is involved in undertaking various activities & projects in promoting STI in the country.

In concluding their meeting, Prof. Oyawa and Prof. Bailey agreed to explore areas of possible partnerships focusing on Agro-ecological activities in future.

KENYA SPACE AGENCY AG. DIRECTOR GENERAL PAYS A COURTESY CALL TO THE DIRECTOR GENERAL NACOSTI

Figure 5: From Left to Right: Mr. Stephen Situma (NACOSTI), Col. Andrew Nyawade (KSA), Prof. Walter Oyawa (Director General NACOSTI), Lt. Col Mercy Kamau (KSA), Col. Hilary B. Kipkosgey (Ag. Director General KSA), Mr. Charles Mwangi (KSA), and Mr. Chepkonga Komen (NACOSTI)

On Wednesday, 23rd February 2022, Col. Hilary B. Kipkosgey, the Ag. Director General, Kenya Space Agency (KSA), paid a courtesy call on Prof. Walter Oyawa, the Director General NACOSTI to discuss matters of mutual interest to the two organizations. He was accompanied by Col. Andrew Nyawade, Lt. Col Mercy Kamau and Mr. Charles Mwangi. Also in attendance in the meeting was Mr. Stephen Situma and Mr. Chepkonga Komen who are both Senior Analysts in the Physical, Industrial and Energy Sciences Schedule in NACOSTI.

The Ag. Director General of KSA highlighted Kenya Space Agency's mandate on the delivery of space services, which includes space observations for various incidents; space navigation and its applications; and space communications. All of this is intended to help the social economic sector by providing timely data for advisory and decision-making purposes.

He also explained the Agency's mandate of developing national space capability. This aims to secure opportunities for space science training and capacity building, as well as to identify research programs at universities to increase interest in space science. It also mounts targeted activities for primary and secondary schools to instill curiosity and interest in space science through the formation of "Space Clubs" and the creation of content in the form of books.

In furtherance of the agency's mandate, Kenya Space Agency wishes to work closely with NACOSTI in areas of mutual interest.

On his part the DG, NACOSTI, welcomed the DG of Kenya Space Agency and his team and pointed out several areas of that can be of mutual interest to the two organizations.

Amongst these areas are the following:

1. **Setting of priorities in STI sector:** KSA should collaborate in coming up with priority research areas in matters space science to increase the agency's visibility

and funding prospects as the Research priorities are deliberated on in parliament before funding.

2. **STEM Education:** NACOSTI is actively involved in the development of the CBC curriculum and can partner with KSA in introducing space science education from primary schools to higher education levels.
3. The two institutions can jointly work with the new National Defense University of Kenya on issues of research and innovations.
4. NACOSTI is the lead in ensuring quality in Research, Science, Technology and Innovation as provided for in the STI Act and KSA is to report annually on its STI activities including the mainstreaming of STI.
5. NACOSTI is the national focal point of several international treaties/obligations including BTWC, AFRA, CBRN, ICGEB and CTBTO. NACOSTI and KSA will consult on activities in which the two institutions can collaborate on under these international obligations.
6. The two institutions can collaborate in the Square Kilometer Array (SKA) project.

ICGEB REGIONAL RESEARCH CENTRES MISSION TO KENYA

Figure 6: ICGEB Inspection Committee members in a commemorative photo with the JKUAT team.

Jomo Kenyatta University of Agriculture and Technology (JKUAT) has continued its charm offensive towards attaining the host status for the International Centre for Genetic Engineering and Biotechnology (ICGEB). If granted, the University will serve as ICGEB's Regional Research Centre (RRC) for East Africa.

On Tuesday, February 1, 2022, JKUAT hosted a high-level delegation from the ICGEB Facility Inspection committee led by the Director General, Dr. Lawrence Banks, with a mission to assess the University's suitability as a host for the Centre. The

team also comprised a delegation from the National Commission for Science, Technology and Innovation (NACOSTI), led by the Director General, Prof. Walter Oyawa.
ICGEB is an independent international organization with a mandate to provide a Centre of excellence for research and training in molecular biology and biotechnology.

This mandate is actualized through cutting-edge scientific research in the organization's laboratories spread across the globe, long and short-term fellowships for PhD students and post-docs, special Courses and Workshops, provision of research grants for scientists in Member Countries, technology transfer to industry for the production of biotherapeutics and diagnostics, and general scientific services and advice.

ICGEB's Regional Research Centres are crucial in furthering their mandate, as well as ensuring that it taps into the various local scientific communities, and explore topics and problems relevant to various regions. Currently in Africa, there's only one such centre, located in South Africa.

Dr. Banks opines that Africa being a priority for ICGEB, the board of governors felt the need to have another RRC in the East African region, which kickstarted the process of finding the most suitable country and university to host the centre.

In her submission to the committee, Vice Chancellor, Prof. Victoria Wambui Ngumi underscored JKUAT's pre-existing strong national, regional, and international collaboration infrastructure in the fronts of research, training, technology transfer, and capacity building. This, she averred, were crucial tenets that make the university most suitable to host the ICGEB RRC.

"Among key research centres we currently host include the European Union-funded Maritime Technology Cooperation Centre for Africa, hosted at our Mombasa Campus, as well as the EU-funded Food Fortification laboratory, which serves as a national reference laboratory for food safety. Additionally, JKUAT is host to the China funded Sino Africa Joint Research Centre (SAJOREC) which has been at the forefront in advancing biodiversity research and conservation in the continent," said Prof. Ngumi.

"JKUAT also hosts the Pan-African University Institute for Basic Sciences, Technology and Innovation (PAUSTI), which trains students drawn from over 43 African countries. The institute produces leaders and innovators in the fields of Molecular Biology and Biotechnology, Mathematics and Engineering," she added.

Prof. Ngumi further cited the University's robust and supportive policy environment for research and innovation, which has over the years resulted to consistent partnerships and funding from national and international organizations.

The proposed RRC in JKUAT will focus on areas of nutrition and Agriculture (animal and plant biotechnology), which are in line with the national research priorities. The activities of the centre would include training (Postdoctoral, PhD, MSc training), research, enhancing capacity building in the region as well as

other universities in Kenya, technology transfer to communities, as well as knowledge translation to influence policy.

If the host status is granted, the University will be keen to leverage on its current active collaborations with institutes involved in Plant and Animal Biotechnology Research, including Kenya Agricultural Livestock Research Organization (KALRO), Kenya Plant Health Inspectorate Service (KEPHIS), Kenya Forestry Research Institute (KEFRI), Kenya Marine and Fisheries Research Institute (KEMFRI), and Kenya Industrial Research and Development Institute (KIRDI).

JKUAT also boasts of collaborations with various international research institutes that have seen the university leverage on available infrastructure and conduct multidisciplinary, collaborative research and innovation activities.

In his reaction to JKUAT's submission, Dr. Banks expressed optimism for the research landscape in the region, affirming that Kenya is perfectly placed to host the Regional Research Centre.

"I'm pleased to note that you have such a robust existing research culture and infrastructure. When the goal of having a regional centre comes to pass, we want to see synergy and multidisciplinary collaborations. The objective is to have a centre carrying out top-notch scientific research, and a place where our students drawn from our 66 member states can come for research and exchange programs," he said.

The ICGEB Inspection committee were also taken on a guided tour of the University, in their bid to evaluate further the infrastructure, location and capacity of laboratories and the possibility of their expansion, as well as interacting with researchers, students, and taking a look at the functional programs and activities that the RRC can leverage on. The committee is expected to settle on a host institution for the Centre by the end of the week.

Figure 7 Pictures of ICGEB visit to JKUAT

Figure 8 Pictures of ICGEB visit to JKUAT

Source: https://www.jkuat.ac.ke/jkuat-steps-up-bid-to-host-icgeb-regional-research-centre/

THE UNTAPPED POTENTIAL OF SCIENCE DIPLOMACY FOR U.S.-AFRICA RELATIONS

In 2021, the African Union and Africa Center for Disease Control and Prevention (Africa CDC) launched the Partnerships for African Vaccine Manufacturing (PAVM) aimed at leveraging pan-African and global partnerships to scale-up vaccine manufacturing in Africa. One of the specific goals of PAVM is to ensure that by 2040, African countries produce at least 60 percent of the vaccines they use instead of the 1 percent currently manufactured on the continent.

Coming at a time when the COVID-19 pandemic and other cross-border challenges, relating notably to the environment and security have ravaged world economies, PAVM offers significant opportunities to foster connections between science, technology, and innovation with geopolitics and diplomacy. The

transcendental nature of science diplomacy infused with nearly universal scientific language helps blur political differences, build confidence, and mutual understanding.

Figure 9: MS. MARGARET MUTHEE Chief Analyst, National Commission for Science, Technology, and Innovation in Kenya.

Although Africa lacks a well-defined science diplomacy approach and strategy, the core principles of science diplomacy—attraction, cooperation, and influence—are present in the African Union's Agenda 2063 for the continent's transformation. The interface between science and diplomacy, which goes beyond bilateral or multilateral scientific relationships, and speaks to broader foreign policy objectives, has not been fully explored in Africa. Joseph Nye's definition of soft power—the ability to influence the behavior of others through attraction, rather than coercion or payment—makes science diplomacy a pivotal 21st century soft power tool that can be deployed to better manage and even redefine geo-political engagement.

Through the Center for Disease Control and Prevention (CDC) and other U.S. health agencies, the United States has played a key role in continuous scientific research on HIV/AIDS, tuberculosis, and malaria. The three constitute the continent's biggest infectious disease burdens. The fight against COVID-19 and Ebola calls for regionally coordinated, knowledge-based transnational programs to foster the development of cost-effective medical products, technologies, and a shared information system. PAVM offers a unique framework for Africa to leapfrog to more novel vaccine platform technologies and manufacturing processes, including those with flexible applications or quicker ability to scale. This can only be realized through strong scientific collaborations to build local human capacity and foster technological transfers and linkages in research for evidence-based homegrown policy decisions. The U.S.-Africa, science-driven diplomacy will help to catalyze scientific research, test and scale technology, and innovate a better development and geo-political engagement amongst African nations and the United States.

Africa Year in Review 2021 – Publication

MEETING EXPERTS FROM IFBA EAST AFRICA AND BIORISK MANAGEMENT ASSOCIATION KENYA ON 18TH JANUARY, 2022, NACOSTI HEADQUARTERS

Figure 10 From Left to Right: Mr Albert Bunyasi from IFBA East Africa Regional Coordinator, Dr Mary Onsarigo, Senior Analyst at NACOSTI, Dr. Patrick Okanya from Technical University of Kenya, member of Biorisk Management Association of Kenya (BMAK) and Director General NACOSTI Prof. Walter Oyawa

Mr Albert Bunyasi, IFBA East Africa Regional Coordinator and Dr. Patrick Okanya from Technical University of Kenya, member of Biorisk Management Association of Kenya (BMAK) paid a courtesy call to the Director General NACOSTI Prof. Walter Oyawa. In attendance was Dr Mary Onsarigo, Senior Analyst at NACOSTI.

The purpose of the visit was to brief Director General NACOSTI on the upcoming project on developing a pilot biosafety and Biosecurity degree program at the Masinde Muliro University of Science and Technology. This was applauded by the DG since the country lacks such capacities as exposed by the COVID-19 pandemic. He emphasized on the need of moving with speed in implementing this program and that NACOSTI is in support of the initiative fully. There is need to build capacity in Biosecurity in the country and this program is timely to fill the gap. Biosecurity for youths is also important because of the open-source information, knowledge, and skills, they can easily be misused.

In recognition of One Health approach, creating awareness at the community level will also be crucial in responding to infectious outbreaks that could be of security nature. He further emphasized that NACOSTI is ready to coordinate any related activity as per the broad mandate given by the STI Act 2013.

STAFF FROM KARLO SCIENCE CENTRE PAY COURTESY CALL TO THE DIRECTOR GENERAL NACOSTI ON 18TH JANUARY 2022

Figure 11 From Left to Right: Dr Benson Mburu Principal Analyst at NACOST, Peter Wanuthi, Dr Mary Onsarigo Senior Analyst at NACOSTI, Mr Monjero of KARLO Science Centre, Ms. Janet Kariuki and Director General NACOSTI Prof. Walter Oyawa

Mr Monjero of KARLO Science Centre accompanied by Janet Kariuki (Second left) and Peter Wanuthi, paid a courtesy call to the Director General NACOSTI Prof. Walter Oyawa on 18th January 2022. In attendance were Dr Benson Mburu a Principal Analyst and Dr Mary Onsarigo a Senior Analyst at NACOSTI.

The purpose of the visit was to brief Director General NACOSTI on the activities of the KARLO Science Centre which includes empowering young children through hands-on and minds-on exploration to appreciate the beauty and importance of science and make them see the fun behind science education. It was noted that the program can be used to provide practical opportunities for the youth in the Competency Based Curriculum (CBC) program through outreach program in all the counties in partnership with NACOSTI and the Ministry of Education. The Director General NACOSTI appreciated the work the Centre has been doing to enhance science uptake at early learning states. The team from KARLO requested NACOSTI to participate in an upcoming exhibition during the International Day for Education on Monday 24th January 2022 at the KARLO-NAL.

KEMRI HOSTS THE COVID-19 DRUG DEVELOPMENT CONSORTIUM

Figure 12 Picture source - kemri website

A new consortium targeting research and development of COVID-19 drugs in Kenya has been birthed. The nascent consortium that brings together five local Universities and KEMRI has received an initial seed funding of over Ksh. 50 million from the National Research Fund (NRF) for this task.

Members of the consortium who are also the Principal Investigators (PIs) include Prof. Isabel Wagara from Egerton University, Dr. Peter Kirira from Mount Kenya University, Dr. Meshack Onyambu from Kenyatta University, Dr. Martin Magu, of the Multimedia University of Kenya, Dr. Joseph Mwafaida from Pwani University and Prof. Jennifer Orwa who is also the coordinator of the consortium from KEMRI.

The team held its inaugural two-days meeting on Monday 18th October 2021 and Tuesday 19th October, 202 at the KEMRI Headquarters and later announced that the consortium will be officially launched in November 2021.

During the inaugural meeting, Prof. Walter Oyawa, Director General NACOSTI, congratulated the consortium for winning a grant on the development of COVID-19 products totalling Ksh. 50,602,000.

He informed the members that the nation expects the consortium to work round the clock to produce much needed products that can be used to fight the disease.

He also challenged the members to convert the consortium into a national platform.

This view was shared by Prof. Tom Peter Ogada, the Executive Director of the Africa Centre for Technology Studies (ACTS) and further noted that the development of the natural products is one of the national priority research areas that ought to be exploited by the team. Prof. Ogada challenged members of the consortium to lead in the debate of integration of herbal medicine in the conventional medical practice.

The Institute leadership also expressed gratitude with the formation of the COVID-19 Drug Development Consortium. While commending the team, Ag. Director-General, KEMRI, Prof. Sam Kariuki said that funding would immensely boost the search for workable treatment and formulations against the COVID-19 virus.

On her part, Prof. Orwa informed that the consortium would remain focused to develop natural products that will contribute to the mitigation of COVID-19.

Source: https://www.kemri.go.ke/2021/10/25/kemri-hosts-the-covid-19-drug-development-consortium/

RESEARCH WORK OF KENYAN RESEARCHER RECOGNIZED AS A TOP-QUALITY SCIENCE BY ICGEB

Figure 13 Figure 13 Dr. Steven Runo Kenyatta University

ICGEB Grants are awarded following consideration and shortlisting by a Team working under the ICGEB Appointed Governor/ICGEB Liaison Officer for Kenya (Director General, NACOSTI)

ICGEB International Centre for Genetic Engineering and Biotechnology

DIRECTOR-GENERAL

Dr. Steven Runo
Kenyatta University
P.O. Box 43844 - 00100 GPO
Nairobi
Kenya

21 December 2021

E-mail

Re: CRP - ICGEB Research Grants Programme

Dear Dr. Runo,

Starting from 2020 ICGEB has launched a new initiative aimed at recognizing the top quality science carried out in our Member States and funded by the CRP-ICGEB Research Grants Programme.

We are extremely pleased to announce that your project CRP/KEN17-03 "Deciphering resistance and virulence in sorghum-*Striga* interaction" has been recommended by an international Committee as one of the two best grants for 2021.

The Committee has been particularly impressed by the high quality of your science and your final report confirmed the high expectation of ICGEB in awarding you the grant under the 2017 call.

The Committee remarked that your project is an excellent series of studies investigating the development of new varieties of Sorghum that are resistant to infestation by the parasitic weed Striga. The associated genomics and understanding the pest-host interaction is state-of-the-art and has resulted in a number of top-class publications. The training provided has also been excellent with 7 Masters students and 4 Ph.D students benefiting from the opportunities provided.

Your research is the best example of what is intended by the ICGEB CRP Research Grant Programme, as it combines high quality research addressing scientific problems of particular relevance and of regional interest, with an excellent training component and interaction with Member States.

ICGEB is very proud and honored to be associated with such excellent research and we, therefore, wish to give you, as a token of our appreciation, a small plaque to be attached to your lab and to offer you a personal subscription to an international peer-reviewed journal of your choice.

The plaque will be sent to you by courier and we shall await for your indication on which journal you would like to have a subscription to.

We wish to congratulate you on receiving this much-deserved award and trust that our collaboration may continue in the future.

With our very best wishes

Lawrence Banks
Director-General

Copy: Prof. Walter O. Oyawa, ICGEB Appointed Governor and ICGEB Liaison Officer for Kenya

DIVERSITY, INCLUSIVITY AND FREEDOM IN SCIENCE

Figure 14 Picture

Domain 5: Freedom and responsibility in science

An ongoing social revolution in many societies is concerned with combating racism and gender stereotypes, recognizing the value of all and ensuring inclusivity. These issues are as important in science as they are in wider society. At the same time, political destabilization and the climate emergency have led to a new era of displacement of peoples seeking refuge in other countries. These pressures have also tended to inhibit freedom in the practice of science, while endemic inequalities have undermined the capacity of many states to support the science systems they need.

Activities

- 'Combating systemic discrimination in science'
- 'Gender equality in science' (Phase II)
- 'Science in Exile'
- 'Foresight for new collaborative platforms to support LMIC science systems'

Anticipated impacts

1. Increased awareness and concerted action that enables institutional change within the global science community to combat racism and other forms of systemic discrimination in science.
2. Increased gender equality and inclusivity in science systems throughout the world.
3. An active international network that coordinates action to protect and support refugee and displaced scientists, enabling them to continue their scientific work in safety and to contribute to the preservation and further development of science in their home countries.
4. Agreed mechanisms for mobilizing collective action from science funders and science policy-makers to address persistent global inequalities in scientific capacity and in access to science.

Source: https://council.science/actionplan/diversity-inclusivity-freedom-in-science/

MAKING THE FUTURE OF AFRICAN STEM FEMALE

Figure 15 Picture Source -Brookings Website

Without a huge investment in science, technology, engineering, and mathematics (STEM) education, Africa will not achieve the goals the African Union has laid out in her 2063 agenda. Indeed, given the complexity facing the developing world, economic growth, and improvements in the standard of living there will continue to rely on innovations and technological breakthroughs. Moreover, such revolutions can only happen for Africa if there is active participation in STEM at all levels of education—especially for girls. Despite the fact that women comprise half the population, they are grossly underrepresented in STEM careers. In sub-Saharan Africa, between a mere 18 to 31 percent of science researchers are women, compared to 49 percent in Southeast Europe and in the Caribbean; 44 percent in Central Asia and Latin America; and 37 percent in the Arab States. In Nigeria specifically, women represent between 17 and 20 percent of science researchers. Notably, at the primary school-level, girls perform as well as or even better than boys globally according to the reports of PISA and TIMSS on mathematics and science performance; however, between only 3 and 7 percent of girls who attend higher education actually study STEM-related courses when they get there. More specifically, 3 percent of girls in higher education are enrolled in ICT, compared to 8 percent of boys. Similarly, 7 percent of girls enroll in engineering and construction courses compared with 22 percent of boys who enrolled for the same fields of study. What does science look like to you? Is it a flashlight illuminating the dark? Or is it the shadows dancing on the walls, elusive and obscure?

Really, it's both. It's what we know and what we don't know. The co-existence of those truths is what makes science such an incredibly important tool to understanding our world.

And never has it been more vital to decipher science's complexities for a wider audience. We face unprecedented circumstances and intricate challenges. But science can help us navigate a path forward.

With remarkable dedication and vision, scientists around the world are laying foundations to tackle major issues like climate change while creating inclusive, flourishing societies.

In this series, the stage is set to explore their stories, happening all over the world from Antarctica to the Amazon.

STRATEGIC PARTNERSHIP OFFERS A NEW ERA IN COLLABORATION

Figure 16 Picture

At their recent summit, African and European political leaders approved a new strategic partnership agreement for the coming period. A joint AU-EU Innovation Agenda was acknowledged as an important component of the partnership agreement.

The Agenda is focused on strengthening African-European scientific collaboration in research and innovation (R&I) and higher education and identifies universities on both continents as key institutions for realising this enhanced collaboration.

This marks a remarkable step forward since scientific collaboration has traditionally not been a central component of the AU-EU relationship. Why have R&I and higher education been prioritised in the new African-European partnership and what does the Innovation Agenda entail?

A more equal strategic partnership

The overall AU-EU Partnership Agreement is the culmination of many meetings and long negotiations aimed at developing a new direction for the relationship between the two neighbouring continents.

The underlying vision from the EU side is that the new partnership should represent a shift from collaboration based on development aid to a more equal strategic partnership. For that vision to be realised, scientific collaboration has been moved from the margins to the centre of the AU-EU partnership.

The preparation for the summit and the focus areas of the Innovation Agenda were strongly affected by contextual issues, such as the COVID-19 pandemic, which caused the postponement of the summit from 2021 to 2022, and the growing role of China and its Belt and Road Initiative in Africa.

A European alternative

The latter forms an important backdrop for the EU's Global Gateway strategy that provides the foundation for the new AU-EU partnership, including scientific collaboration. This strategy represents an effort by the EU to realise its geopolitical ambitions by offering an alternative to both the Chinese state-controlled model and the American US emphasis on the effectiveness of private sector actors and market forces.

In the EU's vision, the Global Gateway will allow for an investment and collaboration approach that does justice to and is in line with

the EU's interests and values: rule of law, human rights and international norms and standards.

Obviously, like the Chinese Belt and Road Initiative, the Global Gateway is primarily a strategy for promoting the interests of the EU and its member states.

Therefore, it still has to be seen whether the Global Gateway and the new AU-EU partnership can overcome some of the traditional challenges in the African-European relationships. These include the continuous impact of colonial legacies, trade imbalances and vaccine inequalities.

These challenges are also visible in the disappointment that has emerged, especially in Africa, about the new AU-EU agreement and the questions that have been raised in the aftermath of the summit, for example, about the lack of concreteness when it comes to the promised EU investment package and the real interest of Europe in African issues and priorities.

Nonetheless, the core intention to develop a more equal, strategic African-European partnership shows clearly the intention to modernise the relationship between the two continents and address the aforementioned challenges. This also forms the foundation for the Innovation Agenda. So what are the main items on the agenda?

The Innovation Agenda

First, the Agenda emphasises that scientific collaboration has to be mutually beneficial and based on equal partnerships. This is illustrated, for example, by the intention to invest in career opportunities for young scholars in Africa as a way to counter brain drain.

Careful estimates suggest that since the beginning of the century at least 60,000 graduate degree holders left Africa for a career outside the continent. To reverse this trend, the Agenda presents a long-term approach, with various actions designed over a period of 10 years or more to create better and more attractive career opportunities for young scholars in Africa.

Second, an important item on the Agenda is the ambition to invest in research excellence structures, which would allow for close collaboration of African and European scholars in various stages of their academic careers. To support the collaboration of young scholars, the Agenda wants, for example, to strengthen existing centres of excellence on both continents. To stimulate collaboration between senior researchers, 'advanced study institutes' (collegia) will be established.

The latter are expected to enhance the development of joint African-European as well as African-African research projects addressing interdisciplinary challenges. These projects will be expected to compete for competitive research funding, for example, from the EU's Horizon Europe programme.

Overall, the focus on clusters of excellence represents a significant interest in improving research infrastructure and facilities on both continents and in stimulating the mobility of students and researchers in both directions.

Third, the Agenda shows a strong and clear intention to facilitate African-European university collaboration in a number of areas. This includes the development of new joint masters and doctoral

programmes and further developing existing collaboration through EU programmes, such as the Marie Sklodowska-Curie doctoral and post-doctoral networks.

The Agenda also highlights ways in which African and European university collaboration can build on the rich experience of intra-European university collaboration, including in the innovative European University alliances.

In addition, new initiatives are highlighted, such as the African Research Initiative for Scientific Excellence (ARISE) programme, which is inspired by the European Research Council and funds world-class frontier research projects of young African scholars and their teams at universities in Africa.

Genuine intercontinental partnerships?

Many of these ambitious collaboration intentions are to be realised through the investment of 'new money' in African-European university collaboration, for example, through the Erasmus+ programme and the Horizon Europe programme for funding R&I.

In the Erasmus+ programme the budget earmarked for collaboration with Sub-Saharan Africa has been increased more than fourfold, from around €140 million (US$155 million) in the previous period (2014-21) to almost €600 million in the coming period (2021-27), while in Horizon Europe, the EU has uniquely earmarked €350 million for 2021-22 for R&I collaboration projects with Africa.

All in all, the joint AU-EU Innovation Agenda forms a major step forwards in the realisation of equality in the African-European university collaboration. This is visible in the aim to support genuine intercontinental partnerships, meeting places and knowledge sharing and in the intention of Europe to significantly reduce brain drain from Africa by seriously investing in scientific career opportunities on the continent.

The Innovation Agenda is now open for public consultation. This offers African and European universities, scholars, students and other stakeholders an opportunity to give input into the further development and operationalisation of the Agenda and thereby in the ways in which we want to work together, as scientists, students and institutions from both continents.

Peter Maassen is professor in higher education studies at the faculty of education, University of Oslo, Norway.

SURVEY FINDS COVID-19 HIT R&D AT AFRICAN UNIVERSITIES HARDEST

Figure 17 Picture

African institutions report more widespread fall in research funding than other regions during pandemic.

The Covid-19 pandemic has had a worse impact on research in Africa than in other regions, a global survey of nearly 500 higher education institutions has found.

The International Association of Universities launched a survey in February 2021 to collect data on how Covid-19 had affected higher education one year into the pandemic. The results, including data from 496 institutions in 112 countries across five continents, were published on 1 March.

"The impact of the pandemic has been more important in Africa," Giorgio Marinoni from the IAU said at a webinar presenting the results.

For instance, while only 16 per cent of higher education institutions in Europe reported a decrease in research funding, in Africa the figure was 40 per cent. In the Americas, just over a third of institutions reported a fall in research funding, while in Asia and the Pacific just over a quarter did.

"This is close to demonstrating that the regions investing the most in R&D are the most resilient, whereas the regions with lower levels of R&D investment are experiencing a higher degree of cutbacks in funding, leading in turn to an exacerbation of inequalities and lower visibility in research findings," according to the IAU report.

Research delayed

Nearly four in five higher education institutions worldwide reported pandemic-related delays in research activities, but the impact again was starker in Africa, where on average the time for completing PhDs increased and the number of publications in international journals decreased.

More than half of African institutions saw delays to the awarding of PhDs, and a decrease in the number of fellowships and scholarships. Regarding publication in international journals, 41 per cent of African institutions reported a fall, 31 per cent no change and 28 per cent an increase.

"Overall, the impact of the pandemic has been much more important [in Africa] than in all other regions, and consequences more negative," said the report.

Rise in collaborations

There were some measures on which the outlook was more positive. For instance, a greater proportion of African higher education institutions reported an increase in both the number and quality of research collaborations than institutions in other regions. "This could be related to the fact that…the pandemic stimulated digital collaboration and opened up opportunities for research collaboration," said Marinoni.

Overall, the IAU report warned that the global higher education sector is "financially stressed", particularly in Africa and the Americas, and that the pandemic has "reinforced pre-existing inequalities among regions".

"If this trend is to continue, or is worsened by additional implications of the financial crisis, this may have a severe negative impact on higher education institutions and may ultimately even lead to a reduction in [their] number," the report warned.

Source: https://researchprofessionalnews.com/rr-news-world-2022-3-survey-finds-covid-19-hit-r-d-at-african-universities-hardest/?mc_cid=7a56d7b9eb&mc_eid=203a03c878

INTERNATIONAL SCIENCE COUNCIL STATEMENT ON UKRAINE

Figure 18 Picture

The ISC expresses its deep dismay and concerns regarding the military offensives being carried out in Ukraine. This conflict has already generated a grave humanitarian crisis.

Science has proven to act as a platform for dialogue even in times of war, and therefore is a resource on which to capitalize to avoid further loss of life and disruption including that to scientific research and infrastructures. The ISC counts members in all countries involved in this conflict.

At a time when the demand and the potential for science to provide actionable knowledge to our global challenges on multiple fronts – climate change, the COVID-19 pandemic, and growing inequalities – are greater than ever, the current conflict in Ukraine and its consequences will hamper the power of science to solve problems when we should be harnessing it.

The ISC also warns against the severe outcomes that conflict will have on the research and academic community. Our capacity to work collaboratively on global challenges, and on cutting edge research such as Arctic and space research, is only equal to our capacity to maintain strong collaboration amidst geopolitical turmoil. Ultimately the isolation and exclusion of important scientific communities is detrimental to all.

The ISC and its partners are committed to assisting the global scientific community in welcoming and protecting scientists who have been placed at-risk or become displaced by this conflict by providing them opportunities to continue their work. The ISC is committed to continue advancing the equal participation and collaboration between scientists in all countries in its activities and the principle of the free and responsible practice of science which is enshrined in its statutes.

Sourcce: https://council.science/

NANOTECHNOLOGY FOR THE FUTURE OF AGRICULTURE: A SHORT REVIEW

Figure 19 Picture

Attempts to use nanotechnology in agriculture started with the growing understanding and realization that traditional farming technologies will not be able to increase efficiency any further or reestablish ecosystems that had been affected by current technologies to their original state; in particular, because of the long-term impacts of farming with Chemical fertilizers and pesticides. In this article, we will be covering the base of nanotechnology to its application, prospects, and future challenges.

What is Nanotechnology

Nanotechnology is the study and management of matter at the nanoscale, where unique phenomena offer revolutionary applications, with dimensions ranging from 1 to 100 nanometers. Nanotechnology involves the effective manipulation and control of nanoparticles.

Nanotechnology has made significant contributions to sustainable agriculture by increasing crop yield and recovering and improving soil quality.

Nanotechnology is used in a variety of agricultural applications, including:

1. Delivery of nano pesticides
2. Nanoparticles containing biofertilizers are released gradually and in a regulated manner. Application of nano biosensors for quick detection o
3. f phytopathogens and other biotic and abiotic stressors in crop growth.

Nanoparticles used in Agricultural Sector

Below are some of the Nanoparticles commonly used in the agriculture sector.

Polymeric nanoparticles

Polymeric nanoparticles are used in agriculture to deliver agrochemicals in a gradual and regulated manner. Polymeric nanoparticles have several advantages, including greater biocompatibility and less influence on non-targeted species.

Silver nanoparticles

Silver nanoparticles are widely used as antimicrobial agents against a wide variety of plant pathogens. Silver nanoparticles have also been shown to improve plant growth, according to researchers.

Nano alumino-silicate

As an effective pesticide, several chemical companies use nano alumino-silicate formulations.

Carbon nanoparticles

For better seed germination, carbon nanoparticles including graphene, graphene oxide, carbon dots, and fullerenes are utilized.

Other nanoparticles utilized in agriculture include copper oxide, zinc oxide, nanoparticles, and magnetic nanoparticles.

Crop Productivity Enhancement Through Agricultural Nanotechnology

Nono herbicide, Nanofertilizer, Nanobiosensors, and Nanopesticides are some of the examples where nanotechnology has been used to enhance crop productivity.

Nanoherbicide and Nanopesticide

The use of nanoherbicides and nano pesticides to control weeds and pests has considerably enhanced agricultural output.

Nanoparticles of various sorts, such as polymeric nanoparticles and inorganic nanoparticles, are used in nanoherbicide formulations.

Nanomaterials for disease management

Each year, massive agricultural losses are suffered as a result of microbial (virus, fungus, and bacterium) infections. Nanomaterials having antimicrobial characteristics aid in the prevention of microbiological invasions.

Nano fertilizers

To combat nutrient deficiency in plants, scientists employed nanotechnology to build a smart delivery system that would distribute nutrients in a gradual and regulated manner to the targeted site. Nano fertilizers boost crop output by increasing the plant's availability of vital nutrients.

Nanobiosensors

When compared to traditional biosensors, nanobiosensors are far more sensitive and selective.

Nanobiosensors provide real-time signal monitoring and are used to identify pathogenic microorganisms directly or indirectly.

Prospects and challenges in applying nanotechnology to Agriculture

Nanotechnology will revolutionize the agricultural sector and the food industry through the development of new techniques such as climate-smart agriculture, increasing plant nutrient absorption, more efficient and effective input use, disease detection, and management.

The main concerns with nano-enabled products are the potential future amounts of nanoparticles used since it has been found to have negative effects at various levels at elevated dosages. The ongoing usage of nano-enabled products, notably in agriculture, has the potential to increase the number of nanoparticles in soil and crops. This will eventually lead to a negative impact on health.

Source: https://krishijagran.com/agripedia/nanotechnology-for-the-future-of-agriculture-a-short-review/

NACOSTI BIDS FAREWELL TO STAFF

Mr. Patrick Kurui
Deputy Director,
Internal Audit

Mr. Samuel Njuguna
Analyst,
Humanities and Social Sciences

Mr. Patrick Kurui, Deputy Director of Internal Audit and Mr. Samuel Njuguna, Analyst of Humanities and Social Sciences, both left the service to pursue other opportunities.

NACOSTI wishes both of them all the very best in his future endeavors and the next season of his life.

STAFF ON NEW APPOINTMENTS

In strengthening the Human Resource capacity and better service delivery at the Commission, Ms. Nahida Annar was appointed as an Officer Administrator during the third quarter of the Financial Year 2021/2022.

The Management congratulates her on her appointment and welcomes her to the NACOSTI family with best wishes in her career.

Ms. Nahida Annar
Officer Administrator

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 (STI) Act, No. 28 of 2013, Revised in 2014 (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 (17) functions of the Commission. Among the functions of the Commission, Section 6(1)(f) of the STI Act 2014 [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 a licence in the prescribed form.

Pursuant thereto, members of the public are hereby notified that according to the Science, Technology and Innovation Act 2014 [2013], 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

NACOSTI is ISO 9001:2015 Certified

SERVICE CHARGES

Fees/Charges for Research Licensing

Table 1: Current fees/charges for Research Licensing

No	Category of Research License	Fees/charges
1)	Kenya Citizens: Diploma / Undergraduate	Ksh. 100
	Kenya Citizens: MA/MSc	Ksh. 1,000
	Kenya Citizens: PhD	Ksh. 2,000
	Kenya Citizens: Individual / Post Doctoral	Ksh. 5,000
	Public Institutions	Ksh. 10,000
	Private Institutions	Ksh. 20,000
2)	EAC Citizens: Diploma / Undergraduate	Ksh. 100
	EAC Citizens: MA/MSc	Ksh. 1,000
	EAC Citizens: PhD	Ksh. 2,000
	EAC Citizens: Individual / Post Doctoral	Ksh. 5,000
3)	Rest of Africa: Diploma / Undergraduate	Ksh. 200
	Rest of Africa: MA/MSc	Ksh. 2,000
	Rest of Africa: PhD	Ksh. 4,000
	Rest of Africa: Individual / Post Doctoral /Non-academic Doctoral	Ksh. 10,000
4)	Non-Africans: Diploma / Undergraduate	US$ 150
	Non-Africans: MA/MSc	US$ 350
	Non-Africans: PhD	US$ 400
	Non-Africans: Individual / Post Doctoral /Non-academic	US$ 500

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	250,000
2)	Accreditation of Research Programmes	250,000
3)	Inspection, Monitoring and Evaluation of Research Institutions	A basic fee of 275,000 will be levied per inspection in addition to any other additional costs that will be related to the inspection

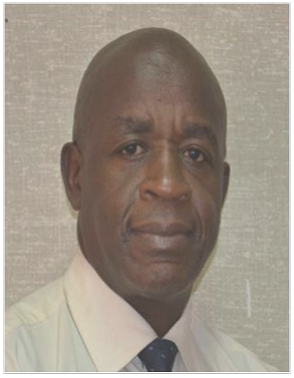
DRAFT GUIDELINES FOR STAKEHOLDER INPUT, COMMENTS, AND RECOMMENDATIONS

The National Commission for Science, Technology and Innovation (NACOSTI) is established by STI Act 2013(Rev. 2014) with the objective of regulating and assuring quality in the science, technology and innovation sector and advise the Government in matters related thereto. Further, Section 6(1)(p) of the STI Act mandates the Commission to 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. In this regard, the Commission has developed draft guidelines as listed below, and hereby invites stakeholders for their written input, comments, suggestions and recommendations by September 2021. In this regard, the Commission has developed draft STI Priorities, and Guidelines as listed below, and has circulated the same to stakeholders for their input, comments, suggestions, and recommendations. The Commission therefore reminds stakeholders who have not yet submitted their written input, suggestions and recommendations to the Commission for consideration to do so by latest 30th November, 2021. The documents may be downloaded at NACOSTI Website www.nacosti.go.ke

- **DRAFT "PRIORITIES IN SCIENTIFIC, TECHNOLOGICAL AND INNOVATION ACTIVITIES"**
  The Priorities in Scientific, Technological and innovation activities in Kenya are in line with Section 6(1)(a) of the STI Act which stipulates 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"
- **DRAFT "NATIONAL GUIDELINES FOR REGISTRATION, LICENSING, AND REGULATION OF RESEARCHERS IN KENYA".**
  The Guideline is in line with Section 15 of the Legal Notice 106 of 2014, of the STI Act 2013, titled "STI (Registration and Accreditation of Research Institutions) Regulations, 2014", which mandates the Commission to register, license and regulate researchers in the Scheduled Science areas.
- **DRAFT "NATIONAL GUIDELINES FOR ACCREDITATION OF ACADEMIC JOURNALS IN KENYA".**
  The Guideline is in line with Section 26 of the STI Act which specifies that "Research findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time".

CURRENT NACOSTI STAFF

Prof. Walter O. Oyawa, PhD
Director General/CEO



Mr. Bonface Wekesa
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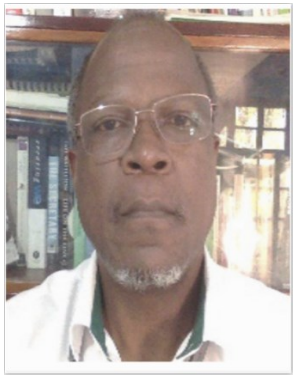
Dr. David Njubi
Ag. Director, Scheduled Sciences

Mr. Gideon Kirui
Ag. Director Corporate Services



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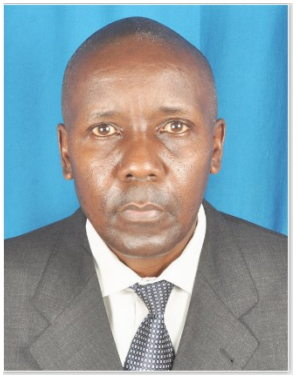

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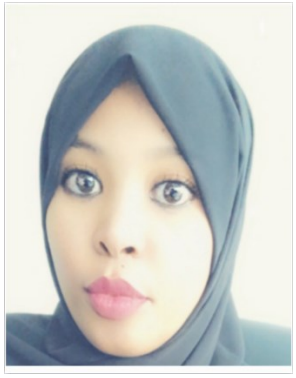

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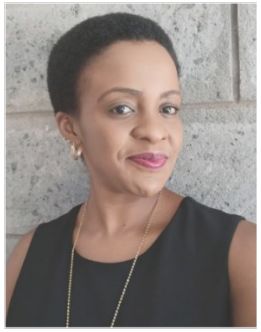

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Mr. Phelix Awuor
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Mr. Timothy Mutanda
Internal Auditor

Mr. Cyprian Karithi
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Ms. Wairimu Ikua
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Ms. Christine Kayesi
Senior Officer Administrator

Ms. Millicent Okuku
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Ms. Nahida Annar
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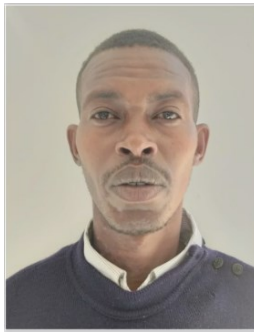
Senior Customer Care Assistant

Ms. Lourine Auma
Accounts Assistant

Ms. Kulah Abdikadir
Account Assistant

Mr. Paul Anuro
Senior Driver

Mr. Pius Samoei
Senior Driver



Mr. Abdi Ibrahim
Senior Driver

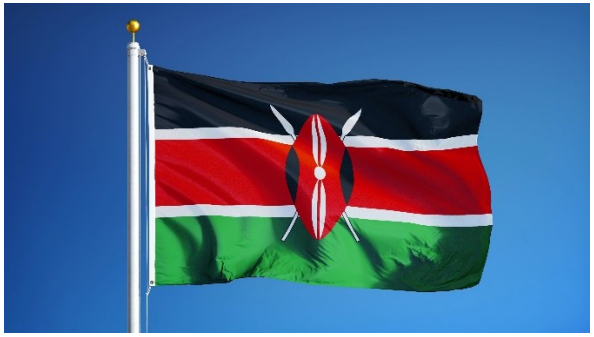
KENYA'S NATIONAL ANTHEM

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.

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