African Centre for Technology Studies
ACTS
Knowledge for Better Livelihoods

News Bulletin

Quarterly Newsletter on Science, Technology and Innovation

ACTS Newsletter | Issue No. 003 | August 2022

Shifting Africa's research, policy and practice paradigm

The African Centre for Technology Studies (ACTS) is subtly shifting Africa's research-policy-practice paradigm in science, technology and innovation (STI).

This shift is characterised by re-designing policy frameworks related to STI, building the capacity of relevant actors and bridging the gap between research outputs and development practice. By conducting cutting edge research, having regular policy engagements and building the capacity of relevant actors across different STI dimensions, the new paradigm is expected to accelerate the pace and improve the quality of development activities in the continent.

The significance of creating a stream of new knowledge, coordinating innovative ideas through relevant policy instruments and developing mechanisms through which these knowledge and ideas can be translated into practice are key elements of achieving Sustainable Development Goals (SDGs) and Africa Union's Agenda 2063.

In this edition of the ACTS newsletter, we showcase how different projects implemented by ACTS are enriching continental initiatives geared towards strengthening the research-policy-practice nexus. The initiatives cut across different spheres of STI ranging from creating an enabling policy environment for innovation, accelerating transition to inclusive sustainable and resilient cold-chains and empowering women to control and exploit Kenya's marine resources.

ACTS is also driving a new national strategy aimed at increasing the use of clean cooking methods to reduce over-reliance on bio-fuels; and developing a new continental framework to guide policymakers in formulating, implementing, monitoring and evaluating policy interventions.

We also give you a glimpse of how ACTS is coordinating a continental platform where PhD students in African universities - within the field of innovation and development studies - can gain more knowledge, interact with leading academics and receive feedback on their PhD studies.

Meanwhile, ACTS, together with partners, is also exploring new ways of converting organic wastes from dairy processing systems into useful products: feed, fibre, bio-energy and industrial raw materials. We also feature details of a new research project investigating better ways of managing water resources in river basins and wetlands in Kenya.

Of course, we cannot talk about technology without artificial intelligence of which a new cohort of scholars have joined the ACTS family under the AI4D Africa programme.

Inside this issue!

How ACTS is driving sustainable cooling solutions in Kenya

The Centre is working closely with government agencies, development partners and the private sector to accelerate transition to inclusive sustainable and resilient cold-chains by tapping into clean energy options and refrigeration

Dr. Catherine Kilelu, the head of Agriculture, Food and Nutrition Security programme at ACTS making a presentation during the workshop.

ACTS is spearheading a national drive to increase adoption of sustainable cooling solutions geared towards reducing food loss and waste among smallholder farmers.

In collaboration with the Africa Centre of Excellence for Sustainable Cooling and Cold Chain (ACES), ACTS recently organised a workshop in Nairobi where stakeholders deliberated at length on how to transform the agri-food sector by promoting sustainable cooling technologies and related policies.

During the workshop, key actors in Kenya's agri-food sector called for increased investment in cold-chain infrastructure and related technologies to reduce food loss and waste. This should be supported by effective policies bearing on access to sustainable cooling including links with renewable energy issues related to the environment.

Dr. Catherine Kilelu, who heads ACTS' Agriculture, Food and Nutrition Security programme, informed participants that the agri-food sector in Kenya contributes about 51% of the country's GDP and accounts for about 60% of job opportunities. However, approximately USD 662 million is lost annually due to post-harvest food loss and waste.

"In Kenya, an estimate of 30-40% of fruits and vegetables worth USD 140 million are lost yearly. Hence, the transition to sustainable cooling solutions is critical. This will not only reduce post-harvest losses but also greenhouse gas emissions," she said.

Community Cooling Hubs

Currently, ACTS is implementing a Community Cooling Hub (CCH) project, which seeks to understand and design sustainable cooling services targeting a broad range of diverse rural farmers as well as owners of Small and Medium Enterprises (SMEs). The innovative model, which targets smallholder farmers, has the potential to address food loss and waste with a view to improving nutrition security, improve livelihoods, and bolster agro-industry development. The project aims to deploy accessible, efficient, affordable, resilient, and sustainable cooling solutions targeting smallholder farmers in Kenya.

Warehouse Receipt System

During the workshop, it was also revealed that the Ministry of Agriculture, Livestock, Fisheries, has operationalised a warehouse receipt system in different parts of the country, where farmers or traders deposit commodities e.g., potatoes, cereals, livestock products, processed milk, and fiber crops in a certified warehouse and are issued with a warehouse receipt as proof of ownership.

The warehouses are expected to reduce post-harvest losses, improve quality and quantity of produce, promote aggregation of produce by small-scale farmers enabling access to large traders, agro-processors, and value addition and promote flexibility in pricing commodities.

National Cooling Action Plan

Participants were also informed about the National Cooling Action plan (NCAP) adopted in May 2022; it focuses on promotion of the use of natural refrigerants, promotion of energy-efficient refrigeration and air-conditioning appliances and improving agricultural cold chain.

The plan also outlines roadmaps on how to support research and development for technicians and promote access to innovative business models for sustainable cooling.

Using IMTA technology to empower women in Kenya's coast

The IMTA technology involves building special cages along pre-identified areas of the ocean which will allow women to cultivate seaweed and also rear fish in the same system

A new integrated agricultural technology is set to positively shift the economic dynamics of women in Kenya's coastal region by enabling them to sustainably and optimally exploit marine resources.

The Integrated Multi-Trophic Aquaculture (IMTA) technology, currently being piloted in Kwale and Kilifi counties, aims to give women more power, control and exploitation of Kenya's lucrative Indian Ocean share of the 142,400km^2 Exclusive Economic Zone (EEZ).

In this set-up, species with mutual and interdependent benefits are farmed together, which provides resilience against failure of one agro-produce. In this case, rabbitfish - which is highly coveted in the region - is farmed together with seaweed in an integrated and mutually beneficial production system. The IMTA technology involves building special cages along pre-identified areas of the ocean which will allow women to cultivate seaweed and also rear fish in the same system.

Under the umbrella of the Blue Empowerment project, funded by the International Centre for Research and Development (IDRC), the initiative is being implemented by scientists drawn from ACTS, Kenya Marine Fisheries Research Institute (KMFRI), Kenya Industrial Research Development Institute (KIRDI) and Kenyatta University. The scientists are working closely with local organisations - Bahari Community Based Organization (CBO) and Seaweed Corporation, a private organisation involved in the production of seaweed.

"Women continue to have limited access to ocean resources because they feel insecure at sea, lack the skills and capital to invest in fishing vessels and post-harvest handling facilities and suffer social pressure and discrimination from the hierarchical power dynamics in their communities."

Dr Joel Onyango, ACTS

"This technology is meant to empower women in light of the Covid-19 challenges and also to address barriers of development of women in the coast region especially as it appertains to access to ocean resources."

Dr Linus Kosambo, KIRDI

"If we can be supported to get a good and reliable market, we can make much more money and the women will support their families in a better way and transform our community. We are happy because of this project will improve our production and marketing."

Fatuma Usi, Bahari CBO

Dr Caroline Wanjiru, Kenyatta University

"Apart from making money from the fish and seaweed, women will also be supported to add value to seaweed and earn more money from the crop. At the same time, the economic fortunes of women in the coast region will improve significantly as they get directly involved in the production system of marine resources."

"Women are marginalised in harnessing marine resources and this initiative gives them an opportunity to improve their lives and those of their families. It will enable women to earn more money especially from rabbitfish, which is a coveted fish in the coast region."

Morine Mukami, KMFRI

Victor Opondo, Seaweed Corporation

"We expect the Blue Empowerment project to uplift the financial standards of the community and place Kenya on the map of leading seaweed producers in Africa. And with the IMTA model, we are not only producing seaweed but also putting food on the table."

Read more

Adoption of clean cooking methods gaining traction in Kenya

Partners have established regional e-cooking hubs in Nakuru, Kitui, Makueni, and Kisumu to catalyse electric cooking adoption through the local champions

ACTS is driving a new national strategy aimed at increasing the use of clean cooking methods to reduce over-reliance on bio-fuels.

The initiative is already gaining momentum countrywide with more households showing indications of shifting from using bio-fuels to electricity; the latter is cheaper and environmentally friendly.

Under the umbrella of the Modern Cooking Services (MECS) which include partners from the Clean Cooking Association of Kenya (CCAK), Kenya Power and Lighting Company (KPLC), and Gamos East Africa, the initiative is expected to increase the number of households in Kenya using electricity to cook.

E-cooking Hubs

The hubs allow local capacity building in e-cooking, technology skills transfer, business model testing, research designs which inform local policy development and strategies. With the hubs in operation, electric cooking can rapidly scale up as an aspirational solution for a sizeable population still struggling to cook with unclean fuels.

Seed funds will be awarded to the four hubs to keep them running for the local communities to be continuously sensitised on e-cooking.

Community of Practice

Apart from the e-cooking hubs, MECS and partners has established an e-cooking community of practice (CoP) that brings together various stakeholders in the e-cooking space in Kenya and beyond. The CoP was launched in April 2022 virtually and aims to initiate and sustain continuous dialogue on electric cooking options in Kenya towards the realisation of universal clean cooking access in Kenya by 2028.

E-cooking champions at the 'Pika na Power' demonstration center.

From left, Dr. Joanes Atela, Director Impact and Partnerships ACTS, Joshua Munywoki, Principal Wote Technical and Training Institute (WTTI), John Wamae, Director TVETs Makueni County, and Mary Mbenge, Chief Officer, Natural Resources, Environment and Climate change, Makueni County during the e-cooking hub launch at WTTI Makueni County.

The first monthly dialogue focused on understanding the electric cooking techo-policy landscape in Kenya while the second focused on the role of mini-grids in promoting e-cooking in the country.

While acting as a platform to bring different stakeholders together to dialogue on the e-cooking opportunities in Kenya, the CoP also allows data and information sharing and thus allowing inclusive and effective collaborations between the electrification and clean cooking sectors which had previously been working independently.

As a result, an enabling e-cooking environment will be created to allow policymakers formulate policies that endorse electric cooking in the country.

E-cooking demonstrations

Finally, the partners are supporting the weekly '*Pika na Power'* demonstrations program at KPLC. The programme is meant to create awareness, enhance the capacity of the public on e-cooking and thus generate evidence of effectiveness, efficiency, convenience, and affordability of e-cooking.

Different technology providers get the chance to showcase energy-efficient electric appliances making it easier for the public to make informed decisions on the appliances to buy for different cooking needs.

Read more

The 8th AfricaLics PhD Academy held in Nairobi

The AfricaLics PhD Academy provides an opportunity for PhD students enrolled at African universities who work in the field of innovation and development studies to gain more knowledge of this burgeoning field, meet leading academics and receive feedback on their PhD studies

Participants of the 8th AfricaLics PhD Academy hosted by Jaramogi Oginga Odinga University of Science and Technology (JOOUST) in Nairobi.

Nearly 30 PhD students from Sub-Saharan African countries converged in Nairobi, June 2022, for the 8th AfricaLics PhD Academy. The Academy was hosted by the Jaramogi Odinga Oginga University of Science and Technology (JOOUST) and the AfricaLics Secretariat based at ACTS.

The AfricaLics network is an academic research and capacity building network that focuses on how innovation (the process through which new or improved products, processes, organisational forms, ways of working and acting are introduced into new environments) occurs and the relationship this has with economic and social development in African countries. Such research is becoming known in the network as 'innovation and development studies' because it is at the intersection of innovation and development studies.

The PhD Academy is only one of a number of activities being undertaken under the AfricaLics network.

On 9th February 2022, ACTS signed a Memorandum of Understanding (MoU) with JOOUST to host the Visiting Fellowship Programme (VFP) under the AfricaLics project.

The MoU between JOOUST and ACTS has resulted in the revamping and renaming of an existing program as an institute or a center, which opens significant opportunities for mainstreaming the R&D and anchor the Visiting Fellowship Programme (VFP) and the recently launched Master's degree programme at the university.

The JOOUST management team was delighted to fast-track the formalisation processes needed to assist in getting this program off the ground. The AfricaLics PhD Academy and the VFP programme are supported by the Swedish International Development Cooperation Agency (Sida) under the ACTS' run project 'Enhancing Research Capacity on Innovation and Development in Africa'.

Read more

Prof. Benard Muok, JOOUST Director at Directorate of Research, Innovation and Partnership.

"JOOUST is honoured to have been able to host the PhD Academy and the VFP programme. This year sees the VFP programme being hosted for the first time in Africa. This is possible because of the burgeoning expertise on the continent. JOOUST is at the forefront of these activities having been among the first universities in sub-Saharan Africa together with University of Johannesburg to have a dedicated PhD programme in innovation and sustainable development."

"The AfricaLics PhD Academy started 10 years ago in Nairobi and has returned this year to its birth place. At the end of this 8th Academy, we will have trained over 200 PhD students in this emerging field of study for the continent. The Academy provides an opportunity for students who often sit in disciplinary departments to experience this new emerging multi-disciplinary field and become members of a network of scholars who work in this field; providing an important peer support system as they continue their careers."

Prof. Rebecca Hanlin, ACTS' Non-Resident Fellow and member of the AfricaLics Secretariat.

The 2nd cohort of AI4D Africa scholars onboarded

The second cohort of 9 Artificial Intelligence for Development in Africa (AI4D Africa) scholarship programme are now on board.

This brings the total number of scholars in the programme to 30, including 16 who joined in the first cohort. It aims to foster the talent needed to meet a growing demand for research and development in responsible Artificial Intelligence (AI) in African public universities.

The programme targets registered PhD students who have finished course work as well as research proposals with special attention given to women candidates who have completed MSc in areas relevant to AI and Machine Learning and wishing to pursue PhDs studies.

Preference is also given to low-income countries which are not endowed with universities that can offer PhD in AI and Machine Learning.

Early Career Academics (ECA), mainly those who have completed their doctoral studies, are also supported to become fully-fledged, independent, and competent researchers. This is done through capacity building, mentorship and interaction with peers.

In addition, the programme offers a series of complementary activities to build the capacity of beneficiaries. These include short-courses, PhD Academy, quarterly seminars, annual workshops, regional conferences and online training workshops for supervisors and PhD mentoring.

The programme is also enhancing the capacities of the existing ICT departments to offer MSc and PhD in AI and ML through research tools such as data bases, GPUs and related infrastructure for AI and ML will be required.

This not only facilitates the research activities of the ECA and consequently enhance career progression, but also enhance their recognition within the departments, particularly if these infrastructures are made available to other postgraduate students and final year undergraduate students within the departments.

Tiomela Lontsi Brice Borel

Research area: *Automatic generation of biomedical image captions (Biomedical images captioning).*

University of Yaounde I, Cameroun.

Dr. Sosdito Estevao Mananze

Research area: *Application of Artificial Intelligence to optimise cultural operations in Agriculture in Mozambique.*

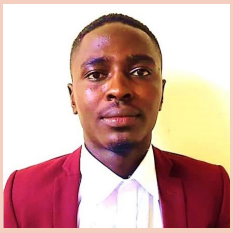
Eduardo Mondlane University - Higher School of Rural Development, Mozambique.

Reine Clarisse Djamkou

Research area: *School curriculum and learning contents matching using machine learning algorithms.*

University of Yaounde I, Cameroun.

Christian Leigh Noudjimti



Research area: *Development of numerical and statistical methods for weather prediction for intelligent management of electrical networks with a high rate of renewable energy.*

University of N'Djamena, Tchad.

Alagah Komlavi Atsu

Reseach area: *Development of an Intelligent System for the Management of Agricultural Crop Diseases for Sustainable Development in Niger.*

Abdou Moumouni University of Niamey, Niger.

Dr. Ugochi Adaku Okengwu

Research area: *An AI enhanced detection and treatment of tomato plant diseases in Africa.*

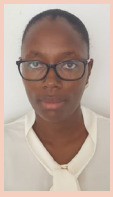
University of Port Harcourt, Nigeria.

Mushagalusa Ciza Arsene

Research area: *Practical use of Random Forest regression for predicting disease vector abundance: application to the abundance of Rhipicephalus appendiculatus in permanent livestock pastures.*

University of Abomey-Calavi, Benin.

Dr. Sónia Semedo



Research area: *The use of artificial intelligence in mitigating crop losses.*

University of Cape Verde.

Dr. Thomas Messi Nguelé

Research area: *Using Machine Learning Algorithms for Efficient Complex System Analysis on Multi-core architectures.*

University of Yaounde I, Cameroun.

Read more

PhD Visiting Fellowship Programme meeting held in Nairobi

PhD students under the Vising Fellowship Programme (VFP) converged in Nairobi for a five-day workshop held from 22nd to 26th August 2022.

The programme aims to assist African PhD students working in the field of innovation and development to improve the quality of their dissertations, strengthen their academic and research credentials in readiness for a career in academia, the private sector or government/policy making.

The programme does this by enhancing the PhD students' agility and exposure to global knowledge in the area of innovation and development.

The initiative is a component of AfricaLics' efforts to support the growth of an active research community in Africa in this newly developing and intensely interdisciplinary topic.

One of the group dicussion sessions at the VFP workshop held in Nairobi.

A group photo of the VFP participants at the workshop.

The project is managed by the AfricaLics secretariat based at ACTS. The AfricaLics Scientific Board offers guidance on technical issues and matters of strategic importance.

The programme is coordinated by the AfricaLics secretariat in collaboration with Jaramogi Oginga Odinga University of Science and Technology in Kenya, with assistance from the AfricaLics and Globelics scholars based at various universities, the UJ-TRCTI and other pertinent African and international universities active in the field of innovation and development.

Read more

Research and Development

Research project on water resource management set to kick off

ACTS is set to launch a new research project to explore novel ways of managing water resources in river basins and wetlands in Kenya.

The project will focus on developing relevant knowledge and tools to solve water-related challenges and strengthen capacities of actors within river basins and wetlands.

Two case studies - Local (*Kingwal wetland*) and regional (*Yala basin*) - will be conducted to support sustainable wetlands for local livelihoods and water quality. The studies will entail participatory approaches, policy engagement through tested tools, and research and knowledge dissemination through summer schools.

Researchers will work closely with communities and policy makers to develop relevant tools and approaches for water management based on knowledge generated from the studies.

ACTS will implement the project jointly with Egerton University and Kaimosi Friends University College under the umbrella of the Delft Water and Development Partnership Programme (DUPC), which aims to support and catalyse meaningful and lasting transformations to socially inclusive and ecological sustainable water management practices.

It is expected that the project will help improve and enrich knowledge and insights on adaptation pathways for water management, increased partnership and joint learning, effective and inclusive collaboration

Also, the project will enhance sharing of water knowledge and expertise across actors as well as institutional strengthening of policy actors who will be equipped with the skills, knowledge and facilities to effectively participate in joint research and education on water and/or implement promising solutions in their everyday practices.

The project is led by Dr. Joel Onyango, the head of climate resilient economies programme at ACTS and Nora Ndege, Research Fellow and PhD student at the University of Sussex, United Kingdom.

Exploring new ways of re-using wastes in the dairy sector

The research initiative - Valorise - will focus on finding efficient ways through which organic wastes resulting from dairy production processes can easily be converted into useful products

A cross-section of participants during the Valorise project workshop held in Nairobi, July 2022. The project focuses on circular bio-economy in the dairy sector.

Food production and processing systems in low and middle income countries are characterised by high levels of wastage - up to a high of 40% - which is highly unsustainable. And although much effort has gone into preventing or reducing such loses, the situation is not improving as expected.

This calls for the need to re-think current production and processing systems and develop new models of converting organic wastes into useful products - animal feed, fibres, bio-energy and industrial raw materials - in what is commonly referred to as circular bio-economy.

Preventing organic wastes and re-using the same have potential economic benefits that translate into viable business models and can improve resource-use efficiency through savings on land, water and feed resources.

In this context, organic wastes refer to residues that remain at the end of the processing of biological raw materials, which in this case is confined to the dairy sector including raw milk that is rejected by the dairies. Hence, ACTS together with other partners have come together to explore ways through which dairy processing enterprises can re-use and add value to organic wastes.

This project will study the application of circular economy principles in Kenya's growing and modernising dairy industry; and analyse current practices in the country's dairy industry in order to explore the potential for preventing, reusing or recycling its organic waste.

Specifically, the project will strive to provide a clear understanding of the potential of circular economy in the dairy sector, create a foundation of bio-economic knowledge on which Kenyan dairy-industry stakeholders can use to sustainably grow the sector.

In addition, the project seeks to increase the capacity to conduct research on circular bio-economy, including training a new cohort of researchers with the skills to advance a research and innovation agenda in this field.

To achieve the above objectives, the project will develop an analytical framework that integrates biophysical, technical, economic and institutional factors to understand dairy bio-economy transitions.

It will also map key actors, activities and institutions in the dairy value chain and analyse the flows, volume, quality and spatial distribution of organic wastes in the dairy industry and use the data to estimate the volumes available for circular utilisation.

Finally, the project will review relevant technical solutions and products that can match the current and future needs of a dairy circular bio-economy, analyse the incentives and opportunities that can enable dairy firms to innovate and apply bio-circular principles, explore future scenarios for a dairy bio-economy development, disseminate results to R&D, policy, industry stakeholders and scientists and build the capacity of researchers in research methodology, project management and scientific writing and dissemination.

Why Artificial Intelligence is key to Africa's development

The 3rd Calestous Juma seminar focused on exploring how AI and ML solutions can be deployed to accelerate realization of SDGs in Africa

Africa risks lagging behind in achieving Sustainable Development Goals (SDGs if the continent does not embrace and responsibly deploy artificial intelligence (AI) and machine learning (ML) solutions to address emerging global challenges.

This was the main message emerging from the 3rd Calestous Juma seminar focusing on how AI and ML solutions can be deployed to accelerate realisation of SDGs in Africa.

The seminar was meant to create awareness on how Africa can develop its capacity to exploit the huge potential accorded by AI and ML to accelerate realisation of the global goals and enrich the lives of people in the continent. It was held in June 2022.

Specifically, the seminar focused on application and development of responsible AI and ML and showcase cutting edge research projects in AI and ML being undertaken in the continent under the umbrella of a flagship programme on Artificial Intelligence for Development in Africa (AI4D Africa) implemented by ACTS.

The three-year programme is funded by the International Development Research Centre (IDRC) and the Swedish International Development Cooperation Agency (SIDA).

The seminar also explored gender dimensions with regard to the application of AI and MI in Africa. Whereas demand of AI has increased significantly, women still lag behind especially in Africa in in application and development of AI solutions.

A 2020 World Economic Forum report found that women make up only 26 percent of data and AI positions in the workforce, while the Stanford Institute for Human-Centered AI's 2021 *AI Index Report* found that women make up just 16 percent of tenure-track faculty focused on AI globally.

The CJ seminar series, jointly organized by ACTS and CJLF, are meant to honour and cement Prof. Calestous Juma's legacy as a global icon in the application of STI for sustainable development.

Until his untimely death in December 2017, Prof. Calestous Juma was an internationally recognised authority in the application of science, technology and innovation (STI) to sustainable development especially in developing countries. His work focused on analysing how knowledge and innovation could be harnessed for development in the context of institutional change in socio-economic systems.

"Africa must embrace and harness the huge capacity of AI and ML to accelerate sustainable development with a view to creating an inclusive society. We are currently supporting 20 scholars on AI and ML in 15 universities spread across 12 countries in Africa. This will create the much needed capacity in AI and ML in the continet."

Prof. Tom Ogada
Executive Director, ACTS

Prof. Shem Wandiga
Dean, College of Scholars, ACTS

"Africa is lagging behind in the application of artificial intelligence and machine learning because we do not have enough trained people with enough capability to use new technologies to address challenges facing the continent especially climate change, lack of water, lack of food, all of which can be understood better if we apply artificial intelligence."

"The AI4D Africa programme is focused on Advancing AI application in dealing with developmental challenges in the continent. However, we risk causing harm with these technologies if we don't take a responsible approach which is inclusive and rights based ethical and sustainable."

Katie Clancy, IDRC

Angela Christiana,
Executive Director, CJLF

"It is important create awareness on the practical application of ethical and responsible artificial intelligence and machine learning for their successful deployment not only from the standpoint of public perception and adoption but also for researchers and policy makers and those who implement those polices."

Read more

A new strategy to spur innovation and support start-ups in Kenya

The building blocks of this strategy have already been laid out in form of a comprehensive mapping study that paves way for structured interventions intended to catalyse conversion of innovative ideas and start-ups into commercially viable enterprises

ACTS is working with local and international partners to develop an integrated strategy intended to spur innovation and support start-ups to successfully transition into commercially viable enterprises.

The stage is now set for implementation of recommendations deriving from a comprehensive mapping study conducted by ACTS, with a view to developing national support structures and associated mechanisms that will drive innovation and fuel the spirit of entrepreneurship in Kenya.

ACTS has partnered with the United Nations Development Programme (UNDP), the Kenyan National innovation Agency (KeNIA), Konza Technopolis Development Authority (KOTDA) and the Association of Countrywide Innovation Hubs (ACIH) to put in place the necessary mechanism and structures to enable start-ups successfully navigate the treacherous path of entrepreneurship.

According to the Executive Director, Prof. Tom Ogada, the potential of Kenya's innovation ecosystem has not been fully exploited to drive the country's socio-economic development. Hence, actors must coalesce their efforts anchored on an overarching strategy that will catalyse action towards actualising the vast potential of innovators and start-ups in the country.

"The Government of Kenya, through the relevant ministries, should develop a stand-alone innovation strategy to drive the country from a regional leader to a key player in the global innovation ecosystem. The strategy should provide a clear vision for the country's innovation ecosystem, taking into consideration the existing strengths and opportunities as well as the identified challenges and gaps," he said.

Prof. Ogada was speaking during a workshop to validate findings of a study on mapping the innovation ecosystem in Kenya in which he took participants through an elaborate presentation detailing the status of the country's innovation landscape. The report covered regional and global innovation status, legislative and policy framework, historical perspective, key indicators, challenges and opportunities – and offered practical recommendations on how to enhance the ecosystem.

ACTS Executive Director, Prof. Tom Ogada (left), Caroline Kiarie of UNDP (centre) and Josephine Ndambuki of Konza Technopolis during a discussion at the validation workshop.

He called for the formation of a technical team to develop an implementation framework for the recommendations proposed in the study. The framework should articulate implementation structure, coordination, responsibilities and roles, monitoring and reporting, and resource mobilization.

ACTS and other key actors in the Kenyan innovation ecosystem – UNDP, KOTDA, KeNIA and ACIH - have started discussions on how to implement some of the recommendations emerging from the study.

KeNIA Chief Executive, Tony Omwansa highlighted the need for broaden the innovation ecosystem thinking beyond startups and the hubs and provide ways of advancing innovation beyond the ICT context. The role of education in nurturing innovations, stronger mindsets, critical thinking, and problem-based learning is also important.

The chair of ACIH, Magdalene Chekemoi, said it was important to focus on the needs and challenges that stifle innovation and ensure the existence of an inclusive and collaborative ecosystem.

The Chief Executive Officer of KOTDA, John Tanui, highlighted the need to identify and contextualise the metrics used in measuring the performance of the innovation ecosystem in terms of ease of doing businessin the country.

Finally, Bheki Bhembe, a Senior Economist at UNDP, said the programme's Accelerator Lab aims to drive entrepreneurship and innovation to address the complex youth unemployment challenges.

A cross-section of participants listen to a presentation during the validation workshop held in Nairobi.

A new transformative policy framework for STI in the offing

Policymakers in Africa will soon have a new framework to guide them in formulating, implementing, monitoring and evaluating policy interventions. The framework is expected to foster environmental sustainability, achieve more equitable income distribution and meet other social challenges, particularly for women and youth.

In developing the framework, ACTS is working closely with Transformative Innovation Policy Consortium (TIPC) coordinated by the Science Policy Research Unit (SPRU) at the University of Sussex under the umbrella of the Transforming Climate Innovation Ecosystems through Inclusive Transdisciplinarity (TransCIIT) project. The project is implemented by the University of Sussex, Kenya Climate Innovation Center, Jaramogi Oginga Odinga University of Science and Technology and the University of Johannesburg.

The new framework is predicated on the assumption that social transformation hinges heavily on enactment, effective implementation and monitoring of STI policies. However, having effective STI policies is not enough; they must be managed effectively to catalyse the change process. And for this to happen, policymakers must not only have the right frameworks but also the capacity to manage the same. Therefore, the capacity of policymakers in managing STI policies must also must also be enhanced to effectively guide the process of transformation under the new framework.

And whereas policies often do not initiate transformative change, they can make a crucial contribution by steering socio-technical change processes towards transformative goals. Thus, as the new policy framework is being developed, efforts are also underway to develop the capacity of policy-makers in the continent to manage the same.

Apart from developing the new framework and building the capacity of policymakers, the TransCIIT project, which is an offshoot of the Innovation for African Universities (IAU) programme, is also seeking to find ways on how to establish strong relations between the full range of actors in Kenya's climate innovation ecosystem (CIE), particularly active participation of young people and women (inclusivity), and productive interactions between academic, practitioner, policymaker and citizen perspectives.

This will be done by creating synergies among actors in various sectors and locations engaged in technological and non-technological climate innovation. Specifically, the project focuses on the role universities can play in this effort to maximise the benefits for women and youth. This will contribute to the evidence base of the IAU community of practice and will be an example of how multiple stakeholders - including universities outside Kenya - can co-create solutions.

Read more

Call for Contributions to the ACTS Summer School, 2022

ACTS is calling for contributions to facilitate the ACTS Summer School 2022 scheduled to run between Friday 21st – Saturday 29th October 2022. This call is targeted at potential contributors for the learning material, and delivery of the various components of the summer school. The Summer School will comprise of public lecture, group discussions, lectures, case studies, social events, and learning walk-shops.

Expectations from facilitators

The facilitators will be expected to contribute to four main outputs, interlinked, and in relation across the sessions. All the deliverables from the facilitators will be synchronized by the summer school coordinator, and will include the following material (from each facilitator):

- Development of learning material;
- Contributing to the training manual;
- Delivering the sessions:
- Sharing a brief report/evaluation of the summer school.

Details on the schedule for the summer school delivery, the expectations on the facilitators, and how to submit an expression to be a facilitator can be obtained via.....

Get more information on the summer school here.

Call for contribution to facilitate can be found here.

The 4th Calestous Juma Seminar

The 4th CJ seminar will be held virtually from September 20th to 22nd, 2022. It will focus on how to accelerate climate action and build resilient economies.

Specifically, the seminar will explore understanding on acceleration of climate action and building resilient economies; dialogue on thematic discourses for climate action and highlight opportunities, successes and challenges for building climate resilient economies.

This seminar will focus on the thematic constructs that would allow for the acceleration of climate action. The themes include climate finance, climate technology and sustainable development, demand driven capacity building on climate change and the road to Conference of Parties (CoP) 27.

Each of the seminar days will be designed into two parts: a) understand - where facts and presentations are made with follow-up discussions to build understanding, and b) dialogue – where the participants convene foresighted discussions on practical and sustainable pathways for climate action (and the road to CoP 27).

Creating new footprints in the sands of Africa's STI

ACTS will support the development of a cadre of Africa-centred researchers, analysts and policy makers on STI, knowledge and society, knowledge utilisation, technology transfer, intellectual property, STI roadmaps for SDGs and evaluation of the impact of STI on the development of African countries

ACTS staff pose for a group photo after the presentation of a new research strategy and discussion of pertinent issues relating to programme implementation.

In their book - *Why Nations Fail: The Origins of Power, Prosperity, and Poverty* - economists Daron Acemoglu and James Robinson delve into reasons why some countries prosper while others fail. Explaining this dichotomy, the authors posit that nations that prosper socially and economically prioritise application of science and technology, in what they refer to as scientific and technological progress.

In light of the above, the new ACTS Strategic Plan (2022-2026) provides a clear roadmap on how the centre will consolidate gains made in implementation of its programmes and chart new pathways to strengthen the capacity of African countries and institutions to harness STI for sustainable and inclusive development.

This will be done by strengthening and sustaining the recognition of ACTS as a centre of excellence in policy relevant research and development in STI, climate change, energy, agriculture, digital technology and gender, youth and inclusive development. This will be supported by enhancing ACTS' influence and impact through policy advocacy, improved communication, capacity building, knowledge and technology transfer and partnerships.

ACTS will support the development of a cadre of Africa-centred researchers, analysts and policy makers on STI, knowledge and society, capacity building, knowledge utilisation, technology transfer, intellectual property, STI roadmaps for SDGs, and evaluation of the impact of STI on the development of African countries.

Meanwhile, ACTS is also finalising a research strategy that outlines the guiding principles regarding the management, support, and development of research. The strategy will aim to present a framework for the management, support and development of research and innovation activities; align research and innovation activities with the ACTS Strategic Plan 2022 – 2026 strategic objectives and provide an approach for strategic operationalisation of research and innovation activities across programmes. The Director of Research and Innovation, Dr Ann Kingiri, is leading this initiative.

Ultimately, ACTS aims to become a think tank of choice for policy relevant research in the application of STI in strategic thematic areas including climate change, energy, digital innovation, agriculture and food security, gender and youth; inclusive innovation- through quality research, policy

For More Information Contact:

African Centre for Technology Studies
ICIPE Duduville Campus, Kasarani
P.O. Box 45917 - 00100
Nairobi, Kenya.

Tel: +254710607210 || +254737916566
Email: info@acts-net.org