SGCI IOSRS

A DECADE OF IMPACT

– Empowering African Science –

Erika Kraemer-Mbula, speaking at the 2024 SGCI forum in Botswana

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Cover image: researcher in Ghana ©Evans Ahorsu, Life in Lens

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A DECADE OF IMPACT: STRENGTHENING RESEARCH, INNOVATION AND DEVELOPMENT IN AFRICA

Over the past ten years, Africa's science and technology ecosystem has undergone fundamental change with the support of the Science Granting Councils Initiative (SGCI).

Fifteen science councils are now far stronger than they were a decade ago, while two new councils have been established in countries that previously had none. SGCI has also funded socially relevant research and innovation projects across 17 African countries, linking science directly to societal needs and national priorities.

SGCI members at the 2024 annual forum in Botswana

SGCI members at the 2015 annual forum in Kenya

WHY THIS MATTERS

Research and innovation are the engine of development. By funding, guiding, and advocating for research, science councils play a crucial role in solving societal challenges and driving economic growth. Strengthening these councils allows science to play a more practical role in driving Africa's development.

A DECADE OF PROGRESS

With SGCI's support, councils have strengthened their ability to fund and manage research, advanced gender inclusion, and built stronger links with the private sector to support commercialisation.

They now collaborate better across borders to address common challenges and learn from each other, ensuring knowledge flows across the continent.

Crucially, SGCI has enabled scientists to conduct research with direct social and economic impact. For example, in Ghana, young people now turn cashew waste into juice, protein-rich foods, compost and animal feed, creating jobs and income. In Botswana, researchers have applied nanotechnology to develop cost-effective, environmentally friendly reagents for the mining industry.

These examples show how SGCI-supported research is creating solutions with both local and regional significance.

THE CASE FOR CONTINUITY

The achievements of the past decade have been made possible largely through donor support, with funding from Canada's International Development Research Centre (IDRC), the UK's Foreign, Commonwealth & Development Office (FCDO), the National Research Foundation of South Africa (NRF), the Swedish International Development Cooperation Agency (Sida), the Norwegian Agency for Development Cooperation (Norad) and the German Research Foundation (DFG).

These partners, with co-funding from SGCI member countries, have played an important role through their foresight and commitment. For Africa to continue building a strong knowledge economy, governments need to increase investment in science and innovation.

Increased national investment in science, technology and innovation is essential – not only to sustain progress domestically, but also to strengthen collaboration through regional bodies such as the African Union.

Many of the continent's challenges such as climate change, food security, public health, do not respect national borders. By pooling resources and expertise, African countries can solve these shared problems and accelerate development together.

LOOKING AHEAD

It has been a remarkable ten years of research, collaboration and learning. SGCI has shown that when science councils are empowered, they can steer research and innovation in ways that influence policy, create jobs, and transform lives. The next decade must build on this foundation, with renewed donor support and stronger government commitment to funding science.

Africa's future depends on research, innovation, and evidence-based policy. SGCI has proven its value. The challenge now is to ensure it not only continues, but expands, so that science and innovation play an even greater role in shaping Africa's transformation.

SGCI launch and first forum, in 2015, in Nairobi, Kenya

SGCI'S JOURNEY IN SUPPORT OF RESEARCH

Science Granting Councils (SGCs) are vital institutions within national science, technology, and innovation (STI) systems. They disburse research grants, build research capacity, foster innovation, set priorities, advise governments, and monitor the impact of publicly funded research.

Yet in Sub-Saharan Africa, councils have long faced challenges such as limited capacity, weak coordination, inadequate funding, and insufficient legislative frameworks.

In response to these challenges, the SGCI was launched in March 2015 as a multi-donor initiative to strengthen the councils' ability to support high-quality research and evidence-informed policies that contribute to Africa's economic and social development.

SGCI members at the first forum in 2015, Nairobi

Over the past ten years, SGCI has been partnering with 17 national SGCs in funding, managing, and utilizing research for development.

This year, SGCI marks a decade of partnership, reflecting on the progress made through SGCI Phases I and II, laying a foundation for deeper impact and more adaptive, strategic support to African SGCs.

SGCI PHASE 1 (2015–2020)

SGCI's first phase focused on building foundational capacity in 15 councils across Sub-Saharan Africa. Supported by the FCDO, IDRC, and the NRF, SGCI-1 emphasised strengthening research management systems, promoting the use of STI indicators to design and monitor research programs and to formulate and implement policies and fostering cross border collaboration between and among councils.

This phase laid the groundwork for councils to better manage research funding.

Recognising that real transformation stems from national and regional leadership, SGCI's work with SGCs strengthened their ability to fund research that informs evidence-based policies and drives development.

Thanks to the SGCs, national governments have the much-needed data and evidence to develop effective STI policies, strategies, and implementation plans, as well as allocate funding for research that aligns with national development priorities.

SGCI PHASE II (2018–2025)

Funding from Sida and IDRC enabled the SGCI to launch a partially overlapping five-year phase (SGCI-2; 2018-2023). As well, the number increased from 15 to 17 participating councils. The German Research Foundation (DFG) joined in 2019 as an associate funder for three years, supporting specific council activities including collaborative research and networking.

The additional funding from Sida and IDRC enabled the SGCI to launch a partially overlapping five-year phase (SGCI-2; 2018-2023). The DFG joined in 2019 as an associate funder for three years, supporting specific council activities including collaborative research and networking.

In 2022, the Norwegian Agency for Development Cooperation (Norad), FCDO, and IDRC provided additional funding to SGCI-2 (SGCI-2 plus) for four years (2022 to 2025). The expansion demonstrated SGCI as a trusted funding model that catalyses donor investments in national STI systems, aligning efforts for transformative development.

This phase deepened support, shifting towards a more demand-driven capacity-strengthening approach where councils defined their own capacity-building priorities. SGCI-II embedded three cross-cutting priorities throughout all activities – research excellence, gender equality and inclusivity, and strategic communications and research uptake.

During this phase, councils implemented digital grant management systems, introduced the Good Financial Grant Practice (GFGP) standards, and adopted new frameworks for research quality and ethics. The councils launched joint research calls and placed greater emphasis on gender-transformative practices in research funding.

A key insight from the past decade is that SGCs are fundamental to national STI systems, with a far-reaching impact. SGCI goes beyond merely strengthening councils to enhance overall science systems in Africa, promoting quality research and innovation that benefits communities. This approach encourages collaboration and also embeds co-creation for sustainable change.

CONTINUING THE JOURNEY – SGCI PHASE III

Today, SGCI is building on the successes of its decade of impact to inform its third phase, with extended support, increased SGC leadership, additional member councils, and new partnerships ensuring momentum beyond 2025.

The continued support to SGCs aims to scale and deepen impact, building strong partnerships and cultivating a sense of shared responsibility and learning across Africa and beyond.

In the next phase, SGCI will continue to foster connections with national, regional, and global players that are crucial to enabling lasting change. As a model for the future, SGCI provides a platform where African SGCs will play a central role in driving the implementation of Science, Technology, and Innovation Strategy for Africa 2034 (STISA-2034) of the African Union, and transforming the STI landscape of Africa.

For more information, reports, and impact stories, visit: **www.sgciafrica.org**

Author: **Edwin Naidu**

SGCI'S VISION: SCIENCE AT THE HEART OF POLICY

Ellie Osir, a senior programme specialist at the IDRC, has played a major role in establishing the SGCI in Sub-Saharan Africa. With a third phase of SGCI's work now underway, the Kenyan observes how the initiative has changed since its beginnings in 2015, and reflects on the challenges and successes so far.

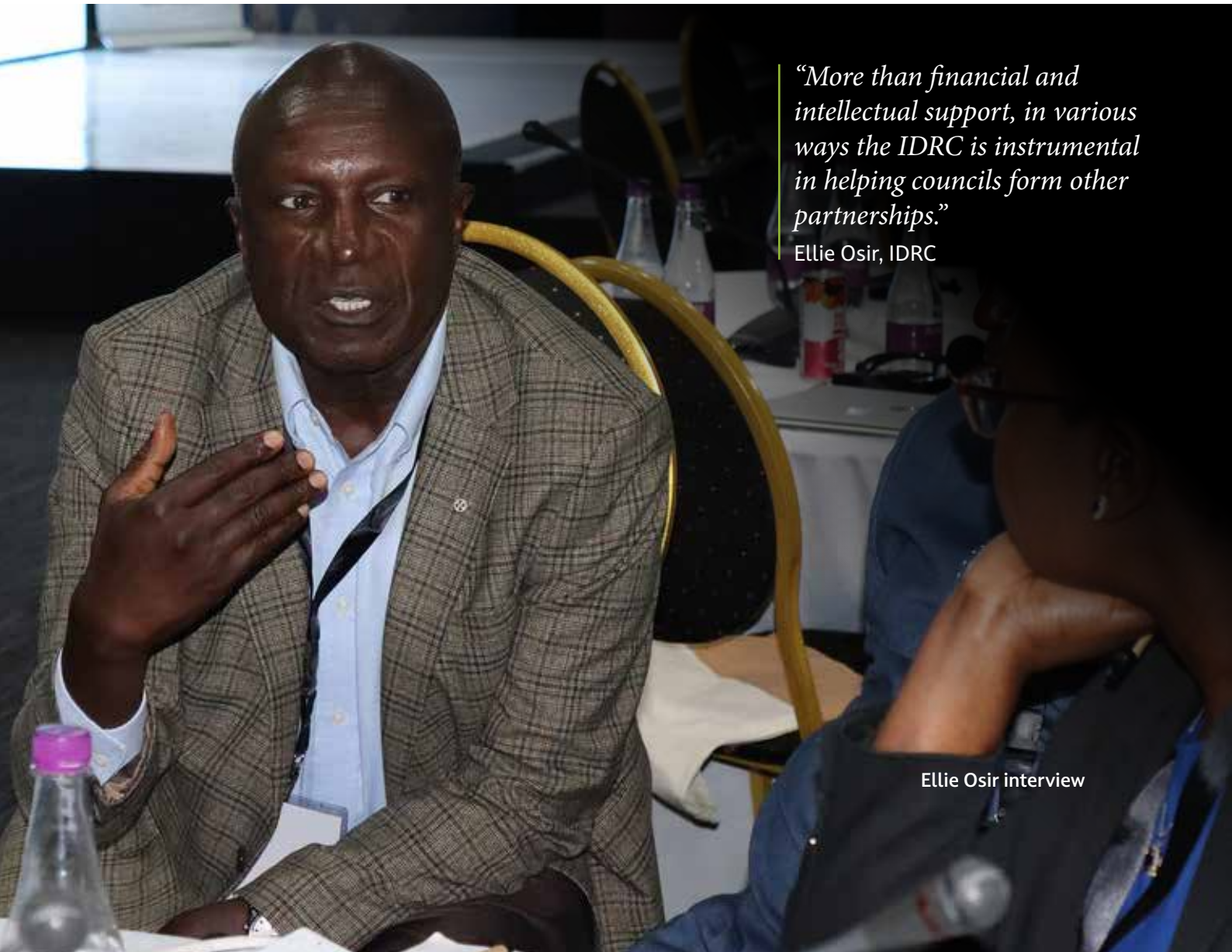
On the SGCI's tenth anniversary, he recalls its early days and the milestones that have enhanced science and innovation systems in the last decade. "My role from the beginning was setting up the initiative and understanding what we wanted to achieve, underpinned by the IDRC's desire to strengthen science and innovation systems across the continent," says Osir.

When SGCI was conceived, the idea was to support science councils to undertake research on specific issues affecting Africa, as the IDRC had already done for Asia in eight countries. However, a needs assessment revealed that science councils in Africa had capacity gaps that had to be addressed. It became apparent that the immediate priority was capacity strengthening, especially in managing research, engaging with the private sector, influencing policy, and integrating gender equality and inclusivity.

FORGING PARTNERSHIPS

Initially, SGCI was funded by IDRC, the UK's Foreign Commonwealth and Development Office, and the South African National Research Foundation. After that, the Swedish and Norwegian development agencies Sida and Norad joined and more recently Wellcome, a UK-based health research foundation, came on board. "More than financial and intellectual support, in various ways the IDRC is instrumental in helping councils form other partnerships. These were some of the key contributions of IDRC and other funders that came afterwards," Osir says.

He emphasises that science is a collaborative enterprise, and one of SGCI's biggest achievements has been enabling collaborative research between and among science councils of different African countries. "Before the SGCI, it was uncommon for councils to operate outside their borders. Since they receive funds from the



> *"More than financial and intellectual support, in various ways the IDRC is instrumental in helping councils form other partnerships."*
> Ellie Osir, IDRC

Ellie Osir interview

government, naturally, they would prioritise their own countries," he explains.

Over the last decade, a network of committed individuals, science councils, collaborating technical agencies, and funding agencies has been working together to build SGCI into the organisation it is today.

> *"We cannot be competitive without investment in science, technology, and innovation – we will be left behind."*

Osir says he is proud that science councils throughout Africa have become champions of policy development, encouraging governments to acknowledge the transformative effect that research and innovation have on people's lives. While it has been a difficult journey at times, there have been many positives and lessons to draw from it, he says.

DEMONSTRATING RESULTS

Many challenges remain, including staffing capacity, high staff turnover, and funding, according to Osir. Financial management is also an issue, which IDRC has been helping councils address. IDRC has been promoting sound financial governance by encouraging and supporting councils to obtain the GFGP certification. "These challenges are there and will continue until we have sufficient funding," says Osir. "The African Union has set one per cent of Gross Domestic Product as financing towards science and tech research and innovation, which is little, but many countries have not achieved this."

Osir stresses that scientists must clearly communicate the value of their research. "We must continue to lobby governments, but researchers must demonstrate the impact of their work. Governments want to see results; if you don't show results, they can begin to ask why they should fund research and innovation."

He foresees a future where science and innovation play a stronger role in Africa's development, embracing new technologies such as artificial intelligence. "I think it was an excellent idea to have this initiative that allows African councils to tackle cross-border challenges. I envision that such collaboration will continue beyond the lifespan of SGCI, with the continent funding it."

FUTURE GROWTH

As a global organisation, IDRC has been working to strengthen national science, technology, and innovation systems with a particular emphasis on Science Granting Councils. These councils now number 19 across the continent and Osir believes there is room for further growth. "In Africa, we must realise the importance of science-led development. Look at Japan, China, where they are because of technology," he says. "So, for Africa, the science community and policymakers, it is key to increase support if we want the kind of development we see in Asian countries. We cannot be competitive without investment in science, technology, and innovation – we will be left behind."

Ellie Osir with colleagues

Full interview is available on the SGCI website

Author: **Charles Mpaka**

TRANSLATING RESEARCH INTO DEVELOPMENT

When researchers at the Lilongwe University of Agriculture and Natural Resources (LUANAR) picked Robert Mbendera's farm in 2020 to trial a solar-powered milking device, he was sceptical. A dairy farmer for 16 years in Dedza, central Malawi, Mbendera says he thought the visitors were trying to trick him. He did not think there was an alternative to his usual practice of milking by hand. "They started putting up the installations – it just didn't make any sense to me. I thought this was another scam some people from urban centres bring to poor smallholder farmers," he recalls.

But the device soon won him over. What once took him 80 minutes of hand-milking now takes ten minutes. "Immediately, I realised what this machine was about," he says. "With the reduced milking time, it meant I could have more cows and milk them in no time." The technology, designed by LUANAR with support from Malawi's National Commission for Science and Technology, is part of a wider initiative under the SGCI.

As SGCI marks its tenth year, Mbendera's story shows both the promise and complexity of an initiative designed to make African science agencies more effective at translating research into development.

When SGCI was launched in March 2015, science councils across Africa faced several obstacles including underfunded budgets, fragmented systems, and weak capacity to run competitive grant calls. Over the decade, the initiative has focused on building capacity inside these SGCs, so they could manage funds, set priorities, and ensure research responded to national needs.

ADVANCING NEW TECHNOLOGIES

Through the platform, scientists across Africa have piloted technologies ranging from leather processing in Uganda to artificial intelligence for heart disease detection in Tanzania, and solar irrigation systems that support women farmers in Zambia and Mozambique.

For Malawi, this support has been transformative, says Gift Kadzamira, director general of the National Commission for Science and Technology. She says: "Our researchers have benefited a lot from the training they have been involved in through SGCI – not only the researchers but also staff members at the commission. It has raised our ability to manage grants and support innovation." It was this strengthened capacity that allowed the commission to back projects like Mbendera's milking machine, combining solar energy with livestock productivity in a rural setting.

Hadiza Ismail, Tetfund

INSTITUTIONAL CHANGE

In Uganda, the SGCI has helped drive systemic change. Before 2015, the Uganda National Council for Science and Technology (UNCST) mainly issued small, ad hoc research grants and lacked the systems to run large-scale, competitive programmes, said Geoffrey Sempiri, project coordinator at UNCST. "We encountered challenges in encouraging regional collaboration and incorporating aspects like gender and social inclusion into our funding frameworks," Sempiri says.

He says the council's participation in SGCI helped it evolve into an agency "with more robust, professional and transparent processes for managing research grants". "Support from SGCI was timely and strategic in helping us institutionalise and expand our operations," he adds.

According to Sempiri, SGCI has boosted UNCST's capacity to engage with the private sector, improve science communication, and embed gender inclusivity in its programmes. But the most important shift, he says, is the way the initiative has fostered collaboration among science granting councils across Africa. "By creating a formal platform for engagement, SGCI enhanced shared learning and collaboration," he says.

Through this platform, UNCST has carried out joint research activities with agencies in Côte d'Ivoire and Kenya, pooling expertise and addressing shared regional challenges. "It demonstrated that by working together, we can achieve more impactful and sustainable outcomes than we could by working in isolation," Sempiri says.

PRACTICAL SOLUTIONS

In Nigeria, the SGCI has played a catalytic role in nudging universities and researchers towards applied science that responds directly to community needs. Through SGCI support, Nigerian researchers have been able to move beyond basic research into developing practical solutions. One example is the creation of a solar-powered biosensor and water purification device, designed to provide affordable clean water in rural communities without electricity. "Before, we were doing research for publication, but now we are doing research for impact on society," says Victor Nwaugo, lead researcher and professor of environmental pollution and public health at Abia State University, Nigeria.

According to Hadiza Ismail, assistant director for research and development at the Tertiary Education Trust Fund (TETFund), Nigeria's participation in SGCI since 2020 has shifted the landscape. She explains that while research was vibrant before, it was fragmented, with sectors working in isolation. Ismail says that the sectors are now well coordinated, and TETFund has strengthened staff capacity in research management, technology transfer, and commercialisation of research over the past four years.

In June 2024, Nigerian scientists in selected higher education institutions secured US$250,000 in SGCI funding through TETFund to develop prototypes in drought mitigation, biosensor devices for solar-powered water purification, automated garri frying technology, and vertical axis wind turbines for affordable electricity.

LOOKING AHEAD

For Ismail, these developments are only the beginning. "We expect an explosion of innovative projects that will benefit the African continent at large, more collaborative projects between countries within the same region and across different regions," she said, pointing to what the next decade of SGCI might deliver. The successes, however, have not come without challenges.

According to SGCI's 2024 annual report, achievements in shaping Africa's science, technology, and innovation policies have been limited, requiring stronger networking among partners. Delayed grant-making processes and lengthy procurement procedures have also slowed implementation in some countries.

Yet, as the initiative enters another decade, councils view Africa as standing on firmer ground for research and innovation. For Uganda's Sempiri, the outlook is equally forward-looking, with a "greater shift towards demand-driven research directly linked to national development priorities and the Sustainable Development Goals".

"This means councils will be crucial in providing evidence for policy and guiding national strategies."

Gift Kadzamira (right) and SGCI member

Geoffrey Sempri (left) with other members

A DECADE IN PICTURES: SGCI THROUGH THE YEARS

KEY MILESTONES AND EVENTS

SGCI launch and first forum

SGCI launch and first forum

First round of capacity building initiatives in Uganda

First round capacity building initiatives in Cote d'Ivoire

Research impact, partnership learning workshop in Accra

Annual Conference

SGCI launch and first forum

SGCI launch and first forum

First round capacity building initiatives in Kigali

First round capacity building initiatives in Namibia

Annual Conference

Research impact, partnership learning workshop in Accra

Author: **Edwin Naidu**

BUILDING CONNECTIONS ACROSS THE CONTINENT

For a decade, the Science Granting Councils Initiative (SGCI) has strengthened Africa's science funding systems, boosting research management and fostering regional collaboration. In this milestone year, some of the 17 member councils reflect on how SGCI has influenced their growth. From policy reform to cross-border partnerships, councils agree that SGCI has been central to building stronger, more connected, and more inclusive science systems across Africa.

BOTSWANA

For Botswana's Ministry of Communications, Knowledge and Technology, SGCI membership opened doors to the Global Research Council. Acting deputy director Abraham Mathodi says this expanded the country's networks and access to potential funders.

BURKINA FASO

SGCI has helped Burkina Faso's National Fund for Research and Innovation for Development (FONRID) strengthen internal processes and launch programmes focused on gender, inclusion, and diversity. "FONRID has introduced initiatives to inspire young girls to pursue careers in science and research," says project leader Djibril Yonli.

CÔTE D'IVOIRE

As a member of SGCI, Côte d'Ivoire's Fund for Science, Technology and Innovation (FONSTI) collaborates with other African Science Granting Councils to enhance research and innovation. Through SGCI, FONSTI works closely with counterparts in Mozambique, Uganda, and South Africa. These collaborations foster knowledge exchange, joint funding calls, and cross-border capacity-building activities. Yaya Sangaré, secretary-general of FONSTI, says scientific research is critical in solving urgent societal issues.

ETHIOPIA

The Ministry of Innovation and Technology, is the council representing Ethiopia in the SGCI. They have been an active partner in the SGCI since its inception. The country participated in SGCI's initial needs assessment studies and has continued to engage in its capacity-building programmes. Ethiopia's involvement in SGCI also provides important opportunities for regional and international collaboration. Ethiopian researchers have worked with other SGCI member countries on joint funding proposals, including applications to the European Union and other donors.

GHANA

Cephas Adjei Mensah, director of research, statistics and information management at the Ministry of Environment, Science, Technology, and Innovation, highlights that sustainable funding partnerships are a key lesson from SGCI. "SGCI has enabled connections to external networks. This has increased visibility and recognition for councils," he says. Mensah envisages Ghana's council becoming a stronger policy driver, with an improved funding strategy and best-practice adoption.

KENYA

The National Research Fund (NRF) in Kenya joined SGCI in 2018. Their Participation in SGCI has boosted their capacity in research funding, grant management, and science policy development. In 2023, Kenya hosted the SGCI Annual Forum and Global Research Council (GRC) Meeting in Mombasa. The event brought together research leaders, funders, and policymakers from Africa and around the world.

MALAWI

One of the earliest SGCI members, Malawi's National Commission for Science and Technology has seen consistent progress since 2015. According to director general Gift Kadzamira, workshops in monitoring and evaluation, ethics, brand management, and grant administration have strengthened the council's ability to deliver on its mandate. Driving policy change and national impact.

MOZAMBIQUE

Since 2015, Mozambique's National Research Fund has expanded its visibility and influence through SGCI. The fund has developed new policies, deepened collaboration, and attracted additional support. Dirce Madeira, head of projects monitoring and evaluation, says membership has strengthened Mozambique's voice in regional and global networks.

NAMIBIA

The National Commission on Research, Science, and Technology in Namibia has been with the SGCI since 2015. Anicia Peters, head of the Commission, says the SGCI supports research in healthcare artificial intelligence, food systems, waste management, biomass, and green technologies.

NIGERIA

As Nigeria's representative in SGCI, The Tertiary Education Trust Fund (TETFund) has redefined how research is applied to create social and economic value. Its involvement in the SGCI has focused on making research more responsive to local community needs Through its SGCI partnership, TETFund continues to support transformative research with meaningful, measurable outcomes

RWANDA

The National Council for Science and Technology (NCST) Rwanda joined the SGCI to strengthen its science funding systems and research management capacity. One key initiative was NCST's participation in a regional workshop on research and grant management. The workshop aimed to improve grants administration in the country.

SENEGAL

As a member of the SGCI, the Ministry of Higher Education, Research and Innovation (MESRI) is helping transform the research landscape in Senegal. Under the SGCI, MESRI is currently funding eleven national research projects aimed at tackling critical health and food-related challenges. Through this partnership, MESRI is also strengthening research management, grant administration, and the uptake of research results in ways that directly impact communities

SIERRA LEONE

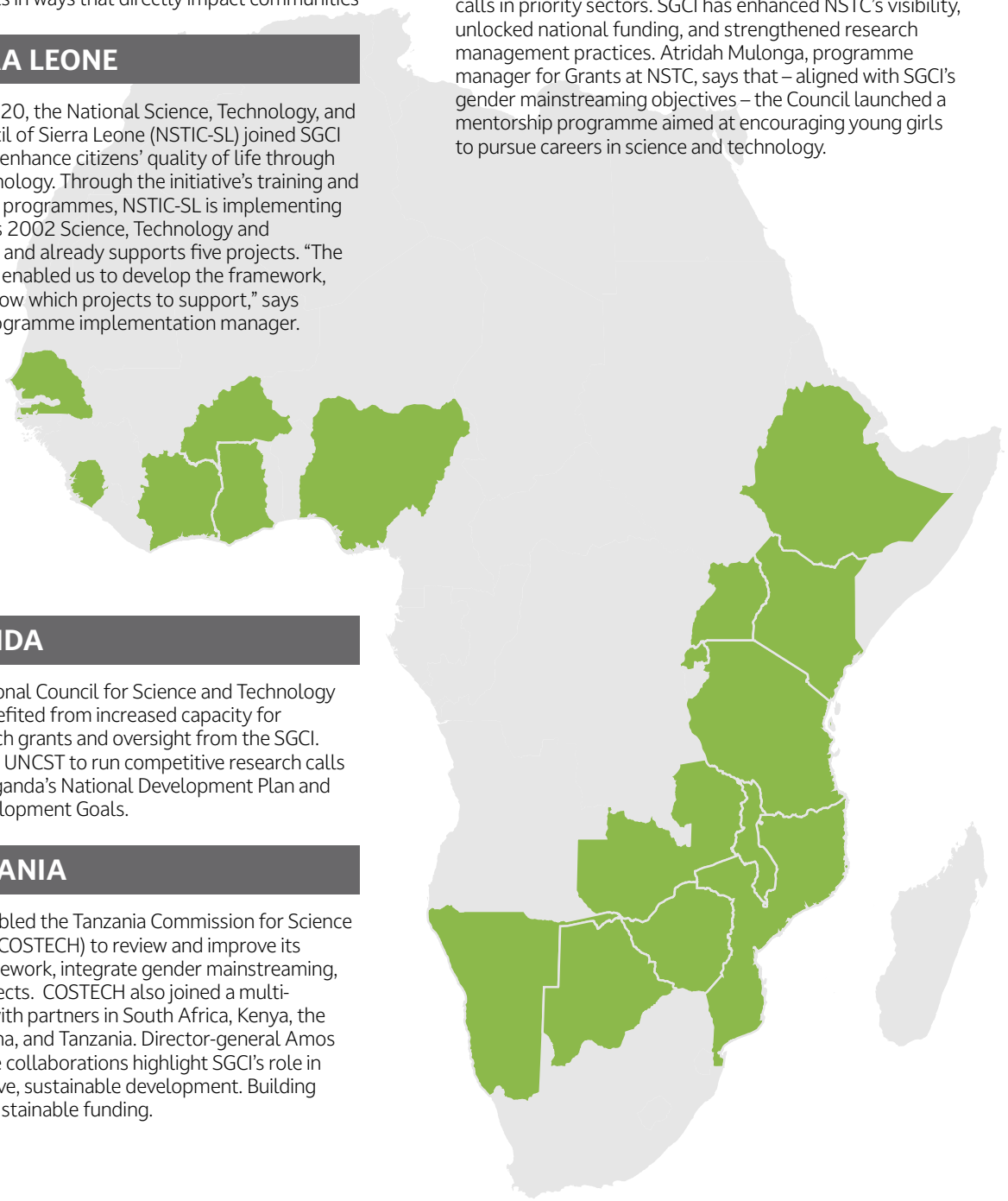
Established in 2020, the National Science, Technology, and Innovation Council of Sierra Leone (NSTIC-SL) joined SGCI two years ago to enhance citizens' quality of life through science and technology. Through the initiative's training and capacity-building programmes, NSTIC-SL is implementing the government's 2002 Science, Technology and Innovation policy and already supports five projects. "The SGCI training has enabled us to develop the framework, enabling us to know which projects to support," says Samba Sesay, programme implementation manager.

ZIMBABWE

The Research Council of Zimbabwe (RCZ) has strengthened its ability to run competitive research calls in fields such as climate-smart technologies, artificial intelligence, renewable energy, and mining. Working with Malawi, Botswana, and Tanzania, RCZ has also advanced regional collaboration, gender inclusion, and private sector engagement. More than 16 SGCI-backed projects have addressed challenges from water scarcity to food insecurity. "Through SGCI collaborations, RCZ continues to scale up its influence and promote research that delivers tangible results," says executive director Partson Chikudza.

ZAMBIA

With SGCI support, Zambia's National Science and Technology Council (NSTC) manages competitive research calls in priority sectors. SGCI has enhanced NSTC's visibility, unlocked national funding, and strengthened research management practices. Atridah Mulonga, programme manager for Grants at NSTC, says that – aligned with SGCI's gender mainstreaming objectives – the Council launched a mentorship programme aimed at encouraging young girls to pursue careers in science and technology.



UGANDA

The Uganda National Council for Science and Technology (UNCST) has benefited from increased capacity for managing research grants and oversight from the SGCI. SGCI has enabled UNCST to run competitive research calls that align with Uganda's National Development Plan and Sustainable Development Goals.

TANZANIA

SGCI funding enabled the Tanzania Commission for Science and Technology (COSTECH) to review and improve its institutional framework, integrate gender mainstreaming, and fund 15 projects. COSTECH also joined a multi-country project with partners in South Africa, Kenya, the Netherlands, China, and Tanzania. Director-general Amos Nungu says these collaborations highlight SGCI's role in advancing inclusive, sustainable development. Building innovation and sustainable funding.

Author: **Gilbert Nakweya**

AFRICAN SCIENCE COUNCILS LEAD THE WAY IN GENDER-INCLUSIVE SCIENCE

The southern African nation, often cited as a gender equality success story, has closed 81 per cent of its overall gender gap, according to the World Economic Forum's 2025 report.

But Anicia Peters, head of Namibia's National Commission on Research, Science and Technology (NCRST), noticed something troubling in grant applications. "We had gender parity overall, but we were missing critical groups," she explains.

Traditional grant evaluation didn't consider geographic location, socioeconomic background, or disability status. Rural researchers struggled to compete with their urban counterparts, who had better access to resources and networks.

GENDER AGENDA

In 2015, NCRST joined the SGCI, a programme supporting research councils across Africa to improve their funding practices.

Rather than just counting male versus female grant recipients, Namibia adopted the Gender Equality, Intersectionality, and Inclusivity (GEII) approach, looking at how gender intersects with other factors like location, disability, and economic background.

The approach aligns closely with national priorities set out in Namibia's National Gender Policy (2021–2030).

The reforms included new monitoring systems to track funding across different groups and training for grant reviewers on unconscious bias.

Elsewhere, SGCs are also making efforts to close the gender divide. For example, the National Research Fund in Kenya developed its own gender equality and inclusivity framework to embed diversity and inclusion principles into its operations – an effort that earned the council a national award for diversity and inclusion.

This focus on gender equality and inclusivity is also helping Ghana address the underrepresentation of women in science, technology, and innovation. The council is applying the '3Fs' approach – fixing the numbers (increasing women's participation), fixing the institution (promoting gender equality through structural changes), and fixing the knowledge (enhancing research by integrating gender equality and inclusion into methods and content).

South Africa's Human Sciences Research Council (HSRC) has been strengthening the capacity of SGCI countries to mainstream gender equity and inclusivity in science.

Namibian young scientists in a lab

Mr and Ms STEM competiton in Namibia

The goal is to ensure that councils are responsive to SGCI's gender transformation agendas, but own the change process to stimulate both individual and systemic change. At least 15 councils have participated in Gender Action Learning activities facilitated by Gender at Work, a network focused on ending discrimination against women.

The changes are already shaping policy beyond research funding. Namibia's flagship National Innovation Challenge for Women, designed to support female entrepreneurs and innovators, has been restructured to include both men and women.

The reform reflects the country's unusual context, where women already hold strong representation in research and innovation, ensuring inclusivity across the board.

The biggest hurdle, Peters recalls, was finding local experts who could combine knowledge of African research systems with a deep understanding of gender and inclusivity principles.

Here, the SGCI network proved invaluable, allowing Namibia to learn directly from the experiences of other councils across the continent.

> *"Investment in local expertise development in GEII will enhance long-term sustainability."*

Namibia's NCRST has placed deliberate emphasis on structuring equal participation of men and women in its programmes, to avoid creating new imbalances.

This participatory approach has included targeted capacity-building for women in the research and grants ecosystem, as well as engagement with researchers, reviewers, and administrators to co-design a more inclusive funding system.

BREAKING BARRIERS

The council has also commissioned perception studies to better understand barriers faced by women and marginalised groups, evidence that directly informed the latest reforms, Peters says.

These efforts are now feeding into wider policy dialogues on inclusivity in science, technology, and innovation. While the early results look promising, Peters stresses that momentum must be maintained.

She points to the need for continued capacity strengthening of key actors in research, institutionalisation of GEII frameworks across all funding programmes, resource mobilisation, and ongoing cross-border collaboration under SGCI.

"Investment in local expertise development in GEII will enhance long-term sustainability," she says.

Author: **Jackie Opara-Fatoye**

Over the past decade, the SGCI has supported research that transforms lives. Across Africa, SGCI funding enables local researchers to tackle pressing community challenges with practical, homegrown solutions. Through the SGCI Footprints newsletter and the SciDev.Net website, these stories have been widely shared, putting a human face on scientific innovation.

These stories demonstrate science in action, solving real-world problems, enhancing livelihoods, and opening doors to sustainability and self-reliance. They are a testament to what's possible when research is rooted in local contexts and driven by the people it aims to serve.

This special selection spotlights the top four most-read SGCI Footprints stories – projects that struck a chord with readers not just for their innovation, but for their deep relevance to everyday life. From reviving Malawi's degraded soils using insect-based fertiliser, to boosting income for Zimbabwean farmers through low-cost breeding technologies, these stories reflect the heart of SGCI's mission – to support research that meets the needs of people, communities, and the continent.

1 FROM WASTE TO WEALTH: 'MAGIC' FERTILISER REVIVES MALAWI'S SOIL

For farmers like Fanny Ndhlovu in Northern Malawi, declining crop yields have long signaled a worrying future. Years of over-reliance on chemical fertilisers, poor soil health, and changing weather patterns have made it increasingly difficult for smallholder farmers to survive – let alone thrive. But a bold new approach is rewriting this story.

Supported by SGCI and implemented by Mzuzu University in collaboration with Malawi's National Commission for Science and Technology, lead researcher Elija Wanda and his team of researchers are transforming waste into opportunity by developing organic fertilisers made from black soldier fly waste (frass), rice husk biochar, and coffee grounds.

This "magic fertiliser" is not only low-cost and environmentally friendly – it's showing real promise in reviving tired soils and increasing productivity.

Wanda says the project aims to solve soil degradation and avert a decline in agricultural productivity in Malawi. Ndhlovu is one of the first farmers to be trained in using and producing the fertiliser.

Since applying it, her banana and maize fields are flourishing, and she's helping train others in her village.

Beyond improving crops, the initiative is also creating sustainable livestock feed alternatives, reducing greenhouse gas emissions, and supporting Malawi's national soil health action plan.

With further support, the technology could scale across Malawi and beyond, offering a blueprint for sustainable farming in the face of climate change.

"From what we are seeing, we have found an answer to our declining farming."

Fanny Ndhlovu, farmer, Mzimba District

Biochar production

Author: **Jackie Opara-Fatoye**

2 BREEDING BETTER FUTURES: ARTIFICIAL INSEMINATION DOUBLES LIVESTOCK VALUE IN ZIMBABWE

In Zimbabwe, smallholder livestock farmers often face the dual challenge of low productivity and limited income, especially in rural communities where traditional breeding methods produce smaller, weaker animals. But in Matabeleland, change is afoot.

A research project funded by SGCI through the Research Council of Zimbabwe is introducing innovative, low-cost reproductive technologies like artificial insemination and strategic crossbreeding to boost livestock and poultry production.

For farmers like Freedom Sibanda, the results have been transformative. By crossbreeding indigenous goats with Boer goats, his livestock now grow faster, fetch double the price at market, and are more resistant to disease.

In poultry, artificial insemination has improved fertility rates from 54 per cent to 89 per cent, using specially developed extenders to preserve semen quality. Led by Fortune Jomane and his team from Lupane State University, the initiative trained government extension officers to work directly with farmers, ensuring knowledge transfer and local support.

The project is helping communities move from subsistence to surplus, improving food security, nutrition, and income. Despite logistical challenges such as poor road access and power shortages, researchers are optimistic.

With greater awareness, training, and investment, this model could scale across the region – delivering better livelihoods, healthier animals, and stronger rural economies.

"This isn't just good for me but benefits the whole community."

Freedom Sibanda, farmer, Zimbabwe

Artificial insemination in the lab

Artificial insemination in goats

Author: **Jackie Opara-Fatoye**

3 ETHIOPIA'S INVASIVE LAKE WEED BECOMES CLEAN COOKING FUEL

For generations, Lake Tana in Ethiopia sustained the livelihoods of fishing communities like Shehagomngie village. But in recent years, the spread of water hyacinth – an aggressive aquatic weed – began choking the lake, damaging fishing gear, blocking boat passage, and threatening both livelihoods and biodiversity.

Frustrated by failed manual removal efforts, local fisherman Fentie Wabi and others turned to an innovative solution: turning the invasive weed into biogas.

Backed by SGCI and led by Yezbie Kassa, the lead researcher of the project and assistant professor of fishery and aquatic science at the University of Gondar, this research project has developed a household-level system to convert water hyacinth into clean energy.

Through anaerobic digestion, the plant waste is transformed into methane gas used for cooking and lighting, while the byproduct – bioslurry – serves as a powerful organic fertiliser.

The pilot project, initially implemented in just five homes, has already had far-reaching effects.

Women now spend less time collecting firewood, crop yields are improving, and the community is slowly regaining control of their lake.

The project also aligns with Ethiopia's push for green energy and sustainable agriculture. While expansion remains challenged by cost and conflict, the model's success has caught the attention of stakeholders nationwide.

With the right policy support, the Lake Tana innovation could be scaled to other regions facing similar environmental threats.

"Once they saw the first lights and smelled the cooking gas, it changed minds and sparked excitement."

Yezbie Kassa, lead researcher, University of Gondar

Water hyacinth, Arne Witt

Clearing water hyacinth

Author: **Jackie Opara-Fatoye**

4 BANANA FIBRE INNOVATION PUTS UGANDA ON GLOBAL TEXTILE MAP

Uganda is one of the world's largest producers of bananas, yet most of the plant, especially the pseudo-stem, is discarded after harvest. Now, a pioneering project is turning that waste into wealth. At Busitema University, the Banatex-EA project is extracting fibre from banana stems and transforming it into textiles, hair extensions, and sanitary pads.

Led by textile engineer Edwin Kamalha, the research team has developed new methods to soften the coarse banana fibre, making it suitable for spinning and commercial use.

In collaboration with local firms like TEXFAD, the project is now creating eco-friendly products that offer alternatives to cotton and synthetic materials – while opening new income streams for banana farmers. The innovation also has the potential to reduce waste and environmental impact while addressing rising global demand for sustainable fibres.

Although challenges remain, such as a lack of policy support for biotechnology, limited market codes for banana fibre, and consumer perception, the early results are promising.

With proper investment, market development, and policy alignment, banana fibre could emerge as a major export product and a job creator for Uganda's youth, positioning the country as a leader in sustainable innovation.

"It's a plant that generates a lot of waste… what was once discarded can become a valuable resource."

Edwin Kamalha, project lead, Busitema University

Drying banana fibres

Banana fibre production

Author: **Jackie Opara-Fatoye**

STRENGTHENING SCIENCE COUNCILS – THE ROLE OF TECHNICAL AGENCIES

For ten years, groups of experts known as Collaborating Technical Agencies (CTAs) have worked closely with the Science Granting Councils (SGCs) to share knowledge, build institutional resilience, and forge long-term partnerships. Three CTA leaders, Rebecca Hanlin, Lorenza Fluks, and Tom Ogada, reflect on the unique value the agencies bring and the impact of their work in shaping research and innovation across Africa.

EVIDENCE FOR POLICYMAKING

Rebecca Hanlin, a science, technology and innovation policy expert from the University of Johannesburg, works with the SGCs on using evidence in policymaking.

She explains that CTAs have served as a critical support mechanism, giving the councils access to a network of expertise that addresses capability gaps. Hanlin highlights the concept of absorptive capacity – the ability to identify, acquire, and use knowledge effectively.

"The long-term relationships forged between CTAs and SGCs have created much-needed absorptive capacity," she says. "In some cases, councils have absorbed new knowledge into their organisations; in others, they recognise the usefulness of having external knowledge on tap that they can call on as needed."

For Hanlin, the most satisfying impact has been in monitoring, evaluation, and learning. Many councils now have dedicated officers, online tools, and systems to generate this evidence.

"This data is helping councils make more effective decisions, from what should be funded to understanding outputs and long-term impacts in their country's research environment," she explains.

> *"This data is helping councils make more effective decisions, from what should be funded to understanding outputs and long-term impacts in their country's research environment."*

Professor Tom Ogada (right)

> *"Another key contribution is science communication and knowledge brokerage – transforming complex scientific outputs into narratives that connect science with society."*

GENDER EQUALITY AND INCLUSION

Lorenza Fluks, from the Human Sciences Research Council of South Africa, works with SGCs on integrating gender equality and inclusivity.

Speaking on behalf of the Gender Equality and Inclusion (GEI) project team, she says the cross-cutting GEI theme has been one of the transformative contributions of CTAs to the science councils.

The project, introduced in 2020, aims to address the underrepresentation of women in STEM fields, particularly at advanced stages. Creating what Fluks calls the "leaky pipeline".

She says the project integrates gender equality, inclusivity, and intersectionality into grant-making processes as a "lever for systemic change".

Phase I from 2020 to 2023 focused on participatory learning, building GEI infrastructure and shifting norms, while Phase II from 2023 to 2025 prioritises integrating GEI into the grant-making cycle through policies, training, and research. "Councils shifted from gender-blind toward transformative practices," Fluks explains.

Ownership and context-specific action have been essential. Councils realised that excluding women and marginalised groups is a loss of talent. Partnerships with universities, ministries, and academies were critical to building change, Fluks adds.

Fluks points to examples such as Senegal's council being invited by their government to lead a national gender policy. This is an indication of how the project has elevated the role of SGCs as key actors in advancing gender equality beyond the research funding space.

For Fluks, the lesson is clear: "True transformation requires addressing consciousness, resources, norms, and policies together. Even small steps can open bigger shifts."

INNOVATION MANAGEMENT

Tom Ogada, of the African Centre for Technology Studies (ACTS), works with the councils on research and innovation management. He emphasises the broader institutional strengthening achieved through CTAs.

Ogada outlines their role in "professionalizing" research and grants management, supporting councils to design transparent, impactful calls for research and adopt online grant management systems.

CTAs have also promoted cross-border collaboration on shared challenges such as climate resilience, food security, health innovation, and mining, he said.

Ogada further highlights how CTAs have mainstreamed gender and inclusivity in policy and practice, promoted evidence-informed policymaking, and strengthened links between research and society through public-private partnerships.

"Another key contribution is science communication and knowledge brokerage – transforming complex scientific outputs into narratives that connect science with society."

COLLABORATING TECHNICAL AGENCIES

Below are the CTAs supporting SGCs in different thematic areas:

Building capacity for research management: Southern African Research and Innovation Management Association (SARIMA), West African Research and Innovation Management Association (WARIMA), and the Association of African Universities (AAU).

Research and innovation management: African Centre for Technology Studies (ACTS), the Association of African Universities (AAU), and Université Cheikh Anta Diop de Dakar (UCAD).

Strengthening existing councils and establishment of new ones in West Africa: ATPS and African University of Science & Technology.

Using evidence in policymaking: UCAD); the Centre for Science, Technology and Innovation Indicators (CeSTII) at the Human Sciences Research Council (HSRC); and ACTS.

Strengthening the communication of research and innovation to support uptake: CABI/SciDev.Net.

Integrating gender equality and inclusivity: HSRC, in collaboration with Jive Media Africa and Portia UK.

Engaging with the private sector: The Scinnovent Centre, Human Sciences Research Council (HSRC), AAU, University for Development Studies (UDS), Solution Lab Consultancy (SLC), and ATDF Entrepreneurship Hub.

Science Granting Councils Initiative

The Science Granting Councils Initiative is a multilateral initiative that aims to strengthen the capacities of science funding agencies in Sub-Saharan Africa to support research and evidence that can be used to inform policies that will contribute to economic and social development

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Foreign, Commonwealth & Development Office

IDRC · CRDI
International Development Research Centre
Centre de recherches pour le développement international
Canada

NRF National Research Foundation

Sida

DFG Deutsche Forschungsgemeinschaft
German Research Foundation

Norway