Towards Effective and Inclusive Research Funding Frameworks in Sub-Saharan Africa

Synthesis Report

April 2025

Authors

Ann Numi
Tom Ogada
Agnes Lutomiah
Nicholas Odongo
Kevin Ouko
Alfred Oduor

Contents

1. BACKGROUND AND CONTEXT 1
2. RESEARCH FUNDING MODELS IN STI 2
3. SGCS FUNDING MODELS FOR RESEARCH 4
4. RESEARCH FUNDING MODELS UNDER THE RIM PROJECT AND SGCIS 9
5. CHALLENGES IN RESEARCH FUNDING MODELS 11
6. RECOMMENDATIONS 12
7. REFERENCES 13

Executive Summary

This synthesis report presents key insights, outcomes, and recommendations on research funding models component of the Research and Innovation Management (RIM) project, implemented by the African Centre for Technology Studies (ACTS), in partnership with the Association of African Universities (AAU) and the University of Cheikh Anta Diop (UCAD). The project is part of the broader efforts under the Science Granting Councils Initiative (SGCI), which seeks to strengthen the institutional and technical capacities of Science Granting Councils (SGCs) in Sub-Saharan Africa to fund, manage, and promote impactful research and innovation (R&I).

The synthesis draws on secondary data from technical reports and implementation activities across participating SGCs, focusing on how the funded projects have responded to key objectives. These include improving research funding frameworks, managing competitive grants, embedding gender and ethical considerations, conducting monitoring, evaluation and learning (MEL), and synthesizing research results for knowledge translation and policy use.

The report focuses on research funding models across different projects and assesses their alignment with national development priorities, regional strategies such as STISA-2024 and Agenda 2063, and global commitments including the Sustainable Development Goals (SDGs). The report documents key outputs, innovations, and outcomes from the funded projects, as well as the extent to which these have influenced policy and practice in participating countries.

Emerging evidence points to enhanced capacities within SGCs to design and manage competitive research funding mechanisms. The report highlights success factors including strong institutional leadership, effective partnerships, and capacity-building tailored to context. It also identifies gaps and opportunities in areas such as resource mobilization.

The synthesis concludes with actionable recommendations for SGCs and SGCI partners. These include consolidating capacity-building gains, promoting adaptive research funding models to accelerate the impact of publicly funded research in Africa.

Acknowledgements

This synthesis report on effective and inclusive research funding frameworks in Sub-Saharan Africa is based on a desktop review and analysis commissioned by the African Centre for Technology Studies (ACTS) under the Research and Innovation Management (RIM) Project, funded by the International Development Research Centre (IDRC) of Canada and the United Kingdom's Foreign, Commonwealth & Development Office (FCDO).

We extend our sincere appreciation to IDRC and FCDO for their generous financial and technical support. We also acknowledge the Science Granting Councils (SGCs) for their commitment and efforts in implementing projects under the Science Granting Councils Initiative (SGCI), as well as the SGCI team for their valuable technical contributions.

Through SGCI, the IDRC consortium has advanced the pursuit of a more equal and inclusive research and innovation ecosystem in Sub-Saharan Africa under the RIM project – an endeavor of significant importance.

Finally, we express our gratitude to the ACTS team – particularly those directly involved in the RIM project – for their dedication and support in its implementation.

Abbreviations

AAU	Association of African Universities
ACTS	African Centre for Technology Studies
ANRSA	Agence Nationale de la Recherche Scientifique Appliquée (Senegal)
BDIH	Botswana Digital & Innovation Hub
BMGF	Bill & Melinda Gates Foundation
COSTECH	Tanzania Commission for Science and Technology
DSTI	Directorate of Science, Technology, and Innovation (Sierra Leone)
FCDO	Foreign, Commonwealth and Development Office (UK)
FNI	Fundo Nacional de Investigação (Mozambique)
FONRID	Fonds National de la Recherche et de l'Innovation pour le Développement (Burkina Faso)
FONSTI	Fonds pour la Science, la Technologie et l'Innovation (Côte d'Ivoire)
GDP	Gross Domestic Product
GERD	Gross Expenditure on Research and Development
GF	The Global Fund
IDRC	International Development Research Centre
M&E	Monitoring and Evaluation
MCT	Ministry of Science and Technology (Mozambique)
MEL	Monitoring, Evaluation, and Learning
MESRI	Ministry of Higher Education Research and Innovation (Senegal)
MESTI	Ministry of Environment, Science, Technology, and Innovation (Ghana)
MinT	Ministry of Innovation and Technology (Ethiopia)
NCRST	National Commission on Research, Science and Technology (Namibia)
NCST	National Commission for Science and Technology (Malawi / Rwanda context-specific)
NORAD	Norwegian Agency for Development Cooperation
NRA	National Research Agenda
NRF	National Research Foundation (South Africa / Kenya)
NSTC	National Science and Technology Council (Zambia)
NSTIC	National Science Technology and Innovation Council (Sierra Leone)
R&D	Research and Development
R&I	Research and Innovation
RCZ	Research Council of Zimbabwe
RIM	Research and Innovation Management
SARIS	Salon Africain de la Recherche et de l'Innovation au Sénégal
SDGs	Sustainable Development Goals
SGC	Science Granting Council
SGCI	Science Granting Councils Initiative
SIDA	Swedish International Development Agency
STI	Science, Technology, and Innovation
TETFund	Tertiary Education Trust Fund (Nigeria)
UCAD	University of Cheikh Anta Diop
UNCST	Uganda National Council for Science and Technology

1. Background and Context

Research and innovation are widely recognized as key drivers of sustainable development, economic growth, and societal transformation. Across Sub-Saharan Africa, SGCs have become central actors in shaping and sustaining national research and innovation ecosystems. Through their core mandates – mobilizing, managing, and disbursing public and donor funding for research and development (R&D) and science, technology and innovation (STI) – SGCs play a key role in steering research agendas, supporting capacity development, and enabling the generation and use of knowledge to address national and regional challenges.

However, many SGCs face persistent challenges in effectively designing and implementing funding mechanisms that are transparent, competitive, inclusive, and responsive to national development priorities. Issues such as limited institutional capacities, underdeveloped funding frameworks, fragmented monitoring and evaluation (M&E) systems, weak links between research and policy, and inadequate consideration of gender and inclusivity concerns often undermine the potential impact of funded research projects. Recognizing this, the SGCI was established to strengthen the capacities of SGCs across several interrelated areas including research management, use of evidence in decision-making, strategic communication, knowledge translation, and the integration of gender equality and inclusivity.

This synthesis report is focused on *research funding* models– a holistic approach that encompasses the structures, mechanisms, processes, and capacities that enable effective mobilization, allocation, and utilization of research funds. These models include not only the technical and procedural aspects of grant design and delivery, but also the broader institutional, cultural, and political contexts in which funding decisions are made. They reflect how SGCs engage with researchers, policymakers, and other stakeholders to ensure that research funding is strategically targeted, efficiently managed, and aligned with national, regional, and global development goals.

This synthesis report seeks to document and analyze how SGCs, with support from SGCI and the RIM project, have developed and operationalized diverse research funding models. It highlights the progress made, challenges encountered, lessons learned, and opportunities for scaling and sustaining good practices. By examining these models in a systematic manner, the report aims to enhance cross-country learning and contribute to the broader discourse on strengthening research funding ecosystems in Africa.

2. Research Funding Models in STI

Research funding models in Science, Technology, and Innovation (STI) refer to the diverse institutional arrangements, funding models, strategies, and operational mechanisms that enable the financing, management, and utilization of resources for research and innovation activities. In the context of Sub-Saharan Africa, these models are increasingly recognized as foundational to building robust national innovation systems, driving socioeconomic transformation, and addressing pressing development challenges such as climate change, food insecurity, public health, and digital inclusion.

Science Granting Councils (SGCs) serve as key intermediaries in shaping and implementing these funding models. Their core responsibilities include designing research funding frameworks, issuing competitive calls for proposals, evaluating and selecting projects, disbursing funds, and monitoring progress and impact. Through the support of initiatives like the Science Granting Councils Initiative (SGCI), SGCs are expanding and refining these models to ensure that research investments are aligned with national priorities and yield tangible benefits for society.

In response to ongoing challenges with existing models, mechanisms, and funding levels for research and innovation, countries in both the Global North and South have explored various institutional reforms and alternative funding approaches – some of which have delivered impressive outcomes. African nations have also embarked on similar efforts to revamp how research and innovation are financed and supported. While the examples provided are not exhaustive, they have been intentionally selected to showcase diverse and promising funding mechanisms (Mugwagwa et al., 2019). Table 1 presents research and innovation funding models, detailing the funder, the type of activities supported, the funding mechanism used, and the underlying rationale for each approach.

Table 1: Funding Models for Research and Innovation

Funder	What is funded	Funding Mechanism	Rationale
Government	Basic Research Applied Research Translational Research Commercialisation Entrepreneurship (SMEs)	Grants and challenges Public institution co-funding on interdisciplinary and multidisciplinary programmes Innovation brokerage Formation of national research funding consortia Co-funding with SGCIs in the Region Investment in high-end research programmes, incl. Chairs (240 in SA) and Centres of Excellence, with 15-year funding horizons	Traditionally governments have funded basic, applied and translational research as investment in economic growth and development. These are deemed public goods.
Private Sector	Applied Research Commercialisation	Retained profits and borrowing for capital markets Corporate Social Responsibility	Profit driven motives
Public Private Partnerships	Applied Research Commercialisation	Equity and project funding	Solving market failure issues
Impact Investors	Commercialisation	Equity or debt	Solving market failure with a focus on social goods
Non Governmental Organisations	Commercialisation	Equity or debt	Solving market failure
Capital Markets	Commercialisation	Equity	Attractive return on investment in the venture
Crowdfunding	Research and commercialisation	Equity	Social investment because of market failure

Source (Mugwagwa et al., 2019)

Over the past two decades, Sub-Saharan Africa has witnessed a growing diversity of initiatives aimed at supporting scientific research. These include national-level public or semi-public institutions that provide grant funding for science and research activities. Often referred to interchangeably as science granting councils (SGCs), funding agencies, science councils, or research commissions, these entities occupy a unique intermediary position between governments and the research community. In this role, they contribute significantly to the formulation and implementation of national science policies. While the primary function of SGCs is to allocate grants for research and scientific endeavors, many have expanded their scope to include additional responsibilities such as advocacy, strategic communication, data collection, analysis, and knowledge dissemination. As a result, SGCs have become key actors in identifying, developing, and shaping research funding mechanisms within their respective countries (Mugwagwa et al., 2019).

3. SGCs funding models for research

The International Development Research Centre (IDRC) collaborates with a network of 17 African science granting councils to enhance their capacity to design, fund, and oversee locally driven research that addresses the needs of African societies. Drawing on its extensive background in supporting science systems, IDRC launched the SGCI in 2015 to address persistent gaps in Africa's research landscape. One major challenge has been the absence of robust funding mechanisms that can support research and innovation aligned with national priorities. These include the need for transparent and effective funding tools, stronger collaborations both within Africa and with the private sector, and efforts to leverage research in advancing gender equality and reaching underserved communities.

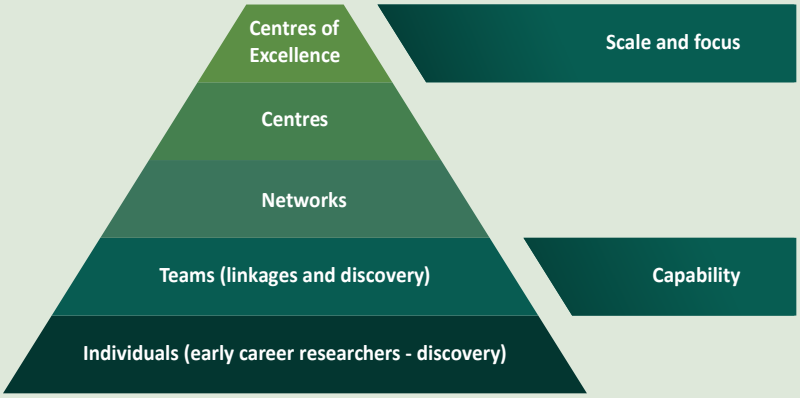
Since its inception, SGCI has contributed significantly to improving the governance and management of research across participating countries, as noted in a recent independent evaluation. The initiative is designed to be demand-driven, allowing participating councils to define their own priorities for capacity-building, peer exchange, and research support. With financial backing from IDRC, the UK's Foreign, Commonwealth and Development Office (FCDO), the Norwegian Agency for Development Cooperation (NORAD), South Africa's National Research Foundation (NRF), and the Swedish International Development Agency (SIDA), SGCI has facilitated the creation of new research councils in countries such as Sierra Leone and Botswana. In parallel, established councils like Tanzania's Tanzania Commission for Science and Technology (COSTECH) and Côte d'Ivoire's Fonds pour la Science, la Technologie et l'Innovation (FONSTI) have emerged as key actors in both national and regional research landscapes (Wallace, 2024). These councils are increasingly capable of forging impactful partnerships with peers across Africa and with international donors from the Global North. They have introduced modern grant management systems, contributed to the formulation and implementation of forward-looking science and technology policies aligned with development goals, and are now recognized as trusted partners by major institutions such as the Bill & Melinda Gates Foundation and the Japan Science and Technology Agency.

SGCs play a critical role in shaping national research and innovation ecosystems by allocating public funds, setting research agendas, and strengthening the research capacities of their respective countries. Across Africa, SGCs have developed and adapted diverse funding models to address national priorities, foster scientific excellence, and promote inclusive and sustainable development. This section examines the various funding mechanisms employed by SGCs as shown in Table 2 below. It also highlights the evolving approaches to resource mobilization, partnership development, and accountability systems that underpin these models. By analysing these funding modalities, the section offers insights into how SGCs are not only financing research but also influencing the direction, quality, and societal relevance of research across the continent.

Table 2: SGCs funding models for research

SGC	Funding models
National Research Fund (NRF), Kenya	Competitive Funding This approach entails providing funding to individuals, research teams, institutions, or firms through competitive calls for grant proposals aligned with national research priorities. Funding is awarded based on clearly defined criteria and guidelines, with support granted to the highest-ranking proposals. Matching Grants Funding The NRF partners with both local and international development organizations to co-fund research initiatives that address shared priority areas. Institutional Support Funding These grants are allocated to institutions to support specialized or nationally significant research facilities, with the awarding process guided by specific eligibility criteria (NRF, 2025).
Commission for Science and Technology (COSTECH), Tanzania	The Commission issues competitive research calls aimed at addressing national research priorities. These calls are guided by the terms and conditions of available funding sources, including contributions from the government, development partners, and other stakeholders. Grants will be open to Tanzanian nationals affiliated with public or private research institutions or higher learning institutions (COSTECH, 2019). To promote gender equity, female researchers are encouraged to apply, in line with the institutional gender policy. Typically, the calls require submission of concept notes prior to full proposal development, although in some instances, applicants may be invited to submit full proposals directly. The Innovation Fund may be awarded independently or in partnership with other organizations. The Innovation Fund is disbursed through two main approaches: Competitive Approach – funding provided through formal calls for innovation proposals. Non-Competitive Approach – funding allocated to individual innovators who approach directly, innovation centers making formal requests, or winners of innovation competitions and challenges.
Ministry of Innovation and Technology (MinT), Ethiopia	MinT is actively working towards the creation of a national innovation fund aimed at supporting start-ups. Efforts are underway to develop national innovation funding schemes, which will be overseen and guided by the National Science, Technology, and Innovation Council. The proposed Startup Act and Innovation Fund Proclamation are currently under review and being refined in preparation for government approval and ratification (Fanamc, 2023).
National Science Technology and Innovation Council (NSTIC), Sierra Leone	The research and innovation funding landscape in Sierra Leone is shaped by a range of stakeholders, each with specific responsibilities and interconnections. At the core of this ecosystem is the government, which plays a vital role in setting policy direction, allocating resources, and fostering a supportive environment for research and innovation activities. Central to this framework are the Ministry of Technical and Higher Education and the National Science, Technology, and Innovation Council (NSTIC), which are key institutions charged with managing and executing policies and funding initiatives that promote research and innovation (Ozor et al., 2025). Their collaboration and coordination are crucial to establishing a resilient and dynamic research and innovation ecosystem capable of driving socio-economic development and addressing the country's critical challenges.
Fund for Science, Technology and Innovation (FONSTI), Côte d'Ivoire	Modelled after the Swiss National Fund and drawing on decades of Swiss support to Côte d'Ivoire's research system, FONSTI is a dedicated research support fund established to finance high-quality scientific and technological innovation projects with the potential to contribute to the country's socio-economic and cultural development. A key strategic objective of FONSTI is to establish a sustainable mechanism for funding research and innovation. The Swiss National Science Foundation continues to serve as a key partner, and in 2023, the two institutions formalized their collaboration through a Memorandum of Understanding (MoU) focused on sharing best practices in research funding (OTT, 2024).

SGC	Funding models
National Science and Technology Council (NSTC), Zambia	The National Science and Technology Council (NSTC) serves as Zambia's primary public institution for funding scientific research. It provides support through two key funding mechanisms: the Strategic Research Fund (SRF) and the Science and Technology Innovation Youth Fund (STIYF). To mobilize financial resources for research, development, and innovation, Zambia established several funding mechanisms, including the Strategic Research Fund (SRF), the Science and Technology Innovators Youth Fund (STIYF), and the Technology Business Development Fund (TBDF). A notable achievement of these funds has been their success in fostering collaborative research initiatives. Nevertheless, despite their establishment and potential, overall allocations to these funds remain limited. As highlighted in the 2010 NEPAD Africa Innovation Outlook Report on Zambia, the country's Gross Expenditure on Research and Development (GERD) stood at just 0.037% of GDP—significantly below the Southern African Development Community (SADC) benchmark of 1% of GDP for R&D investment. Community (SADC) benchmark of 1% of GDP for R&D investment (MOTS, 2022).
Research Council of Zimbabwe (RCZ), Zimbabwe	RCZ determines funding and co-ordinates national research across four policy areas: social sciences and humanities; sustainable environmental and resource management; promoting and maintaining good health; and the national security of Zimbabwe.
National Commission for Science and Technology (NCST), Malawi	NCST plays a key role in ensuring that stakeholders within Malawi's research and innovation ecosystem produce high-quality and competitive innovations and technologies. The NCST also allocates funding to researchers and innovators through the Science and Technology Fund, using a competitive selection process. Additionally, development partners, private sector actors, and think tanks contribute both financial and technical support to advance the research, technologies, and innovations outlined in the National Research Agenda (NRA), helping to drive their adoption and contribution to Malawi's development goals (Malawi Government, 2023).
Fundo Nacional de Investigação (FNI), Mozambique	The National Research Fund (FNI), operating under the mandate of the Ministry of Science and Technology (MCT), is tasked with promoting research by providing competitive funding opportunities. FNI solicits research proposals, evaluates submissions, awards grants, monitors progress, and assesses the outcomes of funded projects. It also initiates and funds its own programs aimed at advancing science and technology. Funding is available for various purposes, including research activities, infrastructure, government-commissioned studies, innovation, technology transfer, and the broader development of science and technology. In addition to research project funding, FNI offers grants that include clear application guidelines, procedures, and obligations for recipients. These grants may cover travel costs (e.g., for attending the Annual National Science Exhibition or conferences), conference fees, and publication expenses—ultimately enhancing the dissemination and visibility of research outcomes (Elming & Abrahamsson, 2010).
Ministry of Environment, Science, Technology, and Innovation (MESTI), Ghana	Over the past decade, Ghana has undertaken various initiatives to enhance its Science, Technology, and Innovation (STI) systems. The Ministry of Environment, Science, Technology and Innovation (MESTI), which oversees the country's key Research and Development (R&D) institutions, has played a central role in mobilizing both domestic and international resources to strengthen the national STI framework. To boost financial support for R&D in STI, the government established and operationalized the National Research Fund (UNESCO, 2022).
National Fund for Research and Innovation for Development (FONRID), Burkina Faso	In Burkina Faso, funding models are organized by sector, with dedicated agencies supporting specific areas such as agriculture and health. For example, the National Fund for Research and Innovation for Development (FONRID) operates under the oversight of the Ministry of Scientific Research and Innovation (OTT, 2024). FONRID is a national funding body established through Decree No. 2011-828 / PRES / PM / MRSI / MEF, signed on October 27, 2011. Its primary funding mechanism is the issuance of calls for projects, which serves as a demand-driven approach to support initiatives. FONRID does not finance individual applicants but instead provides funding to formally recognized research teams, innovation groups, or networks focused on promoting research results (FONRID, 2021).

SGC	Funding models
Uganda National Council for Science and Technology (UNCST), Uganda	As part of efforts to foster collaboration between the public and private sectors in research, the Uganda National Council for Science and Technology (UNCST) facilitated the establishment of TECHNOMART—an online platform designed to connect technologies with potential users. Serving as a central point for researchers, investors, entrepreneurs, venture capitalists, and other stakeholders, TECHNOMART supports the commercialization of emerging innovations. This initiative was made possible through two grants awarded by the International Development Research Centre (IDRC) in 2020 and 2023, under the Science Granting Councils Initiative (SGCI), which strengthens the capacity of science councils across Africa to support impactful, development-oriented research (Wallace, 2024). Uganda's publicly funded research continues to be predominantly driven by external sources. There is a need to explore alternative direct and indirect funding models that can encourage greater private sector investment in research activities (Naidu, 2023).
National Commission on Research Science and Technology (NCRST), Namibia	To ensure that national benefit is derived from research excellence, the Commission supports a continuum of research activities, which are here defined as the "funding programme" as shown in Figure 1 below. (TETFUND, 2025)"container-title":"TERTIARY EDUCATION TRUST FUND","language":"en-US","title":"Guidelines and Requirements for Accessing Funds for Institution-Based Research (IBR  **Figure 1: Pyramid of research activities (NCSRT, 2023).** At the inception of the National Research, Science and Technology Fund, priority was placed on supporting projects submitted by research teams that included at least one senior-level researcher, thereby targeting the top two tiers of the research hierarchy. It is essential that research activities are conducted within a framework that ensures accountability to both the government and the public, promotes transparency, and emphasizes performance and measurable outcomes. To this end, the operation of the National Fund must be guided by clear and transparent procedures that demonstrate the value and impact—whether economic or otherwise—of investments in research (NCSRT, 2023).
Tertiary Education Trust Fund (TETFund), Nigeria	TETFund funds research institutions through the Institution-Based Research (IBR). The goal of the initiative is to encourage research activities among academic staff in Nigeria's public tertiary institutions—including universities, polytechnics, and colleges of education—by offering annual grants to support their research efforts (TETFUND, 2025)"container-title":"TERTIARY EDUCATION TRUST FUND","language":"en-US","title":"Guidelines and Requirements for Accessing Funds for Institution-Based Research (IBR.
National Council for Science and Technology (NCST), Rwanda	Under the National Research and Innovation Agenda (NRIA) framework, funding for research and innovation is directed toward key priority areas, which include: (a) sustainable energy; (b) food security and modern agriculture; (c) life and health sciences; (d) local manufacturing and value addition; (e) digital products, services, and lifestyles; and (f) environmental resilience and natural resource management. The overarching objective is to support research and development (R&D) that generates valuable knowledge, technologies, solutions, and partnerships—critical elements for building a knowledge-driven economy that can propel Rwanda's economic transformation and global competitiveness (NCST, 2022).

SGC	Funding models
Ministry of Higher Education Research and Innovation (MESRI), Senegal	The MESRI serves as the primary authority overseeing science and technology (S&T) policy in Senegal. It is responsible for setting national S&T research priorities and channelling funding through a range of financial instruments. Research and innovation activities are supported by both government subsidies and funding from technical and financial partners, often secured through international calls for proposals or direct donor contracts. However, the private sector's contribution remains minimal, with only a few telecommunications firms participating in R&D financing. The majority of research funding comes from the government, mainly in the form of grants to research institutions such as universities, public research organizations, and higher education establishments. These also include postgraduate scholarships and competitive funding mechanisms. To foster excellence, Senegal promotes recognition through initiatives like the President's Grand Prize for Science and the President's Grand Prize for Innovation. Additionally, the Agence Nationale de la Recherche Scientifique Appliquée (ANRSA), in collaboration with national research and innovation stakeholders, regularly organizes the African Exhibition of Research and Innovation in Senegal (SARIS). While higher education institutions receive funding from their supervising ministry, over 85% of these resources are allocated to salaries. Nevertheless, Senegal has prioritized the professional development of university lecturers and researchers by offering some of the continent's most competitive remuneration packages. Support is also extended to research through travel grants, laboratory resources, and scholarships for Master's and PhD students (BIH, 2024).
Botswana Digital & Innovation Hub (BDIH), Botswana	BDIH serves as the Secretariat for the Botswana Innovation Fund. This fund offers financial support for innovations at early to mid-development stages, aiming to advance them from the proof-of-concept and prototyping phases through validation, demonstration, and pre-commercial deployment. Its goal is to help innovations move closer to market readiness and enhance their potential to secure additional investment (BIH, 2024).

Various models are employed to fund national research, each reflecting different institutional arrangements and degrees of autonomy from government structures. One common approach is the paradigmatic principal-agent model, where the government delegates responsibility for managing research funding to a semi-autonomous national research foundation or council. These institutions operate with a certain degree of independence, often guided by national priorities but empowered to manage funding mechanisms. This model has been adopted in countries such as South Africa, Senegal, Côte d'Ivoire, and Namibia, where research councils serve as intermediaries between government and the research community. Another model is the sector-differentiated approach, where funding responsibilities are distributed among specialized agencies based on sectoral focus—particularly in fields like agriculture and health. For instance, in Burkina Faso, FONRID is aligned with the Ministry of Scientific Research and Innovation, Fonds National pour l'Éducation et la Recherche (FONER) is attached to the Ministry of Secondary and Higher Education, while Fonds d'Appui pour la Recherche en Santé (FARES) operates under the Ministry of Health. This structure allows for more targeted funding and support within critical sectors, responding directly to specific national development needs (OTT, 2024).

A third model, known as the embedded principal-agent model, features agencies that are closely integrated into government ministries, lacking significant operational independence. These entities function more like departments within a ministry rather than standalone institutions. COSTECH in Tanzania is a prime example, as it operates as an extension of the government rather than an autonomous funding body. Finally, the multiple principal-agent model combines funding from both government and external donors. This blended approach reflects the reality in many African countries, where domestic funding is often supplemented by international development partners. While this model can bring in much-needed resources and expertise, it also requires careful coordination to ensure alignment with national research priorities and sustainable funding structures. These models illustrate the diversity and complexity of research funding systems across Africa, with each presenting unique opportunities and challenges in supporting science, technology, and innovation on the continent.

4. Research Funding Models under the RIM project and SGCIs

This section explores the various models of research funding that have emerged through the RIM project. As SGCs in Sub-Saharan Africa seek to enhance the effectiveness and impact of research investments, they are adopting a range of funding models tailored to national contexts, development priorities, and institutional capacities. The RIM project has played a key role in supporting these councils to design, test, and refine innovative approaches to funding, with a focus on improving competitiveness, inclusivity, transparency, and alignment with policy objectives. Drawing on evidence from technical reports, case studies, and primary data, this section highlights key models implemented across participating countries, offering insights into their structure, rationale, and outcome as shown in Table 3.

Table 3: Models of research funding in specific RIM related/ funded projects

Beneficiary name	Project title	Funding model	Rationale	Outcomes
Easy STEM - Sierra Leone	Artificial Intelligence in Education - Abu Sense Bod Grant	Young African Leaders Initiative (YALI) YALI is the United States' signature effort to invest in the next generation of African leaders.	Sensebod will be showcased by EasySTEM at the upcoming African Tech Festival in South Africa with funding support by YALI for travel of our Female Co-Investigator Lovetta Bangura.	Enhanced platforms reach and improved technical capabilities.
Njala University	Incorporating Drone and AI technologies for cost-effective vector controls in Sierra Leone.		Partnerships and Collaborations: The project team has been engaging with NMEP to schedule a meeting to share our results upon project completion. Initially, they anticipated holding this meeting in early January, but as the project is still ongoing, it has been rescheduled. They also plan to present our findings to key financiers for potential expansion, including USAID, the Global Fund (GF), the Bill & Melinda Gates Foundation (BMGF) and any potential source within AAU and partners.	Engagement with the Directorate of Science, Technology, and Innovation (DSTI) has ensured compliance with drone regulations and STI policies, allowing the integration of AI and drone technology in public health interventions. DSTI has endorsed the project and expressed interest in expanding its application beyond malaria control to disaster management and environmental monitoring.
Masinde Muliro University of Science and Technology	Commercialization of Cassava Value Chain for Food and Nutrition Security and animal Feed project	The research funds for the project were awarded by the National research Fund.	The project was funded under the Research to Commercialization call by the NRF.	-

5.0 Funding opportunities amongst RIM funded projects

As RIM-funded projects continue to evolve, there is a growing recognition of the need for more flexible, sustainable, and inclusive research financing mechanisms. The experiences and insights gathered from various RIM initiatives have revealed the opportunities of current funding models. This section outlines proposed funding opportunities that aim to enhance the effectiveness, accessibility, and long-term impact of research and innovation support. These proposals are informed by lessons learned from project implementation across different countries (see Table 4 below), and are geared toward addressing gaps in funding continuity, equity, and scalability.

Table 4: Proposed funding opportunities amongst RIM funded projects

Beneficiary name	Project title	Funding opportunities identified
Dedan Kimathi University of Technology, Kenya	Capacity Building for job creation and growth of leather goods and leather footwear manufacturing enterprises in Kenya	Counties are potential funding partners, especially if the projects are carried out within their territories. They could be requested to provide training space as a contribution-in-kind. Collaborations between learning institutions and centralised leather facilities (probably funded by counties as is for the case of Rukira VTC, Nyeri) can be good opportunities for capacity building.
Kamuzu University of Health Sciences	Developing a two-sided artificial intelligence Risk predictive model for early identification of high-risk antenatal mothers: enhancing maternal and neonatal health outcomes in Zambia, Malawi and Zimbabwe.	The project's success in addressing critical maternal and neonatal health challenges positions it for additional funding from international donors, development agencies, and philanthropic organizations. Proposal development for scale-up and extension of activities could attract new funding streams.

5. Challenges in Research Funding Models

Despite growing momentum in strengthening research funding systems across Africa, several implementation challenges persist, limiting the efficiency, reach, and impact of funding models under various initiatives. Insights from participating institutions reveal several recurring issues related to funding adequacy, administrative bottlenecks, and operational constraints.

1. **Limited access to sustainable funding and technical capacity,** Institutions such as the Simon Diedong Dombo University of Business and Integrated Development Studies in Ghana have reported significant difficulties in accessing sufficient research funding and resources. These challenges are compounded by capacity gaps, particularly in financial planning, proposal development, and project management. There is a pressing need for targeted capacity-building interventions to enhance institutional readiness for research funding and execution.

2. **Regulatory and budgetary constraints.** At the National Industrial Research and Development Agency (NIRDA) in Rwanda, regulatory changes introduced by the Ministry of Economic Planning and Finance (MINECOFIN) have delayed project execution. The new policy requiring all externally sourced funds to be channelled through and approved by the national budget framework caused implementation delays of up to four months. Although the agreement was eventually approved and funds released, such regulatory hurdles highlight the need for better alignment between research funding processes and national financial governance systems.

3. **Delays in disbursement and logistical limitations.** The Pedagogical University of Maputo in Mozambique experienced delays in the disbursement of funds, which disrupted planned activities and necessitated adjustments to project timelines. In addition, logistical challenges—such as limited access to reliable transportation—required the reallocation of funds from vehicle rental to fuel costs to maintain fieldwork momentum. These experiences underscore the importance of incorporating flexibility in funding schedules and budget lines, allowing for timely adjustments in response to operational realities on the ground.

Overall, these challenges point to the need for more responsive, context-sensitive, and flexible funding models that are not only well-resourced but also aligned with national regulatory frameworks and institutional capacities. Ensuring that disbursement mechanisms are streamlined, and that provisions exist for adaptive fund management, will be critical to the success of future research and innovation funding initiatives.

6. Recommendations

To enhance the effectiveness, sustainability, and inclusivity of research funding models across Africa, the following strategic recommendations are proposed based on insights from participating institutions and implementing agencies:

1. **Develop flexible and adaptive funding mechanisms.** Research funding models should incorporate flexible disbursement schedules and budget lines that allow for adjustments in response to operational challenges. This includes enabling reallocation of funds across budget categories where justified and providing contingency allowances to mitigate risks such as delayed fund release or unforeseen logistical barriers.
2. **Strengthen institutional capacity for grant management.** There is a critical need to build the technical and administrative capacities of research institutions in areas such as proposal development, financial reporting, grant administration, and project monitoring. Tailored capacity-building programs and technical assistance should be provided to support institutions in meeting funder requirements and maximizing the impact of funded projects.
3. **Harmonize regulatory and budgetary processes,** To reduce delays in fund utilization, especially where public finance regulations intersect with donor-funded projects, it is essential to align national budgeting procedures with research funding mechanisms. This includes developing clear guidelines for integrating external funds into national systems without compromising project timelines.
4. **Promote sustainable and diversified funding sources.** Governments and research councils should explore innovative funding models that combine public, private, and donor financing. Incentivizing private sector participation in research and innovation through tax incentives, co-funding mechanisms, and public-private partnerships will enhance long-term financial sustainability.
5. **Enhance transparency and accountability in fund administration**
6. To build trust and ensure equitable access to funding, research granting processes must be transparent, merit-based, and performance-driven. Clear eligibility criteria, timely communication, and independent review mechanisms are essential to improve the credibility and efficiency of grant disbursement.
7. **Foster regional collaboration and knowledge sharing,** Encouraging cross-country learning through regional platforms and peer exchanges can help councils and institutions adopt best practices in research funding. Joint initiatives and shared infrastructure investments can also maximize resource use and foster collaborative innovation.
8. **Institutionalize inclusivity in research funding models,** Funding frameworks should integrate gender equity, youth inclusion, and support for marginalized groups as core components. This includes setting targets for participation, developing gender-sensitive evaluation criteria, and supporting research that addresses the needs of underserved communities.

By adopting these recommendations, stakeholders including science granting councils, governments, funders, and research institutions can strengthen the design and implementation of research funding models, ensuring they are more responsive, impactful, and aligned with national development priorities.

7. References

1. BIH. (2024). Botswana Innovation Fund. BDIH, Botswana Digital & Innovation Hub, Innovation, Technology, Science and Technology Park. https://www.bih.co.bw/botswana-innovation-fund/
2. COSTECH. (2019). RESEARCH AND INNOVATION GRANTS MANUAL. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://costech.or.tz/Files/Documents/1684598601.pdf
3. Elming, S.-Å., & Abrahamsson, K. (2010). The National Research Fund (FNI) as a Tool for Research Capacity Building in Mozambique.
4. Fanamc. (2023, May 18). Ministry working to establish national innovation fund to support start-ups. Welcome to Fana Broadcasting Corporate S.C. https://www.fanamc.com/english/ministry-working-to-establish-national-innovation-fund-to-support-start-ups/
5. FONRID. (2021). FONRID - National Research and Innovation Fund for Development. https://fonrid.com/?page_id=10033&lang=en
6. Malawi Government. (2023). NATIONAL RESEARCH AGENDA for the Malawi 2063 first 10-year implementation plan (MIP-I). https://npc.mw/wp-content/uploads/2023/03/Revised-NATIONAL-RESEARCH-AGENDA-200323-final-document-for-electronic-sharing.pdf
7. MOTS. (2022). National-ScienceTechnology-and-Innovation-Policy-A4_Print-Ready.pdf. https://www.mots.gov.zm/wp-content/uploads/2022/06/National-ScienceTechnology-and-Innovation-Policy-A4_Print-Ready.pdf
8. Mugwagwa, J. T., Banda, G., Ozor, N., Bolo, M., & Oriama, R. (2019). New approaches for funding research and innovation in Africa. African Technology Policy Studies Network.
9. Naidu, E. (2023). Uganda must plug gender, funding gaps in science—ProQuest. https://www.proquest.com/openview/1df52de24edcb627714c0246153b182b/1?cbl=5572318&pq-origsite=gscholar
10. NCSRT. (2023). Resource Mobilization and Grant Management – National Commission on Research, Science and Technology (NCRST). https://www.ncrst.na/what-we-do/rsti-coordination-support/grant-management/
11. NCST. (2022). RFA_for_Research_and_Innovation_Mobility_Grant_-_FINAL.pdf. https://www.ncst.gov.rw/index.php?eID=dumpFile&t=f&f=51998&token=ebf55a1c0e298305561f466c8eb2101e04c5ccd3
12. NRF. (2025). National Research Fund – NRF Kenya. https://www.nrf.go.ke/
13. OTT. (2024). Research-Funding-Mechanisms-in-West-Africa_02-FOR-WEBSITE-NO-NOTES.pptx.pdf.
14. Ozor, N., Nwobodo, C., Nyambane, A., & Nwakaire, J. (2025). African Technology Policy Studies Network (ATPS).
15. TETFUND. (2025). Guidelines and Requirements for Accessing Funds for Institution-Based Research (IBR). TERTIARY EDUCATION TRUST FUND. https://tetfund.gov.ng/index.php/guideline-6/
16. UNESCO. (2022). Science, Technology and Innovation (STI) Ecosystem in Ghana. https://unesdoc.unesco.org/ark:/48223/pf0000382917
17. Wallace, M. (2024, April 29). How the Science Granting Council Initiative is helping to drive a research agenda that benefits Africans | IDRC - International Development Research Centre. https://idrc-crdi.ca/en/research-in-action/how-science-granting-council-initiative-helping-drive-research-agenda-benefits

African Centre for Technology Studies
2nd Floor, Konza Complex
Nairobi-Mombasa Road
P.O. Box 45917 - 00100
Nairobi, Kenya.

Email: info@acts-net.org
Tel: +254-710 607 210