

# **SGCI** FOOTPRINTS

**IGNITING CHANGE, CREATING IMPACT**

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**STRENGTHENING CAPACITIES FOR RESEARCH  
MANAGEMENT AND POLICY ADVICE**

# CONTENTS

- 3 SGCI's Innovative Support for Homegrown R&D in sub-Saharan Africa Excels
- 5 SGCI Addresses Africa's Research and Innovation Gap
- 7 **BOTSWANA:** Private Sector to Participate in Research and Innovation
- 9 **BURKINA FASO:** In-depth Interview with Dr Hamidou Tamboura, Director General, FONRID
- 11 **COTE D'IVOIRE:** SGCI Strengthening Collaboration with Private Sector and other African Countries - Interview with Dr Yaya Sangaré
- 13 **ETHIOPIA:** SGCI Strengthens Research Capacity in Ethiopia - Interview with Dr. Abraham Debebe Woldeyohannes
- 16 **GHANA:** Ghana Hails SGCI's Role in Transforming Science and Technology Sector
- 18 **KENYA:** SGCI, NRF Promoting Science, Technology and Innovation in Kenya
- 20 **MALAWI:** SGCI Boosts Research, Innovation in Malawi
- 22 **MOZAMBIQUE:** STI Driving Mozambique's Economy
- 24 **NAMIBIA:** Namibia's NCRST Applauds SGCI
- 25 Namibia's Regulatory Framework for Research and Innovation
- 27 **RWANDA:** Rwanda Leveraging Capacity-Building to Boost the Future of Research Output and Impact
- 29 **SENEGAL:** SGCI Strengthening Collaborative Research in Senegal
- 31 **TANZANIA:** Reaching Out to Stakeholders to Promote STI
- 32 SGCI Raising R&D Profile in Tanzania
- 34 **UGANDA:** Strengthening UNCST's Capacity in Research Management and Grant Making
- 38 **ZAMBIA:** NSTC Launches New Three-year Strategic Plan
- 40 **ZIMBABWE:** SGCI Training Bears Fruit for Zimbabwe

## ABOUT SGCI

The Science Granting Councils Initiative in sub-Saharan Africa (SGCI), aims to strengthen the capacities of science granting councils (SGC) in Sub-Saharan Africa in order to support research and evidence-based policies that will contribute to economic and social development. The objectives of this Initiative are to strengthen the ability of Science Granting Councils to: (i) manage research; (ii) design and monitor research programmes based on the use of robust science, technology and innovation (STI) indicators; (iii) support knowledge exchange with the private sector; and (iv) establish partnerships between Science Granting Councils and other science system actors.

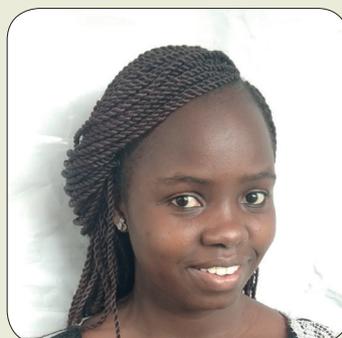
The Initiative is jointly funded by the United Kingdom's Foreign, Commonwealth and Development Office (FCDO), Canada's International Development Research Centre (IDRC), the Swedish International Development Cooperation Agency (SIDA), South Africa's National Research Foundation (NRF) and the German Research Foundation (DFG).

# SGCI's Innovative Support for Homegrown R&D in sub-Saharan Africa Excels

Sharon Atieno



Dr Ellie Osir, Senior Programme Specialist, IDRC



Sharon Atieno, Science Journalist

*done in South Asia, IDRC convened the first meeting joined by South Africa's National Research Fund (NRF) and United Kingdom's Department for International Development (DFID). Initially we were to work with eight SGCs as the criteria was to work with countries that have a Council, but more countries expressed interest."*

A Science, Technology and Innovation (STI) revolution is steadily emerging in sub-Saharan Africa (SSA). Results of ongoing Research and Development (R&D) activities in 15 countries show that, with appropriate support, SSA can discard the widespread notion of being a place where STI is at a standstill in a 21st century world that is seemingly overloaded with scientific prowess.

The region's Science Granting Council Initiative (SGCI) is behind ongoing innovative efforts to fund and strengthen the management and coordination of SSA's national science systems including productive engagement with policymakers and development partners in terms of coordination and practical promotion of technological activities within and beyond national borders.

*"Effective funding of Science Granting Councils (SGC) is contributing towards sustainable development driven by STI especially if the support focuses on research areas that directly contribute towards the socio-economic development needs of the participating countries,"* says Dr. Ellie - Senior Programme Specialist with International Development Research Centre (IDRC).

*"SGCs are central to funding and catalyzing research and innovation. Challenges facing the Councils include limited capacity, inadequate funding, overlapping roles and need for improved coordination with other agencies. There is also the urgent need for appropriate legislations and implementation of science and research funding policies,"* Dr Osir said during an interview focusing on various aspects of SGCI and the SGCs in SSA.

In discussing the origins of the Initiative, Dr Osir explained that *"because of the previous related work*

However, the ongoing silent revolution is also rooted in a five year programme document or proposal titled DFID, IDRC and NRF PARTNERSHIP STRENGTHENING THE CAPACITIES OF SCIENCE GRANTING COUNCILS IN SUB-SAHARAN AFRICA- March 30, 2015. The programme remains focused on research and evidence-based policies that contribute towards socio-economic development.

The countries involved in the Programme include Senegal, Burkina Faso, Cote d' Ivoire, Ghana, Uganda, Ethiopia, Kenya, Tanzania, Malawi, Zambia, Zimbabwe, Mozambique, Namibia, Botswana and Rwanda. According to Dr. Osir increases in science funding is in line with the Science, Technology and Innovation Strategy for Africa (STISA) 2024. However, governments will not put in more money if they don't see the outcome. The SGCs are supposed to use STI indicators to convince the government of the impact of their research.

African governments have made commitments to increase their Gross Domestic Expenditures on Research and Development (GERD). For instance, Kenya made a commitment to allocate 2% of the country's Gross Domestic Product (GDP) to research and development.

The key objectives of the programme includes strengthening SGC's ability to: manage, design and monitor research programmes using robust STI indicators; support knowledge exchange with the private sector and establish partnerships with other science system actors and it also meant appropriate networking and sharing.

Dr Osir pointed out that apart from low capacity to undertake their work, the Councils also worked in isolation across borders, focusing only on their own countries and this was worsened by the lack of funding from their own governments. Currently, for example, scientists in Uganda and Cote d' Ivoire are collaborating in research aiming to improve yam production.

Having been among leading researchers at the International Centre of Insect Physiology and Ecology (ICIPE) Dr Osir who is well versed in matters related to R&D activities in Africa, notes that SGCI's support for Councils to work together is among its major achievements. It included entering into cooperation agreements by signing MoUs and undertaking activities together. Even more the MoUs are supposed to enable the Councils to cooperate even after the SGCI ends.

Dr Osir said that *"We have supported SGCs to undertake high quality research competitions with calls being done properly while some are even done using online platforms to monitor research. If the Councils are able to make correct decisions about the research they fund, they will be able to have positive socio-economic impacts."*

The need for harmonization has become obvious. With SGCI support Councils are able to align their own priorities to be in line with those of national socio-economic development. However, Dr. Osir said, *"all Councils were not at the same level in their capacity meaning we had to change the approach to the program and make a more tailored approach in capacity strengthening which ended up being more expensive as it involved going country by country."*

Some Councils, for example, Kenya's National Research Fund (NRF) has a few people and if you're trying to build capacity and you have a few people it becomes challenging. *"Sometimes you train people and find that after a year they have been moved or transferred to other departments or organizations thus making continuity a challenge as you have to keep training new people. Working with the same people throughout ensures the sharing and utilization of knowledge,"* Dr. Osir emphasized.

### Emerging Trends

There is growing interest for the Councils to work together. The East African Community, for example, is trying to harmonize activities across the member countries. The Councils are also trying to work together in harmony with the concept of rationalization. The East African Science and

Technology Commission (EASTECCO) is a regional commission with membership that includes Tanzania, Uganda, Rwanda, Kenya, Burundi and South Sudan.

The emerging positive trend also includes a push to invest more money into STI. The African Union Commission (AUC) is pushing member countries to invest at least 1 % of GDP into R&D activities.

On matters of policies, Dr. Osir says *"changing policies, which is done by governments at national levels, was not really our interest but each commissioned paper resulted in a policy brief and might have in some cases influenced some policies but we do not have the evidence yet."*

### Future

The SGCI is attracting more funders and more interest. It started with pioneering three – IDRC, NRF and DFID-then Swedish International Development Cooperation Agency (SIDA) and Germany Research Foundation (DFG) came on board. The SGCI will expand, Phase One will end in September 2020. SGCI Phase Two started two years ago and was funded by SIDA, IDRC and DFG which has come particularly to fund research projects. A lot of funders are interested in providing funds to the Councils. The idea is that if they start being more active, their governments will come in and give more money to invest in STI.

### Manufacturing and Industrialization

Dr. Osir acknowledges that manufacturing and industrialization is a major objective of African countries. However, there was no explicit objective to focus on industrialization as such. It was not in the purview of the SGCI.

But it is well noted that the idea of moving from primary production like farming or agriculture to manufacturing is a key objective of most Councils as they want to align with national goals.

However, with appropriate policies industrialization and manufacturing can appropriately be linked to private sector partnerships involving engagements with academia and research institutes funded by SGCs.

This is more so if the researchers have the capacity to position their research for uptake. Finally, increased knowledge exchange with the private sector based on research evidence also enables SGCs to develop policies that strengthen links with actors in the sector thus promoting innovation.

# SGCI Addresses Africa's Research and Innovation Gap

Mary Hearty (Nairobi, Kenya)



Mary Hearty, Science Journalist

Science, technology, innovations and partnerships are essential for promoting economic and social development in Sub-Saharan African countries, according to the Science Governing Council Initiative (SGCI) Report.

Currently, STI is profoundly changing the way people live, associate, communicate and perform. In turn, this has strongly impacted socio-economic developments globally. However, there is still a huge research gap for STI systems to promote development in sub-Saharan Africa.

*“This is due to limited funding for research and innovation, low research management capacity and poor infrastructure”* the Science Granting Councils Initiative (SGCI) 2018 Annual Review Report. States.

Because of the above challenges, the SGCI is on the frontline strengthening national science systems through Science Granting Councils (SGCs) to promote economic and social development in Sub-Saharan Africa.

According to the Report, SGCI supports research that builds evidence to break the cycle of poverty, reduce inequalities and vulnerabilities, and help people live healthier and sustainable lives.

The Initiative was launched to produce more effective research management practices among Councils; strengthen ability to design and monitor research programs, formulate and implement policies based on STI indicators.

The Initiative is increasing the ability of the Councils to promote knowledge transfer to the private sector, and increasingly coordinated and networked Councils.

The Councils made tremendous progress towards achieving the objectives including strengthening collaborations through new formal agreements between the participating Councils. *“A number of these agreements have led to joint calls for proposals to support research in areas of mutual interest,”* For example, an agreement involving the East African Community (EAC) member States that includes Kenya, Uganda, Tanzania and Rwanda, resulted in a call for proposals and the funding of two joint projects on manufacturing.

Besides, two new Councils, Malawi and Mozambique involved the private sector in launching calls for project proposals.

During their 2018 assessment, Malawi's National Commission for Science and Technology (NCST) and Mozambique's Fundo Nacional de Investigacao (FNI) engaged private sector actors in the context of issuing calls for proposals and co-funding of research projects.

The private sectors under those calls were included as research partners. The calls indicated that they were involved in the conceptualization and execution of projects; mobilization of members through associations; uptake and commercialization of research findings.

In Malawi, the call focused on renewable energy, a project on Piloting Biogas Production as a Solution to Municipal Waste Management at the country's largest open-air market.

Whereas, in Mozambique, the call focused on tourism, developing technology applications and approaches geared towards enhancing the country's tourism industry.

Furthermore, Cote d'Ivoire, Burkina Faso, Zimbabwe, among others made strategic partnerships and collaborations with the SGCI.

These partners disbursed research grants to Mozambique and Namibia on agro-processing; Senegal and Burkina Faso on agriculture and health; Uganda and Cote d'Ivoire on agriculture and plant health environment and human health. EAC countries also received research funds on manufacturing.

Nevertheless, the Councils stated that limitations were encountered during disbursement of the research grants. These included low number of applications; submission of low-quality research proposals and language barrier.

More challenges were incompatibility between online and paper-based proposal submission systems; limited contracts management capacity and over reliance on external reviewers which delayed the process.

Luckily, some of these limitations were addressed during various forums. For instance, in May 2018, a multi-stakeholder forum was organized in Burkina Faso to address barriers in public-private partnerships for research and innovation.

Moreover, the SGCI came up with grant management trainings for the Council's stakeholders from universities and research institutions during the reporting period.

For example, Southern African Research and Innovation Management Association (SARIMA) and its partners supported Mozambique and Namibia to carry out high quality competitions.

*"SARIMA's training has enabled Namibia to incorporate an appeal process when making grant rules. While Mozambique has asked for additional assistance with its monitoring and evaluation framework,"* the SGCI Report explained.

SARIMA also conducted a conference to raise awareness about the use of the professional competency framework. This was done in order to strengthen sustainable research management capacity of Councils through professional development and training. In addition, SARIMA launched six on-line training courses in September 2018. Fortunately, the Councils showed tremendous interest with about 142 enrollments and an average 23 learners per course.

Agencies like African Union Development Agency –New Partnership for Africa's Development (AUDA-NEPAD) supported the Councils by training them on the processes, procedures and methodologies for collecting data and tracking impacts of their research.

Similarly, the Councils in Botswana, Burkina Faso, Ethiopia, Rwanda, Senegal and Zambia received technical support during the period to modify their data collection tools. They were also trained on data collection, analysis and use.

Even though most Councils lacked strong STI data infrastructure to make data accessible, AUDA-NEPAD promised to support the Councils build data infrastructure that would help demonstrate results of the research.

Other concerns that the SGCI Report emphasized on were gender and inclusion in their work. These were factored as key priorities in research projects.

For instance, PASRES in Cote d'Ivoire organized a workshop on Science, Research and Gender to celebrate women in STI, encourage girls to get more involved in STI, and provide a platform for sharing global and regional experience.

Also, Burkina Faso asked for assistance with gender mainstreaming. Again, SARIMA, has developed an online course specifically on gender in science and technology and 16 Council participants have shown strong interest in the course.

Additionally, the Initiative supported Burkina Faso and Cote d'Ivoire to participate in the West African Research and Innovation Management Association (WARIMA) meeting in January 2018. The aid was to promote women's participation in their research.

The SGCI Report pointed out that women were included in a panel discussion on new approaches to funding research and innovation during the review period. Beyond these achievements, the SGCI also demonstrated value for money during various activities.

The Councils hosted training sessions in their premises, and some training events were conducted with other meetings to save costs. For instance, SARIMA held training workshops alongside 2018 Regional meeting and the Annual Forum.

Similarly, the SGCI mentioned that Collaborating Technical Agencies (CTAs) conducted training workshops instead of depending on consultants. Again, NEPAD used local experts from agencies such as National Statistics Offices and Ministries of Trade in its trainings.

Through its effort in promoting STI in sub-Saharan Africa, the SGCI continues to encourage the Councils to engage governments to increase investments in research and development to close this gap



# BOTSWANA

## Private Sector to Participate in Research and Innovation

Justice Kavahehatui, (Gaborone, Botswana)



Lesego Thamae, Director, Department of Research Science and Technology



Justice Kavahehatui, Science Journalist

Botswana is in the final stages of formulating a private sector engagement strategy for research, science, technology and innovation, whose development has been funded by the Science Granting Councils Initiative (SGCI) to the tune of \$50,000.

When in place, the strategy will help the country to improve the management and coordination of research and innovation.

*“Primarily we are trying to get our private sector to participate in research and innovation and are still working on the strategy. But the good news is that we were able to secure funds to be able to complete the work and it was 100% funded by the SGCI,”* said Abraham Mathodi, Botswana’s Chief Research Science and Technology Officer with the Department of Research Science and Technology.

Botswana faces a number of challenges in the area of science, technology and innovation, chief among them limited funding and a small private sector.

*“The private sector is still small. Research and innovation are done in a very limited scale”* says Lesego Thamae, a director at the Department of Research Science and Technology.

Through the Initiative, Botswana’s engagement strategy will look at how to bring interest from the private sector to participate and have a role in research, either through partnerships with the public sector as well as on their own initiative, she explains.

According to Thamae, the country did not have the means to attract the private sector into research and development. *“So, the strategy that the SGCI is helping us to design with will give us an opportunity to look at ways in which the country could attract the private sector into research funding.”*

The SGCI is focused on strengthening the capacities of SGCs in order to support research and evidence-based policies that will contribute to economic and social development in sub-Saharan Africa.

Thamae says Botswana’s participation in the SGCI has enabled “us to see what we can do, with regards to strengthen private sector-led research and to attracting research grants to drive research agenda.”

She says institutions, such as universities, are key players in research and development and that there is a need to have synergies between institutes of learning and the private sector.



Oabona Monngakgotla, Deputy Director, Department of Research Science and Technology, Botswana

*“For instance, a university may have the capacity to do research and innovation, but if the private sector does not take up the technology from the university then the whole process defeats the purpose of research. Or if the university does not relate with the private sector, the university will not know what the private sector needs,”* she emphasized. One of the objectives of the SGCI in sub-Saharan Africa is to support knowledge exchange with the private sector; and also, to establish partnerships between SGCs and other science system actors, an objective, which Thamae, says will go a long way in having a coordinated and well-funded research and innovation on the continent.

She said the private sector in sub-Saharan Africa needs research and new information in order for them to grow and flourish.

*“Big enterprises need more research, unfortunately for the big corporations most of them originate from outside the country. So, they’ll already have established research centres elsewhere, but if within the country we can demonstrate our capabilities to improve their products through research we should be able to attract them to setup in the country or to have Botswana researchers as an alternative,”* the director said, adding, *“that that could only come through building capacity of these institutions to conduct cutting-edge research that can compete with the world over.”*

Sub-Saharan Africa needs the right support system such as the SGCs in order to succeed in the area of research, science, technology and innovation so that the SGCs can leverage better international grants and harness the private sector funding for research and innovation.

*“In Africa we have got inadequate funding for research and the understanding is that there is a lot of research funding in the global space but to access such funding you need to come as partners. It is difficult to access these funds as individuals.”*

Botswana does not have a stand-alone SGC. Instead, a government department that is coordinating research. In other countries, the SGCs are policy implementers while the Government department is the policy maker.

*“Yes, we have an Innovation Hub. But there is need for a strong, statutory SGC to spearhead research that would feed into the hub. It is necessary to have both Innovation Fund as well Research Fund in a country,”* says Thamae.

The 2011 Botswana National Policy on Research, Science, Technology and Innovation has recommended the establishment of the Research Council but this is yet to be realized. The government should prioritize actualization of this important policy provision since STI is the backbone of any economy.

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...a university may have the capacity to do research and innovation, but if the private sector does not take up the technology from the university then the whole process defeats the purpose of research. Or if the university does not relate with the private sector, the university will not know what the private sector needs

# BURKINA FASO



## Indepth Interview with Dr Hamidou Tamboura, Director General,



*Dr Hamidou Tamboura, Director General, National Fund for Research and Innovation for Development (FONRID)*

*Animal scientist Dr Hamidou Tamboura is the Director General of the National Fund for Research and Innovation for Development (FONRID). In this interview, he explains the role of Science Granting Council Initiative (SGCI) responsible for funding research in Sub-Saharan Africa and networking for capacity building.*

### **Q. What has been the role of SGCI in charge of research funding in sub-Saharan Africa (SGCI) in Burkina Faso?**

The SGCI is an inter-institutional organization. It was set up at the sub-continental level and is represented in Burkina Faso by the National Fund for Research and Innovation for Development (FONRID). It is in charge of financing science, research, innovation and a large part of the valorisation of research results. We have been officially mandated by the Government of Burkina Faso through the Ministry of Higher Education and Research to represent the country in this Initiative. In this sense, we are making our contribution based on our experience in research funding at the national level. We are also working with agencies in other countries that are a little more experienced. FONRID is playing this role in Burkina Faso as the focal point for SGCI.

### **Q. What research have you funded under this initiative?**

The SGCI in Burkina Faso through FONRID has several components. As far as the research component is concerned, it is in miniature. Because so far, there are

only two projects that we have been able to finance under the SGCI umbrella.

These are bilateral projects between Burkina Faso and Senegal, where our Council has signed agreements with the Senegalese. We launched a call for projects which enabled us to select two projects. In each project, there are Burkinabe and Senegalese researchers working on the same theme.

The first theme concerns agriculture. It deals with the quality of soils that have been exploited a lot, but with the soil fertilization aspects, there has been an accumulation of certain minerals and this has caused a drop in productivity. So a team of researchers is working on this component of the project in Sourou (western Burkina Faso).

The second theme is related to senior citizens, a very original subject in terms of health and well-being. If we have a long life, we are all called to pass this stage. But curiously, little work has been done on this fringe of the population, although these people have many problems. These problems are health, social and societal in nature, so we felt it was appropriate to fund a research theme on this population group. This second project is being carried out with two sub-teams of researchers, one in Senegal and the other in Burkina Faso. These researchers are working to gain a better understanding of these problems in order to make proposals for solutions.

There is also another component which concerns the reinforcement of the capacities of research actors in Burkina Faso. In this area, the SGCI has financed training sessions that concern many Burkinabè in this aspect. The sessions were organised with the support of experts sent to us by SGCI.

They worked on interesting themes such as "writing a good research project; "respecting research ethics;" taking into account the desires of policies and ensuring that research is relevant. There is also a third component, which is to support the country in identifying indicators that are most relevant and can motivate policymakers to fund more research.

**Q. Was there networking of all the trained researchers?**

There was a kind of informal network of all the scientific and innovative researchers who benefited from the training in the form of a database. When there are calls for projects that are launched, whether they are national or international calls, our researchers are more effective in attracting funding for their activities. There have, for example, been three international calls with the European Union where we have been able to glean some projects. There are ongoing calls where our teams have been pre-selected and we are awaiting the final results.

**Q. Are there any prospects in terms of all the activities you have been able to carry out under the SGCI umbrella?**

With the first phase having ended, the prospects of a possible second phase exist because we have learned a lot from what our colleagues are doing. There are

ways of organizing, working, financing and monitoring projects that we are not sure we could have known or learned if we hadn't had the contacts.

There were 15 countries with different experiences including only three Francophone countries. But we learned about support intervention. As much as we have benefited, We think that we need to work with our local experts who know the environment well and can identify the need for capacity building and fill that need. The formulation of the second phase has taken this aspect into account and we welcome it.



# CÔTE D'IVOIRE

## SGCI Strengthening Collaboration with Private Sector and other African Countries – Interview with Dr Yaya Sangaré

Theodore Kouadio



Dr Yaya Sangaré, SGCI National Coordinator



Theodore Kouadio, Science Journalist

Dr Yaya Sangaré, SGCI National Coordinator: *“The initiative has helped us improve our relationship with the private sector Second Phase of the sub-Saharan Africa Science Granting Councils Initiative (SGCI) begun this year -2020.”* He discussed various aspects of the Initiative in Côte d'Ivoire.

### Q. What can we learn from the SGCI Initiative in Côte d'Ivoire?

The Sub-Saharan Africa Science Granting Councils Initiative (SGCI) has helped develop our capacity including research funding structure in Côte d'Ivoire. It also provided an opportunity for research funding structures in Francophone and Anglophone African countries to work together. In other words, thanks to the Initiative countries like Mozambique, a Portuguese-speaking country collaborates with the French and English-speaking African countries.

### Q. What impact has the different languages had on the quality of research?

Generally speaking, the scientific methods are the same. It is the environment in which we live and work that will positively impact research. So, working with

English or Portuguese-speaking countries had a positive impact on our research. Working together has allowed us to improve our understanding of the facts.

### Q. Which are the organizations supporting or Funding the Initiative?

The sub-SGCI is supported by several organizations namely the United Kingdom's Department for International Development (DFID), Canada's International Development Research Center (IDRC), South Africa's National Research Foundation (NRF), Swedish International Development Cooperation Agency (SIDA).

### Q. What are the priority objectives?

The Initiative is structured around four priority or key objectives that include strengthening the capacities of Science Granting Councils (SGC) or research funding organizations in Sub-Saharan Africa to better manage research, design research programs based on the use of solid indicators in terms of Science, Technology and Innovation (STI), promote the exchange of experience

and knowledge with the private sector and finally, strengthen the partnership Science Granting Councils. These objectives are operationalized by the Technical Collaboration Agencies (SARIMA, NEPAD, ACTS and ATPS).

**Q. What research projects has Côte d'Ivoire been able to set up with other countries within the framework of SGCI?**

Mixed teams of Ivorian and Ugandan researchers carried out studies on diseases of yam and rice in the Strategic Support Program for Scientific Research (PASRES). The two successful research projects were in the area of agriculture and food security. The Ugandan Geoffroy Onaga and Ivorian Fatogoma Sorho carried out an "epidemiological study of viral diseases of yam in Côte d'Ivoire and Uganda". As for Titus Alicai from Uganda and Justin Pita from Côte d'Ivoire, they worked on a "Robust screening of rice varieties from Côte d'Ivoire for resistance to viruses and vectors endemic in Uganda".

**Q. What difficulties have you encountered in Côte d'Ivoire?**

The initial challenges were communications. The basis of work was English. But a lot of effort was made to translate the documents into both languages. There was also capacity building in English. Great efforts have been made by all to overcome this barrier. The other difficulty was that, at the beginning of the initiative, research funding bodies were not very involved in the project. This concern was taken into account in phase two of the Initiative that is starting in 2020. As a research funding organization, one of our concerns is to ensure that research funding focuses on production sectors.

The Initiative has helped us improve our relationship with the private sector. Our objective is to support the implementation of projects involving researchers and the private sector. Two of such projects were selected. The project of Prof. ADOUBI Kopoin of INPHB (Yamoussoukro) involving the Textile Company of Côte d'Ivoire (TEX-CI) and the project of Dr. Konan Waidhet

of UJLOG (Daloa) involving the Cooperative of Rice Producers (COPRORIZ).

Prof. ADOUBI Kopoin worked on "Realization and managing of a mobile prototype for electrolytic decontamination of industrial wastewater". While Dr Konan Waidhet worked on optimizing rice production in the Nana rice area in Yamoussoukro.

**Q. What is the difference with the first phase?**

Fifteen African states, including Burkina Faso, Côte d'Ivoire, Senegal and Rwanda participated in the first phase, which lasted five years. It was mainly focused on building the capacity of Science Granting Councils so that they can promote research excellence. It received a budget of 13 million Canadian dollars (approximately six milliards de FCFA). The second phase of the SGCI will have a budget of 14.5 million Canadian dollars (6.62 milliards de FCFA), financed by the Swedish International Development Cooperation Agency (Sida) - and the CRDI, with the largest part allocated for research.

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# ETHIOPIA

## SGCI Strengthens Research Capacity in Ethiopia – Interview with Dr. Abraham Debebe Woldeyohannes

Mekonnen Teshome (Addis Ababa, Ethiopia)



*Dr Abraham Debebe Woldeyohannes, Director General of Innovation Development and Research Affairs, Ministry of Innovation and Technology, Ethiopia*



*Mekonnen Teshome, Correspondent, Science Africa (S.A)*

*Ethiopia is one the 15 sub-Saharan African countries that are members of the Science Granting Councils Initiative (SGCI) in Sub-Saharan region which aims at strengthening the capacities of Science Granting Councils (SGCs) to support research and evidence-based policies. Abraham Debebe Woldeyohannes (PhD, CEng) is the Director General of Innovation Development and Research Affairs at Ministry of Innovation and Technology which oversees grants for innovations and scientific researches in Ethiopia. ScienceAfrica (S.A) correspondent Mekonnen Teshome sat with him for interview in Addis Ababa.*

### Q. Could you tell us briefly about your educational and professional background?

I am a mechanical engineer by profession. I hold my first and second degrees from the Addis Ababa University and my doctorate degree from the University of Teknologi Petronas, in Perak, Malaysia. I am now serving as the Director General of Innovation Development and Research Affairs at Ministry of Innovation and Technology since August 2019. I am an Associate Professor at the Addis Ababa Science and Technology University.

### Q. How do you evaluate the national research management capacity in Ethiopia?

The history of modern research management in Ethiopia goes back to 1975 when the country established the Ethiopian Science and Technology Commission (ESTC). The commission is mandated to plan, coordinate, select and approve national research programs, projects and activities. Since then, various research councils have taken the initiative to undertake multi-dimensional and multi-disciplinary research activities in Ethiopia over the years.

Innovation and technology play a crucial role in improving the quality of life by creating a conducive environment for people. As a result, the government of Ethiopia has strong vision of leading the country to become a middle-income economy using innovation and technology as the backbone for creating high quality jobs and establishing sustainable and inclusive economic growth.

The innovation development and research affairs division is responsible for preparing the research calls, managing research, promoting innovations, monitoring and evaluating the progress of research and funding different research on strategic direction of the country.

Although Ethiopia has a rich research experience, there are factors that require significant improvement to enhance the scientific research activities in the country. One of the most important is creating awareness and clear understanding on the role of science, technology and innovation among the general public and stakeholders involved in research.

In addition, it is also important to create strong collaboration among pertinent bodies like higher

educational institutions, public offices and private sector. Supporting the research management system with technology and creating conducive research ecosystem is also vital. If the above areas of improvement are addressed, researchers will have a conducive environment to conduct researches on the strategic focus areas of our country to improve the lives of the people and contribute to the economy.

**Q. How does research funding function in Ethiopia?**

The research at Ministry of Innovation and Technology (MInT) is led by National Science and Technology Research Council (NSTRC), which is mandated to identify priority areas to support the national economic transformation. NSTRC is supported by technical experts composed of various disciplines from the renowned universities, research centers, industries and other sources.

The Ministry of Innovation and Technology has Innovation Development, Research, Award and Recognition Directorate dedicated to managing the research activities within the country. This directorate supported by national technical committee has guidelines to manage all research activities within the country.

**Q. How do you assess the cooperation among multisectoral actors and private sector engagement towards effective research management in Ethiopia?**

As I mentioned earlier, the cooperation and the synergy among pertinent bodies like our universities and research institutions, public offices, non-governmental organizations and the private sector requires significant improvement to create conducive R&D ecosystem.

It is important for the industries to flag their problems and challenges to university, research institutes and R&D centers to get innovative solutions. The universities should align their research areas and strategies with our country's strategic R&D agendas. Moreover, the research institutes should interact to discuss and assist industries in identifying problems and develop research topics. On the other hand, Government as an institution supporting R&D activities should create link between the industries and research institution by availing the research funds through robust research management system.

I believe, if all R&D actors synchronize their efforts and implement strong research management system, we will be in good position to benefit. The government is committed to support and create a conducive innovation ecosystem. That is why R&D is the top agenda in our newly launched ten years' perspective plan.

**Q. Do you think that research activities adequately consider gender equality and inclusivity?**

Despite the fact that ensuring gender equality in higher education system is high on the agenda worldwide particularly in science disciplines, we are still lagging behind to meet the desired target.

We have a long history of gender inequality, with poorer women and girls especially facing multiple disadvantages. We understand that gender discrimination affects not only women but also the overall growth of the economy. Therefore, at present, we are registering remarkable achievements in narrowing the historical gender gap. These positive efforts are undertaken at all levels in the country. Women now take up 50% of ministerial cabinet appointment and they are numerous in other administrative levels. The number of women studying at higher learning institutions in all fields is rising steadily. The same is true in various research institutions. Women are encouraged and incentivized to do scientific researches.

**Q. Does the Council organize regular dialogues with policymakers and the academia?**

The Ministry of Innovation and Technology (formerly the Ministry of Science and Technology) has always engaged with policymakers, other pertinent stakeholders like universities, civic societies and

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The Government is committed to support and create a conducive innovation ecosystem. That is why R&D is the top agenda in our newly launched ten years' perspective plan.

associations working on STI. Therefore, we have always organized dialogue with these partners with a view to advance STI in Ethiopia. Of course, we need to further push this and address the various problems regarding engagement of with our stakeholders and improve our granting scheme in the years to come.

**Q. What do you think about the importance of involving in the Science Granting Councils Initiative (SGCI) in the sub-Saharan Africa?**

In involvement in Science Granting Councils Initiative (SGCI) benefits us in many ways. First, it provides us an opportunity to strengthen our research management through its various capacity building trainings and workshops. Secondly, it is very helpful in creating important networks of scientific communities and researches in which we take knowledge exchange and collaborative advantages. As you know the task of research is a team work and being in the SGCs network gives us a better chance of collaboration and teamwork. I think this is a great advantage. Thirdly, financial resources needed for research activities are always scanty and the SGCI is one of the means of accessing funds for research activities. The initiative is also a good platform in ensuring research quality and monitoring. In addition to the technical trainings offered to guarantee quality of research, it offers peer review and monitoring mechanisms which is very important and vital for scientific communities like ours.

**Q. Can you give us the gist of Ethiopia's participation in the SGCI so far?**

Ethiopia has been actively participating in the SGCI programs from its first needs assessment studies to the online trainings that involved many professionals in Ethiopia. In addition, our participations in SGCI workshops, conferences and other initiatives, we hosted the annual SGCI meeting in Addis Ababa in 2019. We received a good feedback from the participating team on the event.

The online training programs were offered to researchers drawn from 30 universities across the country so as to build their research management capacity using the interactive application loaded on SGCI's Website—the Virtual Hub platform. The online trainings focused on cross-cutting strategic areas, including gender inclusiveness, how to collaborate with partners and practical examples in various countries

and benchmarking. This was really a wonderful experience. Other Ethiopian researchers got the opportunity to participate in face-to-face trainings held in various sub-Saharan countries where various mentoring programs were facilitated on well-organized research management. The SGSI's networking is also another opportunity for our researchers to get possibilities of accessing alternative sources of research funds. We participated with SGCI members to jointly apply for EU and other funding agents.

Currently, we are participating in the ongoing research grant "COVID-19 Africa Rapid Grant Fund" in which we are involved as members of scientific communities in the sub-Saharan region. It is a good opportunity for our researchers to provide solutions to combat COVID-19 in our content.

**Q. What are the major lessons learnt through participating in the Initiative?**

Taking part in the SGCI so far, we have drawn great lessons. First and foremost, it is a privilege for us being part of the research community to provide solutions to continental issues in addition to the experience and knowledge sharing with members of SGCI as joint applicant to access continental and international funds. The trainings on how to run effective scientific researches and online training programs for monitoring and evaluating various research works involving multiple stakeholders are some of the highlights of the lessons.

**Q. What are your expectations of SGCI's future activities?**

As one of associate countries of SGCI in the sub-Saharan region, we look forward to a vibrant and strong Initiative that cements further cooperation and teamwork among member nations so as to strengthen the research capacity of our national granting councils both technically through a range of trainings and financially through soliciting financial resources.

**Q. Anything you want to add?**

First of all, I want to thank all the SGCI team working tirelessly to enhance the impact of R&D activities to provide innovative solutions to continental issues. I am also grateful for every opportunity provided for us. As a member we are committed to play our parts by supporting the Initiatives from the council. Finally, I would like to thank you for giving me this opportunity to tell our story. Thank you!

## GHANA

# Ghana Hails SGCI's Role in Transforming Science and Technology Sector

Joseph Opoku (Accra, Ghana)

The Government of Ghana has hailed the extra-ordinary role that the Science Granting Councils Initiative (SGCI) has played over the last five years in helping transform Science, Technology and Innovation (STI) in the country.

Oliver Boachie who is the Special Advisor to the Minister of Environment, Science, Technology and Innovation says Ghana's participation in the SGCI has seen the nation benefit from capacity building initiatives, as well as other support aimed at putting STI at the center of national development.

*"We have received training on research management using grant management systems. That is a whole process of issuing calls for proposals, receiving proposals, vetting, allocation of resources, management of the resources, tracking of the output and so on,"* he said during the interview.

Ghana is one of 15 countries in sub-Saharan Africa benefiting from the initiative with the Ministry of Environment, Science, Technology and Innovation as the national coordinating institution.

*"Their support ensuring that we are doing research properly., funds are appropriately utilized, the output of research is tracked and made relevant to national development,"* Mr. Boachie explained.



Akufo-Addo, President, Republic of Ghana

*"They are ensuring we have research infrastructure and policies, human capacity to do research, robust evidence-based metrics to measure how research is being done, commercialization of research including how to engage the private sector and academia in transforming research output into products and intra-member collaborations,"* he added.

As part of efforts to ensure research outputs do not end up on shelves but are commercialized, government has begun processes to establish the Ghana Innovation and Research Commercialisation Center (GIRC - Center). The Science Granting Councils through organisations like the SCINNOVENT Center and the African Center for Technology Studies provided Ghana with funding to conduct two separate studies that formed the basis for the establishment of the GIRC - Center.

*"The first was to do a study on what kind of research Ghana has done over the last decade and what has been the output of those research in terms of real utilization of the research. It's going to form the basis of the database that will catalogue all the research that is being done which the GIRC - Center will work with,"* Mr. Boachie explained.

*"And the second study is what we call the innovation ecosystem. What exists in the country in terms of those who are establishing innovation hubs and what areas they are into? What challenges are they facing, and what support can government give them? So, they paid for these studies to be funded,"* he added.

Ghana has also benefited from research works of other countries which are part of the SGCI through collaborations. *"One of the things people worry about is people stealing their intellectual property. Open Science is the protocol to ensure there is sharing of data and research activities and output. These are some of things that we have benefited from or learnt from our participation in the SGCI,"* he explained.

The SGCI recently issued a call for proposal for scientists to apply for funding to undertake research on how to deal with COVID-19, and also funding for journalists to properly tell COVID-19 related stories.



*Oliver Boachie, Special Advisor to the Minister of Environment, Science, Technology and Innovation, Ghana*

Ghanaian applicants submitted 20 proposals for vetting and 17 have been approved to receive funding for research.

The ministry is confident this will go a long way to strengthen Ghana's efforts to deal with COVID-19. Two Ghanaian researchers are also receiving \$1 million each from the OR Tambo Africa Research Chairs Initiative in South Africa which is among the nations funding the SGCI.

*"I think the SGCI has been a very supportive Initiative for Ghana and all the other African countries involved. Our situation in Ghana from the start was not the best. Because to be an SGCI member, you have to have a fund set up to support research and innovation which Ghana didn't have. But because of the unique role that Ghana plays in academics, they granted us a special dispensation and we are benefitting now,"* Mr. Boachie explained.

Ghana has since begun processes to establish the Ghana National Research Fund into which government will allocate money to the tune of at least 1% of Gross Domestic Product (GDP) to fund research and development.

Through the SGCI, Ghana has benefited from knowledge transfer from South Africa in establishing the fund. *"On funding, we are using South Africa as a model. South Africa gave Ghana its own bill to set up the system for the fund,"* he explained.

One of the seven pillars of the STI transformation initiative in Ghana has been the rolling out of plans to establish Science and Technology Centers to specifically support eight identified Strategic



*Joseph Opoku, Science Journalist, Accra, Ghana*

Technology Areas (STAs) where Ghana has competitive advantage.

*"The goal is to set up facilities around the country in these areas of competitive advantage for each of the STAs. We can have multiple centers where training is provided for our youth and also includes commercialization and piloting some of the innovations. It will also provide consultancy for those who need such services,"* Mr. Boachie said.

When President Akufo-Addo announced the establishment of the centers, he said; *"these facilities will be engaged to manufacture tools, equipment and instruments to support key sectors of the economy such as agriculture and industry. The goal of this initiative is to accelerate industrialisation, help solve the problem of widespread unemployment in the country and help generate wealth that will stay in the country,"* he added.

Mr. Boachie says the idea for the establishment of these centers came from South Africa. *"There is the equivalent of what we are trying to set up here in South Africa. They call it technology stations. Those are located in public research institutions and public universities in South Africa. Because of their track record, they provided experts to work with us to develop our own framework with what we want to do with the STAs,"* he explained.

*"Now they have seen the bold initiatives that we are rolling out. And they are working closely with us to ensure we succeed in the strategies we are developing and implementing. And I think as we go along, the collaboration will be even more enhanced. And we are very hopeful that we are going to benefit a lot from the science writing granting councils initiative. We are poised to play our part,"* Mr. Boachie added.

*"Phase One ended at beginning of this year. They have agreed to fund phase two. It's hard to tell how much money the funders have put in, but I can tell you a lot of progress has been made... And in Phase Two, they are allocating financial resources for us to strengthen our infrastructure for us to do research and stuff,"* he added.

# KENYA

## SGCI, NRF Promoting Science, Technology and Innovation in Kenya

Mary Hearty (Nairobi, Kenya)



*Dr Jemimah Onsare, Chief Executive Officer, National Research Fund (NRF)*



*Mary Hearty, Science Journalist*

Science, Technology and Innovation is the foundation pillar of economic growth in both developing and developed countries. This is possible by creation of new knowledge through research and development.

Over the past years, research and development in sub-Saharan Africa has been inadequately supported as the Research expenditure below the recommended 1 percent of the Gross Domestic Product (GDP).

The trend is slowly changing as most countries are now realizing the importance of research and development for the growth of a country's economy.

For instance, in Kenya, the Government has established three entities including National Research Fund (NRF), Kenya National Innovation Agency (KENIA) and National Commission for Science Technology and Innovation (NACOSTI) to support the advancement of a vibrant National Innovation system.

Participation of the Kenyan ST&I Governance entities in the Science Granting Councils Initiative (SGCI) has strengthened their capacity in management of

Research and Innovation through sound policies. Speaking during an interview with ScienceAfrica, Dr Jemima Onsare, Chief Executive Officer at the NRF, Kenya acknowledged the support the organization has receiving from the SGCI since its inception during the 2016/2017 financial year.

*"We have been working closely with the SGCI and I acknowledge with gratitude the various benefits from the initiative including trainings on research management, research funding and learning from diverse experiences of other involved member countries including NRF, S. Africa*

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Many women are making tremendous breakthroughs in various research projects and innovations, and to ensure continuous support and promotion of gender equity, NRF observes the relevant policies on this aspect

*which is one of the key facilitator of this initiative. We are now able to prepare quality research calls and related guidelines as well as the various research management tools “.* Dr Onsare reiterated.

Dr Onsare specified that currently NRF supports programmes that are in tandem with the Government priorities specifically on food security, Health, affordable housing and Manufacturing. Moreover, NRF focuses on gender empowerment by encouraging women to apply for grants. “Many women are making tremendous breakthroughs in various research projects and innovations, and to ensure continuous support and promotion of gender equity, NRF observes the relevant policies on this aspect”. She explained.

*“Irrespective of the progress made by the Agency as reported here, the institution is still at infancy stage and most of our processes are currently being developed. The*

*other challenge is reduced funding which is attributable to COVID -19 crisis related global recession which has affected various sectors across the board leading to delays in implementation of some of the research programmes as the Government focus now is on the post COVID-19 recovery. This calls for resource mobilization from other stakeholders such as the development partners, philanthropist as well as the private sector.”* Dr Onsare said.

Countries in sub-Saharan Africa are therefore encouraged to seize the opportunity brought by the SGCI help alleviate poverty in the continent.

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Irrespective of the progress made by the Agency as reported here, the institution is still at infancy stage and most of our processes are currently being developed. The other challenge is reduced funding which is attributable to COVID -19 crisis related global recession which has affected various sectors across the board leading to delays in implementation of some of the research programmes as the Government focus now is on the post COVID-19 recovery. This calls for resource mobilization from other stakeholders such as the development partners, philanthropist as well as the private sector



# MALAWI

## SGCI Boosts Research, Innovation in Malawi



Professor Elijah Wanda, Director, National Commission for Science and Technology (NCST)

*With limited funding, researchers in Malawi, especially those in public universities, have remained idle and the country loses out from tapping intellectual wisdom from these scientists necessary for socio-economic development. The National Commission for Science and Technology {NCST}, is part of the project aimed at strengthening the capacities of Science Granting Councils (SGCs) in sub-Saharan Africa to support research and evidence-based policies contribute to economic and social development. How has Malawi benefited from the initiative? Suzgo Chitete engages the Director for NCST Professor Elijah Wanda who shares some insights on the initiative.*

### **Q. First give us a brief about National Commission for Science and Technology (NSCT)**

NCST was established in 2010 following an act of parliament the science and technology act in 2003. It is a statutory corporation with a mission is to promote, coordinate and regulate research that is directly linked to issues of science and technology.

We are responsible for advising government on all science related matters including innovation that come from science and technology. We are also part of the international community of councils which include the Science Granting Councils Initiative in Sub-Saharan Africa.



Suzgo Chitete, Science Journalist

### **Q. You have mentioned the Science Granting Councils Initiative – how does it compliment your work?**

Well SGCI works to strengthen the capacity of science councils at national level like the NCST. The idea is that national councils should be able to support evidence-based policies through research and contribute towards national development. The hallmark of the Initiative is to promote science and technology for improved livelihoods and this is exactly what we stand for.

### **Q. Having been part of the Initiative for years now – are there quick benefits that you can share?**

We have benefited quite a lot as an institution and consequently the nation as a whole. One of the benefits is that through the initiative we have been able to boost our capacity in our understanding of science and technology; we are able to better manage issues of research, research grants and contracts as well. We have benefited in terms of designing programs, policy formulations, and we have helped

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The idea is that national councils should be able to support evidence-based policies through research and contribute towards national development.”



policy formulations in a number of areas. So, the benefits are quite many to mention them all.

**Q. What does it mean for you to be part of such a huge community of Councils in sub-Saharan Africa?**

I needed to mention that we have also benefitted in terms of the network. Being part of such a community it allows for easy linkages and sharing of ideas. I must also stress that members of the commission have hugely benefitted in terms of trainings; we have a better workforce today because of these capacity building programs under the SGCI. To us that's the better investment because the knowledge gained helps us to do the job better.

**Q. Let's talk about innovations out there – researchers from the Lilongwe University of Agriculture and Natural Resources (LUANAR) and Malawi University of Science and Technology (MUST) are making life-changing innovations; we talk about a solar-powered milking machine and use of biomass for electricity. How did these innovative researchers become part of the Initiative?**

I am glad that you are already noticing the impact. Let me mention that while I talked about our benefit as an institution there are also benefits to the people. Under the initiative, grants are provided to researchers to do research as a way of encouraging evidence-based policies and innovations. We are moving in phases.

Those projects at LUANAR and where MUST is a principal investigator are innovations in the first phase but we are moving in the second phase where we have other huge projects – but this one is specifically for agriculture and biotechnology. We have already issued a call for proposals on that one and we are expecting to receive more applications.

**Q. After these life-changing innovations have been developed like the solar-powered milking machine, as an example, what happens next?**

One, we need to protect the innovation in terms of intellectual property. Then we need to assist with commercialization of the innovation and then there is also an aspect of technology transfer – so that more and more people benefit from the same. It is within our mandate to promote the technology so that it benefits the communities otherwise without such all these efforts will be in vain. Remember we are promoting science for socio-economic development. So what's the use of having an innovation that people cannot access?

**Q. Looking at all the innovations developed so far under SGCI is there one you consider the best?**

Well, there are best in their field. If you look at every project it has an area of focus hence, we cannot really say this is more important than the other. They are solving different challenges. If you look at the Principal Investigator {MUST} their focus is on solving energy challenges using biomass. LUANAR is focusing on dairy farming. So each project is unique and what I can say is that we need more and more of those. We are glad we have this partnership.

**Q. You say that when it comes to calling for proposals the response is overwhelming. This indicates that more people are willing to do research. So apart from SGCI grants do you have a ready fund to support these willing researchers?**

That's a good question and that's our big challenge where there is need for advocacy. People need to appreciate that science and technology can significantly contribute to the economic development of the country. The science and technology act provides for government to provide money in the science and technology fund. So the law in 2003 provided for this fund but this institution only got established in 2010 and since then there have been no funds for research. What we receive is not even enough for operations. So, yes we need to operationalize the fund to facilitate research and innovation which could be key in solving the problems we are facing as a country. Currently the grants under SGCI are pushing us to somewhere but we need the funds and we are engaging government and development partners to assist.

# MOZAMBIQUE

## STI Driving Mozambique's Economy

Charles Mangwiro (Maputo, Mozambique)

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Edson Faria, Spokesman, National Research Fund (FNI)



Charles Mangwiro, Science Journalist

Advances in science and technology have been the main driving forces behind the most industrialized countries.

However, in the developing countries science and technology is also playing a major role and many countries are catching up to the fourth industrial revolution, commonly known as 4IR, thereby witnessing an increase in productivity.

Mozambique is one of the countries that has realized the importance of Science, Technology and Innovation (STI) in national development. The country's leadership has observed that science and technology not only contribute to the growth of the economy, but also to enhancing the quality of lives of the people.

In this respect, the Mozambique government has introduced the science and technology policy that incorporates the relevant subjects as part of the education curriculum. Mozambique was among the first countries of the Southern African Development Community (SADC) to adopt a science and technology policy in 1998 which was later updated in 2011.

Mozambique's higher education dates back to 1962 with the establishment of the University of Eduardo Mondlane (UEM) before the establishment of another institution, the Higher Pedagogical Institute (ISP) in 1985. The ISP was later transformed into Pedagogical

University (UP) a decade later, thus setting up the second public university in the country.

In parallel with the education system, the Ministry of Science and Technology (MCT) is responsible for the formulation of policies and strategies for the development of Science and Technology as well normalization, standardization and coordination.

MCT is mandated with promoting scientific research, technological innovation research and methodologies based on professional ethics and values that ensure benefits to the economic, social and cultural development.

The National Research Fund (FNI), which is overseen by MCT, manages the financial resource mechanisms for science and technology issues, projects and activities particularly in areas of Research and Development (R&D), infrastructure, innovation, technology transfer and development strategies.

The FNI initiative started in 2005 with participants drawn from several areas or regions including Cabo Delgado province. Unfortunately, most of the participants had to stop due to the attacks by armed insurgents that have occupied that area of the country since 2019, something that is hampering development of the FNI projects in that region.

The solutions to Africa's challenges must be spearheaded by home grown Science, Technology and Innovation (STI). The public investment in

strengthening the capacities of Science Granting Councils (SGCs) in Africa including Mozambique, will change the quality, quantity, impact and trajectory of Africa's products and services, according to FNI spokesman, Edson Faria.

Faria said that the Science Granting Councils Initiative (SGCI) is a five-year \$15m project that seeks to strengthen the capacities of SGCs in Sub-Saharan Africa in order to support research and evidence-based policies that will contribute to socio-economic development.

The initiative is supported by the National Research Foundation (NRF), the United Kingdom's Department for International Development (DFID), and Canada's International Development Research Centre (IDRC). Faria emphasized the importance of strategic partnerships in the implementation of programmes that achieve the change desired

Faria said that giving grants to science and technology projects is essential in national systems of innovation

and his organization has provided support for ,doctoral students pursuing STI-related courses.

"For this purpose, the FNI has a focal point in each province scouting for talent at the local levels. Potential candidates with projects that meet the standards and needs imposed by the institution qualify for funding to develop knowledge and innovations for national development.

According to Faria, science and technology still needs more attention in Mozambique and FNI faces several challenges especially funding of various projects. FNI collaborates with the National Science and Technology Directorate to identify and support innovators in schools, colleges and universities.

To increase awareness and competitiveness of its products and services, including research grants, FNI has embarked on a national campaign media campaign



*Exchange Visits*



*Mobilisation and collection of raw material*



*Dissemination*

# NAMIBIA

## Namibia's NCRST Applauds SGCI

Absalom Shigwedha, (Windhoek, Namibia)



Vincent Nowaseb, General Manager, National Commission on Research, Science and Technology (NCRST)

*The National Commission on Research, Science and Technology (NCRST) says funding and capacity building it has received from the Science Granting Councils Initiative (SGCI) has been of great value to them in carrying out their work. Namibian science journalist Absalom Shigwedha (AS) sat with the NCSRT General Manager for Innovation and Technology Development, Vincent Nowaseb (VN), to shed more light on how the commission benefited from the Initiative and their overall view of the initiative.*

### **Q. Let me first start by asking you what is the National Commission on Research, Science and Technology and what its mandate?**

The National Commission on Research, Science and Technology is the regulatory body on research, science and technology in Namibia. It is a mandated organ of the State, which gives grants to research institutions to conduct their research activities generating evidence-based results.

These research institutions are our stakeholders in the field of research, science, technology and innovation, and include institutions such as the University of Namibia (UNAM), the Namibia University of Science and Technology (NUST), Gobabeb Research and Training Centre and the Desert Research Foundation of Namibia (DRFN), among others.

### **Q. When did the SGCI start working on funding NCSRT?**

The NCRST entered into an agreement with the SGCI back in 2015 and the agreement was for capacity building of the Commission and our stakeholders.

Our staff members and stakeholders have benefited from number of capacity building trainings here in Namibia and also in countries such as South Africa, Zambia, Senegal, and Mozambique funded by the SGCI. These capacity building initiatives primarily exposed the Namibian research fraternity on how to add value to research, how grants should be managed efficiently and the necessary monitoring evaluation mechanisms required to ensure that the invested funds lead to real economic and social impact.

Many of these trainings were in collaboration with the SGCI's Collaborating Technical Agency (CTA) partners such as the Southern African Research and Innovation Management Association (SARIMA) and the African Centre for Technology Studies (ACTS)

In 2017, an SGCI funded the annual SARIMA conference which was held in Windhoek. This conference brought together scientist and researchers from across the globe to discuss and decipher ways in which research conducted on the African continent can improve the lives and livelihoods of her citizens.

### **Q. What is your overall view on the SGCI in strengthening Science Granting Council's capacity building and networking?**

The SGCI is really doing a great job in enhancing the capacity of SGCs and creating networking opportunities for African researchers. They are doing what they set out to do and they are also receptive to suggestions on improving their programmes. The experience we have with them is that they are collaborative indeed. With them, we manage our joint programmes with joy. They also acknowledge the good work and learn from the SGCs. They are data based and focused on evidence. This, especially makes our work easy when we develop national Science and Technology policies and when we report to our stakeholders on the

impact of strategic national science and technology programmes.

One of the good examples of a collaborative project funded by SGCI was the one between Namibia and Mozambique on the processing of underutilized fruits and plants for enhancing nutritional quality in the two countries, which I coordinated. This project generated several value-added products from indigenous fruits which are now ready for market.

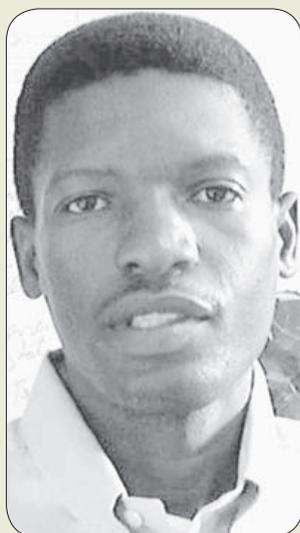
**Q. Finally, what is the current status of the use of science, research and technology in Namibia?**

The value of science, research and technology in many African countries, Namibia included, is highly underrated at the moment. The value it offers is not appreciated. Investment in research and science in Namibia is way too little. If you want to move away

from the resource-based economy to a knowledge-based economy, you have to undertake research to provide answers to challenges we face as developing economies. The establishment of the NCRST was a good step in the right direction. But sustained support and funding is necessary. Evidence shows that, investment of at least 1 per cent of GDP directed towards research and development, annually, results in productive local economies. At the moment Namibia invests 0.35 per cent. With such little funding support research cannot have any substantial impact on economic advancement and social progression. Research is not cheap but, it is an absolute prerequisite for transitioning to a knowledge-based, innovation-led economy.

## Namibia's Regulatory Framework for Research and Innovation

*Absalom Shigwedha, (Windhoek, Namibia)*



*Absalom Shigwedha, Science Journalist*

The National Commission on Research, Science and Technology (NCRST) of Namibia has made great strides towards putting in place a regulatory framework that would strengthen research, science and technology as an engine of economic growth and development in the country.

NCRST is one of the Science Granting Councils in sub-Saharan Africa which are benefiting from the five-year Science Granting Council

Initiative (SGCI) project, which is being implemented in countries in this part of Africa, including Namibia.

Angelique Philander, NCRST's Acting General Manager for Research, Science and Technology and Innovation Coordination and Support, said the importance of research, science and technology and as a driver for

economic growth and development, cannot be over emphasized and it is on this premise that Namibia has enacted the Research, Science and Technology Act of 2004.

The mandate of the NCRST is to ensure the coordination, monitoring and supervision of research, science and technology in Namibia, to promote and develop research, science and technology, to promote the linkages between Namibia and international institutions and bodies on the development of research, science and technology.

She explained that since the NCRST establishment in 2013, the commission has made considerable progress in establishing and establishing national systems of innovation.

### Enabling policy and regulatory environment

Philander said the NCRST's work towards the consolidation of policies and the regulatory framework was facilitated by conducting the first ever research and development and innovation surveys.

These baseline survey, she said have been concluded and will support the development of evidence-based policy as well as constructive feedback to all stakeholders in research, science, technology and innovation.

*“While the national research priorities have been identified as outlined in the National Programme on Research, Science, Technology and Innovation (NPRSTI), the financial resources required for funding research and innovation is not at the level where it should be as per the Fifth National Development Plan target,”* said Philander.

According to her, the NCRST will continue to engage all stakeholders, particularly policy makers as part of their efforts to mobilize the resources required.

Other achievements of the NCRST are that post the gazetting of the Biosafety Act in 2006, the commission successfully finalized the development of the biosafety regulatory framework which includes the regulations gazette in 2016, procedures and guidelines – all completed in 2016.

The NCRST has also developed the draft national Space Science and Technology Policy, whose overall objective is to establish a regulatory framework that guides the implementation of the national space programs for the benefits of all Namibians through a coordinated and systematic approach to ensure socio-economic development.

*“The draft National Space Science and Technology Policy has been submitted to the Ministry responsible for Science, Technology and Innovation for approval. The NCRST further facilitated the development of a draft National Indigenous Knowledge System (IKS) Policy which aims at mainstreaming IKS within the national science, technology and innovation for socio-economic development. The draft policy has been submitted for approval,”* she said.



In addition to these draft legal documents, the NCRST has also developed a Research, Science, Technology and Innovation infrastructure Strategy which has also been submitted for approval.

Currently, said Philander, the commission is facilitating the development of a National Science, Technology and Innovation Portal, which will serve as a source and repository of information that is relevant to the making of policies and decisions on science and technology related matters.

The portal will provide an interface between three major groups of players in the science and technology system namely: the policy-making and research funding organizations, researchers, innovators and research and innovation product users.

Philander said it should be noted that the NCRST participated in Phase 1 of the SGCI and the development of the portal is not part of this Phase and therefore, the portal will be developed with other stakeholders of the NCRST.

In 2012, the NCRST – in collaboration with its stakeholders conducted The Namibian Innovation Survey, which provided data that has helped the nation to understand the size and shape of the Namibian Innovation ecosystem as well as benchmark for future surveys.

Some of the key stakeholders for the NCRST are the University of Namibia, the Desert Research Foundation of Namibia (DRFN), Namibia University of Science and Technology (NUST) and the Gobabeb Training and Research Centre (GTRC)

The NCRST participated in the SGCI Phase I by co-funding a regional project (conducted from 2019 – 2019) together with the Science Granting Council of Mozambique.



# RWANDA

## Rwanda Leveraging Capacity-Building to Boost the Future of Research Output and Impact

*Aimable Twahirwa (Kigali, Rwanda)*



*Dr Eugene Mutimura, Executive Secretary of Rwanda's National Council for Science and Technology (NCST)*

Promoting incentives aimed at strengthening the link between industry and academia, is one way that Rwanda's National Council for Science and Technology (NCST) is considering to overcome numerous challenges and critical issues for Research and Development.

While some countries have been requested to provide material that broadly describes policies related to science, technology and innovation, Rwanda has so far managed to implement new initiatives aimed at involving stakeholders in the setting of research priorities.

According to the Executive Secretary of Rwanda's National Council for Science and Technology (NCST), Dr Eugene Mutimura, a holistic approach to these efforts was to establish public private partnerships in Research and Development with the purpose to enhance business participation and encouraging private sector to invest in research.

Speaking during an exclusive interview, Dr Mutimura explained that during the first implementation



*Aimable Twahirwa, Science Journalist*

phase of projects under Science Granting Councils Initiative (SGCI) for which purpose was focusing on strengthening the ability of science granting councils, Rwanda managed to publish two calls that encourage academia-industry collaboration.

Since its inception in 2015, SGCI has been strengthening the capacities of science granting councils (SGCs) in 15 sub-Saharan African countries to support research and evidence-based policies that will contribute to economic and social development.

In line with this commitment to support knowledge exchange with the private sector, NCST has used financial incentives to promote a better alignment with approaches to knowledge exchanges and technology transfers with industry.

### **Collaborative projects with private sector**

According to the NCST, as of today, shining examples of fruitful collaboration between universities and industries focused on the country's national priority areas.

Yet some of these collaborative projects have finished with tangible result, where by many ideas from research in universities have been put to use through

collaboration between universities and private sector actors, Felly Migambi Khalisa, senior analyst at NCST, mentioned trainings and workshops as other SGCI's instruments that were used in Rwanda for building capacity of private sector to advance innovation.

Endeavors to find solutions to complex social, environmental and economic challenges – for example, in sustainable energy, agriculture, and food security, as well as the Sustainable Development Goals to end poverty and hunger – have increasingly required collaboration between universities and industry because few organisations have the internal capacity to deliver results on their own.

### Merit-based Fund

Since last year, NCST established the "Excellent Research Grant" call in a bid to implement the National Research Innovation Fund (NRIF), the primary vehicle for scientific research and technological innovation public support in Rwanda.

The NRIF's goal is to develop citizen-centric, knowledge-based solutions to social problems, develop research excellence and foster innovation and technology advancement.

Universities, academics and the National Council of Science and Technology also wish to see results from research put into practice.

With the commercialization and monetization of intellectual property (IP), Dr Mutimura also encourages Rwandan scientists and engineers to take advantage of this merit-based fund to generate and use original knowledge to benefit Rwanda, the regional and beyond.

### Capacity Building

In the Rwandan context IP administration has now been moved from the ministry of Commerce and Industry to the government's Rwanda Development Board (RDB) as part of on-going legal and commercial reforms aimed at facilitating business entry and commercial activities while strengthening university-industry ties.

*"A key element in the first implementation phase of this initiative has also been to encourage collaboration between science granting councils,"* Dr Mutimura said.

Through these incentives to motivate researchers, NCST has awarded grants to 11 successful proposals from public and private universities and research institutions in Rwanda.

Currently, officials at Rwanda's NCST take into delight to notice that despite being a new institution, staff at national granting council has acquired knowledge in research management through various trainings and workshops organized by SGCI.

*"The processes involved in the complete value chain from proposals to award, were improved and streamlined thanks to various trainings organized,"* Dr Mutimura said.

Rwanda's National STI Policy has the principal objective of 'Integrating science, technology, scientific research and innovation in a framework that shall include capacity building, technical transfer initiatives and the promotion of innovation, in the context of issues facing the country.

The programme focuses on priority areas, including agricultural productivity, geothermal energy and geosciences, appropriate technology, food processing and food technology, clean drinking water and sanitation, and bio-fuels among others.

“

The processes involved in the complete value chain from proposals to award, were improved and streamlined thanks to various trainings organized

# SENEGAL

## SGCI Strengthening Collaborative Research in Senegal

Suy Kahofi, (Dakar, Senegal)



*Prof. Soukèye Dia Tine, Head of Funding for Technology Research and Development, Ministry of Higher Education, Research and Innovation, Senegal*

“ We appreciate SGCI’s four keys components and particularly the collaborative aspect of this Initiative both at the national level among Senegalese researchers and at the continental level with researchers and SGCs from other countries

Senegal joined the Science Granting Councils Initiative in sub-Saharan Africa (SGCI) in 2015. The country is one of the 15 member-states of this Initiative in which four West-African countries are involved.

Just like Côte d’Ivoire, Ghana and Burkina Faso at the sub-regional level, Senegal takes part in the various activities and trainings of SGCI around the four key components of the project.

The program has strengthened the Senegalese beneficiaries’ capacities in science, technology and research management, programs design and monitoring, evaluation and learning based on the use of robust STI indicators, knowledge exchange with the private sector and partnerships promotion between the national Science Granting Council and other science system actors both locally and internationally.

Prof. Soukèye Dia Tine, head of funding for technology research and development at Senegal’s Ministry of Higher Education, Research and Innovation, praised SGCI as the undisputed capacity building and funding Initiative, considered essential for anyone with an interest in the continent’s scientific research, economy and development.

*“We appreciate SGCI’s four keys components and particularly the collaborative aspect of this Initiative both at the national level among Senegalese researchers and at the continental level with researchers and SGCs from other countries,” she said.*

SGCI has strengthened South-South cooperation in scientific research between Sub-Saharan African countries during these last five years through different overseas study tours. Senegal and Burkina Faso took this opportunity to find a common ground and work together on two collaborative projects of great human interest for the two countries.

The first team of researchers is working on a health project on *“How to improve the multi-sector management of chronic diseases in people in Burkina Faso and Senegal”*. This research led by experts in strategic issues of chronic disease management has important similarities within the two countries.

The second team focuses their work on an environmental project in the region of Kaolack (south-east Senegal) on *“Salt land development to help improve the lives of vulnerable populations in the context of climate change in West Africa”*.

Thanks to SGCI, researchers from different field of studies and universities can work in the same team.



Suy Kahofi, Science Journalist

This is something difficult in some universities where researchers used to implement their projects independently or with other researchers in the same field of study. Sociologists, anthropologists, doctors, health economists and geographers from Senegal and Burkina Faso can easily share their knowledge and implement a research project together, she noted with satisfaction.

*“Most of the scientific research projects in Africa targets cross border or transnational problems because the countries share the same health, environmental and economic problems. Why do we need to work only at a national level on the same development problems if we can find a solution for our different countries by working together?”* Prof. Tine, asked.

SGCI-funded projects in Senegal and Burkina Faso is the beginning of a long-term answer to this question, not only for fundamental research but also to deal with financial problems. In fact, there is a lack of resources for scientific research and innovation in Senegal, like in most of the African countries.

Prof. Tine strongly suggested that national SGC of Senegal and Burkina Faso can continue working together in order to better the use of their resources by joint proposals on transnational research projects including funding to promote academic research.

Out of this South-South cooperation between Senegal and Burkina Faso made possible by SGCI, is an open-door for the SGC of Senegal to find new partnerships at the international level. One of the most important achievements is the new partnerships with Japan.

Senegal joined the AJ-COR, Africa-Japan Collaborative Research, for projects in the study field of environment. The country will continue to benefit from SGCI's four components as the second round of the initiative is ready to start. During the first round, research funds were managed by international organizations directly with research teams.

In this second step, the national Science Granting Council, FIRST (Fund to promote Scientific and Technical Research), will be responsible for the

fund including organising and managing the calls for proposals.

It is instructive to note that the Senegalese national funding agency is the Directorate of Funding for Scientific Research and Technological Development. This Directorate is under the authority of the General Director for Research and Innovation.

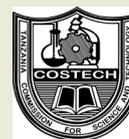
The Directorate of Funding for Scientific Research and Technological Development has the following responsibilities: to draw up the national budget for scientific research and technological development; to do the monitoring of the different grant and financial support; organize the different sessions of the National Council for Research, Technology and Innovation; design and do the monitoring of all the management procedures in line with the national granting process; and draw up and implement all the strategies for a better involvement of the Senegalese researchers and the national scientific community in the different fields of research

The FIRST, though the most known and important in terms of budget, is just one of various mechanism or tools the Directorate of Funding for Scientific Research and Technological Development used to fund scientific research in Senegal.

Currently, 15 to 20 projects can be funded annually by the FIRST with a general basket fund around US\$522,000. Each selected proposal receives at least US\$35,000. There is also a US\$260,000 additional fund dedicated to scientific and technical support but only for women researchers' projects and initiatives. Directorate's grant-making capacity has improved markedly, thanks to the Initiative, Prof. Dia emphasised.

A strong funding mechanism based on transparency, good governance and accountability has been set up. Teams of researchers were not only expected to manage their research activities but also to report on how the resources awarded were used.

Prof. Tine, emphasizes the fact that Senegal needs to improve the quantity and quality of scientific research. *“For this second round of SGCI, I hope FIRST will receive more high quality proposals aiming to effectively solve problems facing the people while highlighting collaborative aspect of the research projects that needs to be promoted.”*



# TANZANIA

## Reaching Out to Stakeholders to Promote STI

Deodatus Mfugale (Dar es Salaam, Tanzania)



Dr. Amos Nungu, Director General, Commission for Science and Technology (COSTECH)

Science Granting Councils in sub-Saharan Africa have strengthened their capacities in conducting research and evidence-based policies in a bid to contribute to the socio-economic development of their respective countries.

*“The importance of strengthening the capacities of publicly funded science granting councils in sub-Saharan Africa, important brokerage institutions for continued gains in STI development on the continent is an imperative,”* reads part of a brief by SGCI

In Tanzania the Commission for Science and Technology (COSTECH) has received support from the Science Granting Council Initiative (SGCI) specifically in the areas of areas of research management as well as formulation and implementation of policies based on the use of robust science, technology and innovation (STI) indicators.

COSTECH has also gained support in transferring science and technology to the private sector with the view to enhance partnerships within the sector and with other science systems actors.

*“Fifteen SGCs have benefited from the Initiative. Policy and decision makers and the general public are other beneficiaries of the Initiative,”* says Neema Tindamanyire who is the Coordinator of the Initiative in Tanzania.

Former coordinator of SGCI in Tanzania Dr. Bakari Msangi says that COSTECH conducts dialogues with

policy makers usually during its Annual Science Week. “These dialogues involve a wide range of policy and decision makers and focus mainly on science, technology and innovation. There is a need for increased support to develop policy briefs that can inform dialogues,” Dr Bakari says.

The Commission also convenes STI exhibitions for policymakers in Parliament to showcase the impact of research on economic and social development and COSTECH staff meet with members of the Parliamentary Committee on STI twice a year to appraise them about achievements and ongoing work. Policymakers occasionally accompany COSTECH staff to field visits in order to witness what is happening on the ground.

Besides improved management of research grants systems SGCI has promoted the relationship between government and the private sector as the two parties have been involved in preparing and implementing current research projects.

*“We also have private sector from the East African Community as partners,”* notes the Coordinator, adding that the Tanzania Government through the Ministry of Education, Science and Technology has participated in various events organized by SGCI.

While it is the Initiative’s responsibility to reach out to the private sector and other stakeholders and engage them in promoting STI, the IDRC also underscores the importance of enlisting the participation of the private sector as partners in formulation and implementation of projects.

Efforts are now being made to ensure that current and future benefits to be realised from the SGCI are sustained. One of them is to solicit funding from various sources so that projects are co-funded in order to improve implementation and get the best outcomes.

*“We also undertake close follow up on activities of the grants beneficiaries to make sure that funds are spent on the intended activities and subsequent results reflect*

*value for money*,” says Dr. Amos Nungu, Director General, COSTECH.

There are also efforts to solicit funds from other sources in order to expand and support research and innovation activities with the view to speed up economic and social development among Tanzanians.

According to Dr. Msangi, funds allocated by SGCI to individual projects are very limited thus calling additional investments for research activities. “SGCI should also consider supporting post-docs in order to widen the scope of research activities.

Previous implementation of the project had faced challenges because implementation of activities was supported by the Collaborative Technical Agency (CTA) but this has changed since SGCs took over.

However, according to Ms. Tindamanyire, it would be too early to attribute the improved research, science, technology transfer and innovation in Tanzania to SGCI.

*“It is difficult to trace these improvements to the Initiative as implementation of research projects under its umbrella began only two years ago, in 2018. However, its impact will surely be evident in the coming five years,”* says Ms. Tindamanyire.

## SGCI Raising R&D Profile in Tanzania

*Deodatus Mfugale (Dar es Salaam, Tanzania)*



*Deodatus Mfugale, Science Journalist*

For about 30 years, the Tanzania Commission for Science and Technology (COSTECH) has played a leading role in coordinating and promoting research and technology development as well as advising government on matters relating to application of science and technology in a bid to scale up the socio-economic development of the country.

Its duties have included the administration of research grants, keeping a tab on research activities and providing science information services. It has also been involved in setting research policy, and promoting invention and innovation.

However, in 2015 the institution scaled up its activities after it started getting support from the Science Granting Council Initiative (SGCI).

The Initiative aims to strengthen the capacities of 15 science granting councils in Sub-Saharan Africa in order to support research-based policies that will contribute to economic and social development.

The goal will be reached through research management, use of STI indicators, partnerships and private sector engagement. Networking among Science Granting Councils (SGC) monitoring, evaluation and learning are other measures that will be employed in order to reach the goal.

According to COSTECH Director General Dr. Amos Nungu, the project has enabled the institution to acquire new instruments and systems of research management such as how to design a call for research and establish grants management systems.

*“The project has also supported us in designing and monitoring of research programmes based on the use of*

“  
The Project has also supported us in designing and monitoring of research programmes based on the use of robust science, technology and innovation indicators.

*robust science, technology and innovation indicators. This has helped us to strengthen partnerships and networking between Science Granting Councils and other science system actors such as annual SGCI meetings and global research councils,”* says Dr. Nungu

SGCI has enhanced partnership between COSTECH and the private sector, academia and R&D institutions. The former is supporting the manufacturing industry by providing information on appropriate new technology, organising knowledge exchange events and providing training opportunities in research management.

Muhimbili University of Health and Allied Sciences (MUHAS), for example, is conducting research on bioequivalence studies of locally manufactured amoxicillin and captopril solid dosage formulations with the aim of supporting the local pharmaceutical manufacturing sector in East African countries. The research has been made possible through SGCI.

The impact of the support cannot be overemphasized but suffice it to say that visibility of COSTECH in sub-Saharan Africa has significantly increased since working with SGCI. *“Behind this visibility stands a big number of partners and enhanced collaboration within the sub-region based on improvement in research management systems designing and management of research calls,”* says Neema Tinda, National Coordinator of SGCI in Tanzania.

There has also been institutional development as COSTECH staff have improved their capacities and skills in the management of research grants. “SGCI is improving collaboration and networking with other R&D institutions in Tanzania and abroad and strengthening south-south research collaborations,” says Ms Tinda, adding that as coordinator of STI, all R&D and HLI?? in the country are affiliated to COSTECH. *“Outside the country, we have been working with NRF South Africa, SARIMA and other Sub Saharan Granting Councils.”*

SGCI has also cemented the relationship with private sector although according to the Coordinator, there is long way to go in order to fully utilize the potential of the partnership for supporting national development plans. This is partly because adoption of research in policies is a long process especially in developing countries. And despite increased awareness of using research findings in policy formulation and decision making, there is still a gap in uptake of these findings by both the government and the private sector.

Various groups and institutions have benefited from COSTECH's activities and in a rare occasion, journalists

are among the beneficiaries. The Tanzania Agricultural Journalists (TAJF) stand out prominently among media groups that have benefited the SGCI project after its members were given training in reporting STI in relation to agriculture issues.

*“COSTECH is the only institution that has trained our members in STI. It also organised media competition in reporting agriculture from the STI perspective. Although it was open to all journalist in the country, most of the participants and subsequent winners came from our group,”* Says Gerald Kitabu, former chairperson of the association.

Yet it would be too early to say that research activities in Tanzania have increased in terms of number, relevance and credibility of findings due to SGCI's interventions. “We have witnessed some impacts arising from SGCI interventions but not to that extent,” says Dr. Nungu.

*“The point is that only two mega research projects (research Chairs) and three minor projects (manufacturing) have been just granted through OR?? Tambo research chair and IDRC, respectively. The outcome of these grants will be used to gauge the impact of SGCI interventions,”* he added.

In working with SGCI, there are challenges that have hindered progress and must thus be dealt with. As a pilot initiative, it has been a learning journey for COSTECH working with 15 Councils and other STI actors across the region. *“For example, working with Collaborative Technical Agency (CTA) has been smooth collaboration so far, with exception of a few gaps. But organising SGCI annual forum is going to be a stiff challenge.”*

*It has been recommended that the host Council should manage all related issues including payment of participants, for smooth running the forum instead of each Council paying for all their expenses. This is an enormous task that is likely to bring confusion to stakeholders,”* says the Coordinator.

The future looks bright for COSTECH, partners and beneficiaries should efforts be directed in specific areas. One area is in capacity building in research management and impact analysis.

Research is the foundation of development and SGCs should provide more funding training various skills in order to raise the capacities of researchers and other staff members. There should also be joint development of future proposals and plans. Institutions should also conduct needs assessment to determine areas that need more support from SGCI.



# UGANDA

## Strengthening UNCST's Capacity in Research Management and Grant Making

Jacky Achan (Kampala, Uganda)



Ronald Jjagwe, Head - Science, Technology, Innovation, Research and Development Division at UNCST



Ms. Jacky Achan, Journalist

*In 2018, the Science Granting Council Initiative (SGCI), a multi-funder project that aims to strengthen the capacities of 15 Science Granting Councils (SGCs) in Sub-Saharan Africa, was started in order to support research and evidence-based policies to spur economic and social development of the select countries. The expected outcome of the SGCI is that the Councils that are effectively managed and connected with multiple actors will strengthen national science systems to deliver on Africa's transformative agenda, the Science, Technology and Innovation (STI) Strategy for Africa 2024 (STISA-2024).*

*The UNCST, which is one of the participating SGCs, was established in 1990 by an Act of Parliament (CAP 209 of the Laws of Uganda) which mandated it to spearhead mainstreaming of STIs into the country's development blueprint. With the first phase of the initiative concluded, Ms. Jacky Achan spoke with the Head of STI, Research and Development Division of the UNCST, Mr. Ronald Jjagwe, on the impact of the SGCI in Uganda. Here are the excerpts.*

**Q. Let's start with the background, how did the UNCST get to be part of this initiative?**

The SGCI is a project funded by a donor consortium comprising of South Africa's National Research Foundation (NRF), the Canada's International Development Research Centre (IDRC); United Kingdom's Department of International Development

(DFID) and the Swedish International Development Agency (SIDA).

The objective of the SGCI is to strengthen Africa's innovation ecosystems by enhancing the capacities of Science Granting Councils (SGCs) to effectively, manage research, design and monitor research programmes, formulate and implement policies based on the use of robust science, technology and innovation

(STI) indicators, support knowledge exchange within a STI system and establish partnerships with all actors in the science and technology system.

The UNCST applied to be part of the initiative since its objectives resonate well with ours. Our focus was on theme three of the SGCI, which aims to strengthen the capacity of SGCs to establish scientific cooperation and foster public-private research collaboration and exchange of knowledge for accelerated socio-economic development.

Under this theme the SGCI, through the African Centre for Technology Studies (ACTS) consortium, offered an opportunity for interested countries to participate in bilateral or regional scientific collaboration through what is called a Cooperation Grant Initiative (CGI). Under CGI, groups of countries, including Uganda, come together to fund competitive research projects in mutually agreed thematic areas.

**Q. What has been the role of SGCI in strengthening UNCST capacity? How has it transformed research and development in Uganda?**

The SGCI project has improved grants management and research at UNCST even though Uganda was somewhat advanced in grants making. Initiative also added value,

especially the online training component, UNCST's implementation of the online grants management system. The SCGI's training component a number of UNCST staff at all levels.

They were trained in research management, intellectual property rights, technology transfer, research ethics, gender inclusivity, strategic communication and programme evaluation, among others. With the online grants management system you just push out a call whenever you have money from funders and your researchers and innovators come to compete for it. Uganda uses the competitive model. There is an independent committee to select the best application and give them the money over a restricted period of time.

From the core objectives of the SGCI, we chose four: managing research, designing and monitoring research programmes, formulating and implementing policies based on the use of robust STI indicators, and supporting knowledge exchange within a STI system. Even so, we later establish partnerships with all actors in a science and technology system. Our core was grants management component divided into three broad categories;

#### **(i) Private Public Partnership Research Grants**

The PPP research grants had an allocation of \$90,000 per SGC, with a co-funding requirement of \$18,000. UNCST has in collaboration with the SCINNOVENT Centre and ACTS, competitively selected three projects that were awarded SGCI research grants in November 2018. The PPP research grants are awarded to national researchers to collaborate with the private sector in finding research-based solutions to challenges facing industry. Thus, we chose to work on the foods and beverages manufacturing sub-sector.

Under PPP we wanted scientists whose ideas had gone beyond proof of concept and is ready to be commercialized. UNCST approved and funded three proposals on commercial exploitation of propolis and bee venom in Uganda; high fibre bakery and confectionary products from maize germ and bran and cocoa waste to wealth using yeast strains from Ugandan box fermentation. We are happy that all the projects have progressed well, with products already placed in the market.

#### **(ii) Bilateral Research Cooperation Grants**

During the partner consultative meeting held from July 2-7, 2017 in Pretoria, South Africa, Uganda chose to partner with Cote d'Ivoire (Ivory Coast) in addressing common challenges of health for all and agricultural development, especially in the area of coffee and cocoa production. A Memorandum of understanding (MoU) was signed on November 7, 2018 during the Annual SGCI Assembly in Abidjan. The MoU defined the areas and modalities of collaboration between UNCST and PASRES, the Research Project Management Agency of Cote d'Ivoire. The joint research call that was issued during the preparatory phase of the bilateral collaboration yielded 10 research proposals jointly prepared by researchers from the two partner states. Two research projects were selected for award of the SGCI grant amounting to \$50,000 each, with a counterpart funding requirement of \$10,000 per partner SGC.

#### **(iii) The Tri-lateral and Multilateral Research Cooperation Grants**

The SGCs within the EAC countries decided to use the already existing regional body, the East African Commission for Science and Technology (EASTECO) to form a regional research consortium to access the multilateral research grants. The SGCs identified manufacturing as a regional research priority for joint research grants. A joint call was issued by EASTECO and two successful research projects in the area of light manufacturing were awarded grants in October 2018. The overall financial requirement from UNCST to run the three categories of research grants for 12 months was \$ 38,000. UNCST provided the counterpart contribution 10% for the PPP and multilateral research projects, and 20% under the bilateral research projects disbursed on satisfactory completion of the projects.

#### **Q. How did UNSCT ensure merit in awarding the grants?**

We operate an open and transparent grant making system, which starts with a call for concept notes not exceeding three to four pages from parties, mainly universities. The concept notes are evaluated and ranked accordingly. The highest ranked concepts are requested to submit full proposals. The full proposals are also evaluated by experts. The researchers are then they invited for an oral presentation before a panel experts. The successful proposals are selected and awarded the grant.

It's a vigorous process. The winners of the grants went through an open competitive application process. You face a committee of five to seven professors' experts in your field and they score you according to your ideas following the preset criteria and pick the best. In the end, at UNCST we want the best ideas. We are not experts in all areas so we work with the expert committees to give us the best candidates. The three researchers who got the SGCI grants were not handpicked, they went through competition and they emerged as the best, on merit.

**Q. What have been your key successes from the first phase of SGCI partnership and getting a grant?**

(i) To date, the SGCI has, through courses organised by its AU-NEPAD, a Collaborating Technical Agency (CTA), built the capacity of eight UNCST staff in the policy analysis and statistics unit, to design and monitor research programmes and to formulate and implement policies based on the use of robust STI indicators. A key outcome of this capacity strengthening has been the recognition and inclusion of science statistics into the national statistical system by the National Bureau of Statistics.

In addition to supporting evidence-based policymaking and STI sector planning, Uganda's STI statistics are recognized by UNESCO, OECD and the World Bank and have been widely used in international publications that measure the performance of national systems of innovation worldwide. These include the UNESCO Statistical Year Book, the World Bank World Development Report and the UNDP's Human Development Report.

(ii) The initiative has through trainings conducted by its CTA, Southern African Research Management Agency (SARIMA), built the capacity of 23 Ugandan researchers and grants managers based at various universities and research institutions. The trainings focused in research and grants management using international best practices.

(iii) SARIMA also built capacity of two UNCST staff members in IT-based research grants management systems through study visits with the NRF-South Africa. A key outcome of this capacity building has been the streamlining of the grants management system at the UNCST with greater emphasis on competitive selection and award procedures using on-line systems.

This shift to online systems has made grants management by the council more efficient compared to the manual system. For instance, it shortened the grants' management process from six to two months.

Other benefits include reduction of conflict of interest as the system is set such that able to blacks out applicants name. Thus, the reviewer or committee member is unable to know whose proposal they are reviewing which ensures transparency. We had this system improved by looking at the South African version.

(iv) Through exchange visits the SGCs, including UNCST, have learnt a lot from each other. For instance, a team from Cote d'Ivoire came to Uganda study our grants management mechanisms which they later modelled their own. UNCST also learnt a lot from the NRF, especially the electronic grant management system.

The SGCI platform has brought so many SGCs in sub Sahara Africa together. Science is about partnerships sometimes. One of the advantages of the SGCI platform is the ability to create multi-country partnerships which has immensely benefited our researchers, scientists and investors. Now we can easily linkup, for example, with the National Research Fund in Kenya and do competitive bidding for international grants. It has been a platform for linkages between different innovators and researchers in Sub-Saharan Africa. The moment you link up with different partners then science is progressing because you share ideas, get different expertise on board and form winning teams. To me that was the core benefit.

**Q. What have been the challenges in supporting R&D in Uganda?**

After phase one of SGCI we have not been able to run grants for some time due to lack of funding. The issue is, we need to support so many of our scientists to cross that line and commercialize their ideas. They haven't commercialized yet because of funding. Whereas we have the skills base and the guidelines that are needed to implement the grants management system, due to lack of funding many of our innovators have not been able to commercialize their products. Do you know why? Commercialization requires huge amounts of start-up funds. What we get from the government can only fund proof of concept, which does not require massive funding. But that is like lighting a candle and putting it under the bed.



*Dr Titus Alicai in a yam field*

The government committed to recapitalizing the innovation fund to around US\$500bn, equivalent to about 200m dollars. But this is yet to materialize. Thus, how to bridge the funding gap has been a challenge.

**Q. What could be the consequences on development if our researchers are not supported in their ventures?**

Crossing to commercialize is the overall goal. Many of our researchers are in survival mode. Many people who do research in Africa do it for academic purposes. Our researchers have not been oriented to commerce-based research or do meaningful research to gain from their intellectual property and patents. Many are doing Masters Degrees or PhDs and the moment they hit this target they stop.

That's the challenge unlike in developed countries where they go for patenting and have tangible benefits from their innovations. It should not be an excuse but if you look at our national priorities, and the budget that science technology and innovation received, it's one of the sectors at the bottom. If you don't commit many of these researchers, they will abandon their innovations and do other stuff for survival. This is not value for money. This way the government loses a lot of money initially invested in training these scientists. The SGCI should be up-scaled and sustained. It is really helping

**Q. Does Uganda have an intellectual property office?**

Yes. The UNCST constitutive Act of Parliament allows it to operate a national intellectual property/patent office. This office helps researchers identify tangible intellectual property of their research, to guide them through the process and then link them to Uganda Registration Services Bureau which is the official

national Intellectual Property Office. So, we have that office here at UNCST to support many of our researchers generate patents.

**Q. How can the government in Uganda complement SGCI to promote research and development for the country?**

Our Government should recapitalize the Innovation Fund. All countries that have developed put a lot of funds into research and development, plus commercialization. That's the gap we have in Uganda, the government has not even committed 1% of its GDP to research and development as required by the African Union. Of course, it can be argued that Uganda being a third world country may not have the funds, but the issue is our priorities. However, there are noticeable improvements. From the sh454 trillion budget for the 2020/2021 financial year the budget allocation for Science, Technology and Innovation is sh238.11 billion (about \$96m) up from sh186.7 billion (about \$74m) in 2019/2020.

**Q. Would you say phase one of the SGCI met its purpose and was a success in Uganda?**

As stated above, the SGCI has supported UNCST to implement core aspects of its mandate through institutional capacity strengthening and practical interventions, especially in the area of research and grants management. The research grants complement the ongoing national efforts under the National STI Programme (NSTIP) and the National Innovation Fund (NIF) to support a sizeable number of research and innovation projects that have demonstrated potential for industrial application. The international exposure that the SGCI provided has built our capacity for further leveraging of resources from a growing consortium of development partners that are keen to transform the STI and socioeconomic outlooks in resource constrained and least developed economies like Uganda. Phase one implementation has been successful and we are very excited about the phase two of the Initiative, which is underway.



# ZAMBIA

## NSTC Launches New Three-year Strategic Plan

*Jolwit Saluseki, (Lusaka, Zambia)*

Zambia's National Scientific and Technology Council (NSTC) has re-aligned its 2019-2021 strategic plan and balanced scorecard targets in order to further enhance and forge ties with regional and national stakeholders in the sector.

Heralding the feat which sets out bold and ambitious plans, NSTC Board Chairperson Henry Musenge, says the Council's unwavering partnerships with other Councils in the region and globally, under the Science Granting Councils Initiative (SGCI), will enable it to achieve high-quality collaboration among research funding agencies globally.

In an interview, Dr Musenge says the Council has in the past three years successfully hosted the Zambia Science Conference where stakeholders deliberate on science related matters.

Following the experience gained from organizing the SGCI conference, the Council has re-aligned its ambitious programmes to include the Zambia science conference where stakeholders from other countries

will gather in Lusaka to discuss on issues pertaining to science, Dr Musenge confirms.

He said the three years in which the Council has convened the meeting, stakeholders from various sectors of science drawn from Mozambique, Namibia, Malawi, Zimbabwe and Germany have been able to network and find solutions to some of the issues affecting people and socio-economic development.

The first Zambia Science Conference was convened in 2017. Dr Musenge says the science meetings will enable the Council to collaborate efficiently with both regional and international partners.

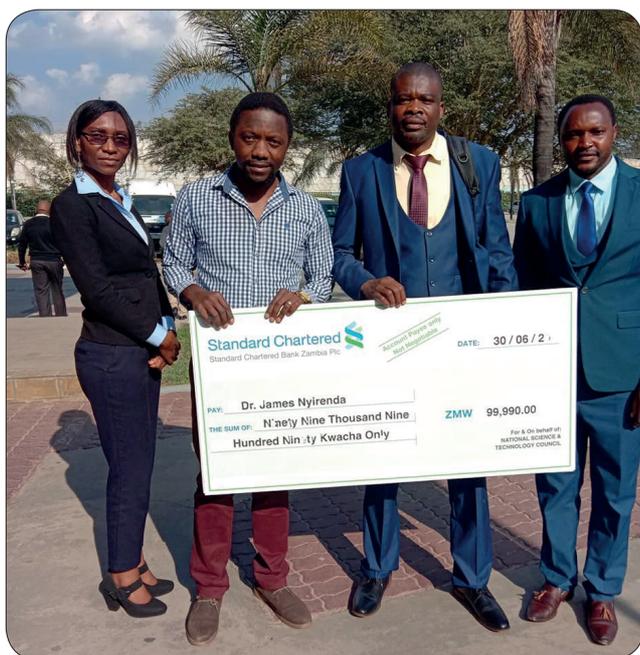
He noted that it was with this in mind that the Council has developed a strategic plan that will give it core strategic direction, while outlaying measurable targets that the NSTC must achieve in order to contribute to the development and application of science and technology in Zambia.

The Strategic Plan and balanced scorecard have consolidated the aspirations of stakeholders in the country with emphasis placed on scientific innovations.

Dr Musenge noted that clients and the Council and management were bracing themselves to re-engineer and transform the council as seen in its new Vision statement of a smart and value-centred Science and Technology Council. All these would not have been possible without capacity building efforts of the SGCI that have benefitted our staff members as wells several Zambian researchers, Musenge reiterates.

Zambia's Minister of Higher Education, Brian Mushimba, says that the NSTC's Strategic Plan and scorecard resonated well with the country's Vision on industrialisation, which was anchored on science as evidenced by the approval of the industrialisation policy and the Seventh National Development Plan (7NDP).

*"I am also aware that the development of the strategic plan went through the process that involved various*



*Dr James Nyirenda of the University of Zambia, School of Natural Sciences and his team after receiving the Covid -19 grant from NSTC in Lusaka, Zambia*



Brian Mushimba, Higher Education Minister unveils the National Science and Technology Council (NSTC) 2019-2021 Strategic Plan and Scorecard in Lusaka, Zambia

stakeholders and clients. This is in line with the provision of the constitution of the republic of Zambia which promotes public participation in policy formulation in decision making,” he said.

“I am reliably informed that the Council’s Strategic Plan which am launching will also positively contribute towards achievement of key milestones through the following important programmes such as science and technology, human capital development, technology and infrastructure development,” he added.

In implementing the Strategic Plan, Dr Mushimba assured members of the board and staff of his ministry’s commitment to support the Council in delivering on its mandate.

“It is, therefore, heartening to note that NSTC has already made strategic planning as part of its corporate culture in order to achieve its Vision and Mission. The Vision and Mission set out in this plan will also require cooperation with various stakeholders. In this regard, to ensure successful implementation of the plan, the Council must engage relevant stakeholders, such as universities, industry as well as regional and international partners,” he said.

Dr Mushimba was glad to note that the NSTC has a number of regional and international partners in the science enterprise including the National Research Foundation (NRF) of South Africa, the National Research Fund (FNI) of Mozambique and the German Research Foundation (DFG) that was gained through participation in the SGCI.

The strategic partnerships, he noted, are critical as they provide a platform for knowledge exchange and resource-sharing that would enable Zambia to

complete at the global stage in science, technology and innovation.

“The Government is committed to turning the status quo of STI in the country as enshrined in the 7th National Development Plan. It is committed to enhance science in education institutions in order to promote productivity, innovation and competitiveness in the economy. Scientific research and innovation will drive the creation of new products and new ways of producing existing products efficiently,” Dr Mushimba said.

He went on to say: “In line with the spirit of leaving no one behind, I wish to request the management of the council that as you implement the plan you must continue engaging with stakeholders including, research institutions, higher learning institutions, development partners, such as, the World Bank, JICA, UNDP, SIDA, USAID to mention, but a few. I also wish the Council best of luck during the implementation the Strategic Plan.”

From a regional and global perspective, the Southern Africa Development Community (SADC) Industrialization Strategy and the Sustainable Development Goals to which Zambia is a party, recognises the significance of investment in STI, placing emphasis on human capital and infrastructure development as the key drivers for industrialization.

Studies have shown that countries that have industrialised have done so by anchoring their industrialisation agenda on STI.

It is for this reason that the NSTC in collaborating with other Science Granting Councils in sub-Saharan Africa under the SGCI to ensure rapid realisation of Zambia’s Vision 2030 that is also anchored upon maximizing on the catalytic role that STI can play in socio-economic development of the country, Mudenge said.

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Studies have shown that countries that have industrialised have done so by anchoring their industrialisation agenda on STI.

# ZIMBABWE

## SGCI Training Bears Fruit for Zimbabwe

Sifelani Tsiko (Harare, Zimbabwe)



*Sthembiso Nyoni, Minister of Women's Affairs, Community, Small & Medium Enterprises Development and Monica Mutsvangwa, Minister of Information, Publicity and Broadcasting Services launching the SMEs R&D Survey Report in Harare*

There is only one thing that spurred the Research Council of Zimbabwe (RCZ) to successfully launch the Report on the National Research and Development Survey on SMEs and Cooperatives in July 2020. Confidence.

Mrs. Susan Muzite, Executive Director of the RCZ, said that before her organisation received training at a workshop in Malawi supported by the Science Granting Council Initiative (SGCI) in sub-Saharan Africa, there was fear of the unknown, a feeling of unpreparedness and lack of knowledge.

The training, she said, boosted confidence levels and gave RCZ team positive thinking, practice and useful knowledge on how to improve their capacity to handle potentially difficult situations related to national surveys.

*"I acknowledge the support we received from SGCI. Our linkage with SGCI has been very strong since 2015 when we started participating in the project," she said.*

*"They trained us in conducting R&D surveys. The training session we attended in Malawi and another we held here were perhaps the most important factor in developing confidence in planning and preparing for this complex national survey.*

*"It was the SGCI training sessions that gave us the right confidence in implementing the survey there were very complicated instruments and it was the SGCI that gave us the tools to carry the survey, to maintain professionalism and complete the survey."*

The launch of the National Research and Development (R&D) Survey on SMEs and Co-operatives by RCZ on July 15, 2020 offered a comprehensive assessment of the state of SMEs in the country, with a focus on



Sifelani Tsiko,  
Science Journalist

the key challenges, opportunities, risks and useful recommendations for growth.

The small business sector in Zimbabwe is a critical part of the national economy which forms an important driver of the national development agenda — Vision 2030, which seeks to attain an upper middle - income economy status by 2030 and enhance the quality of life, productivity and prosperity for the people in Zimbabwe.

Zimbabwe recognizes SMEs to be major sources of employment and drivers of growth in the economy.

Research into the SMEs sector, is critical in providing useful insights into how the Government and players in this sector can fully address issues pertaining to regularization, formalization, enhanced access to financing and global markets.

The survey sought to increase the stock of knowledge and to find meaningful ways of applying research findings to improve productivity in the SMEs sector.

This survey, which was undertaken between July and August 2019, sought to provide awareness on the importance of R&D, among SMEs and cooperatives, as well as measure the R&D effort among the players in this sector.

The compilation of the report was made possible with support of the Zimbabwe National Statistics Agency (ZIMSTAT), Government and the SGCI — jointly funded by the UK Department of International Development (DFID), Canada International Development Research Centre (IDRC) and the National Research Foundation (NRF) of South Africa.

The findings of the report show that the SME landscape is quite diverse — made up of relatively

young businesses and many others which have been in operation for more than three years.

SMEs in Zimbabwe contributed 50 percent of the country's GDP and employs more than 60 percent of the country's workforce.

They constitute about 70 percent of all businesses in the country.

According to the report, this is reflected in the revenue generated and number of employees they have.

*“SGCI gave us the confidence to do the survey. It was quite important for Zimbabwe to participate in this SGCI project. We are very excited about the launch of the R&D Survey on SMEs and Cooperatives,”* said Mrs Muzite.

This is truly a proud moment for SGCI which helped us to build our capacity to hold such a survey. Our team is hopeful that the RCZ has emerged stronger and empowered out of this Initiative.

This is a significant victory for Zimbabwe in the battle to strengthen R&D capacity and tools to hold such surveys. Clearly, without the support of the SGCI and other partners it would be impossible to have completed it, she said.

According to Women Affairs, Community, Small and Medium Enterprises Development Minister Sithembiso Nyoni: “This is a great achievement and an excellent example of the quality of research that can be fostered in Africa with the right skills and professionalism.

*“We cannot achieve socio-economic development with big companies alone. This ground-breaking research work on SMEs and cooperatives should help guide our*

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Zimbabwe ministers Sthembiso Nyoni, Monica Mutsvangwa and Susan Muzite, Executive Director, RCZ during the launch in Harare

*policies and action plans to grow our SMEs and help them to make meaningful contribution to our country's development. It should inform our strategies on how best we can grow the sector and how we can facilitate and support the empowerment of the majority of our people in this sector."*

The minister said SMEs and co-operatives should be at the core of the drive to realise the Vision 2030 Agenda to become an upper middle-income economy.

Zimbabwe is part of the SGCI which seeks to strengthen the capacities of institutions in sub-Saharan African to support research and evidence-based policies that will contribute to economic and social development.

Staff from the RCZ have benefitted immensely from this project which also provided international collaborations in the highly specialized field of research and development.

This project has greatly advanced the RCZ's work on such important areas as carrying out national R&D surveys and supporting other national research programmes.

*"While there is still work to be done in further strengthening our capacity, the SGCI support since 2015*

*has helped us to make good headway in building our confidence levels and to enhance our research tools and professionalism,"* said Mrs Muzite.

*"The launch of this report is stirring us to step forward with our mandate. I'm greatly encouraged,"* she added."

The RCZ and most other key research Councils in Africa still face numerous challenges related to poor funding, brain drain and low support from governments.

Zimbabwe and most African countries need more financial support for research and innovation to overcome some of the challenges they face.

Despite scoring some successes, scientific research in Africa has suffered from brain drain and low research output as well as lack of scientific and technological infrastructural development.

Mrs Muzite said the SGCI project has provided a platform and space for sharing of evidence, lessons learned and best practices.

*"It has helped us a lot in terms of boosting our confidence and this R&D survey report is the outcome of this SGCI initiatives,"* she said. *"It is a fruit of this project that will help drive the social and economic development of our country."*



## About Science Africa

Science Africa (SA) is a science communications consultancy firm that is keen on popularization of various aspects of STI as the driving force for sustainable socio-economic development in Africa. Since 1994, SA has been providing specialized strategic communications, research, capacity building, media and editorial advisory and hands-on support to various partner organizations in both private and public sectors at national, regional and international levels. SA has a wide network of highly skilled partners spread all over sub-Saharan Africa that are capable of meeting the needs of the most demanding and networked organization. At Science Africa, we believe that no society, country or region can develop without mainstreaming STIs into its core development agenda. We have therefore designed the following menu of products and services to provide support to our partners and clients to realize their strategic goals and objectives in the most sustainable way. <http://www.scienceafrica.co.ke>.



TheScinnoventCentre  
SCIENCE, INNOVATION AND ENTERPRISE

## The Scinnovent Centre

We are a not-for-profit science, technology and innovation policy think tank registered in Kenya. Our mission is to equip policymakers, researchers and business practitioners with the knowledge, tools and skills that enhance their capabilities for innovation, decision-making and wealth creation. Our work is guided by three strategic objectives: (i) generating evidence that supports policy and decision-making: Our research explore the challenges and opportunities presented by scientific, technological, institutional and governance changes and provide end-users and decision-makers with evidence-based policy options (ii) strengthening skills and shaping attitudes: We provide appropriate knowledge, up-to-date information, best practices, tools and hands-on skills on policy analysis, innovation management and knowledge translation and (iii) facilitating interactive learning, networking and dialogue. These interactive sessions allow actors to learn about new things, new ways of doing things and different ways of organizing to achieve better results (More about our work can be found at [www.scinnovent.org](http://www.scinnovent.org)).



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