

Policy Brief

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How do political economy factors influence the evolution of science funding in sub-Saharan Africa?



OVERVIEW

Science, Technology and Innovation (STI) is increasingly understood to be important for achieving economic growth and development goals in sub-Saharan Africa. This is reflected in policy and institutional developments at various levels, which aim to achieve structural change by moving away from a reliance on natural resources and commodities to more value-adding economic activities associated with enhanced capabilities and increased capacity in science, technology and innovation. Yet, STI in sub-Saharan Africa suffers from research policy, management and funding challenges.

This Policy Brief provides an overview of the political and economic context in which science granting councils in sub-Saharan Africa function. We then propose practical ways to strengthen the capacities of these organisations in order to support research and evidence-based policies that will contribute to the continent's economic and social development.

KEY FINDINGS

- All five case study countries are committed to increasing funding for science but overall levels of funding are still low. SGC's will need to gain political support in order to increase investment in research.
- At the national and regional level there is reference to the important role that the private sector could play. However, private sector funding is low and engagement is patchy across countries.
- There is increasing funding activity at the regional level and interest in supporting programmes that shift ownership to Africa, but this process needs substantial and sustained assistance.
- There are divergent funding agendas at national and regional levels.
- Health and agriculture are the sectors which receive most funding resources in the sub-Saharan Africa region. This may change over the coming years as national agendas evolve to reflect local priorities, increased Japanese and Chinese supported activity and with climate change, ICT and energy growing in significance.

KEY CHALLENGES

The Science Granting Councils Initiative (SGCI) was set up to support Science Granting Councils (SGCs) in 15 countries in sub-Saharan Africa (SSA). A study of the SGCs - in Ethiopia, Kenya, Tanzania, Rwanda and Senegal - involving a literature review and five regional case studies reveals a gamut of political economy challenges for these organisations. These challenges are classified into six main categories:

Lack of autonomy and ownership

Ownership of science funding agendas is a crucial challenge that lies at the heart of whether SGCs, and the STI system, will mature to the point where they can play a sustainable role in Africa's development. There is a clear tension between demands on national decision-makers to fund science designed to meet national goals and a series of constraining factors, which potentially constrict their ability to do so. Notable challenges include a lack of resources at the national level along with mixed messaging and incentives about how to fund science and research, and on what criteria. Science based on academic priorities and norms may not be the same as priorities defined by national policymakers. Policy or private sector priorities may not align with domestic scientific capabilities and pressures for quick answers may mean that the case for capacity building gets lost.

This is a multifaceted issue and one that cuts across all case study countries. It is complicated by the differing roles that SGCs play in national contexts. In some countries, such as Kenya for instance, they are more clearly implementing agencies, whereas in other countries they also have policy functions.

Scientific excellence narratives drive funding

Scientific merit (i.e. publication in top journals) is the most accepted way of making decisions about which research proposals to fund and where. This approach is reflected in norms and operational procedures of emerging regional actors such as the Alliance for Accelerating Excellence in Science in Africa (AESA). The idea that investment in excellent science will deliver social and economic benefits

in a linear way views scientists and researchers as playing a key role in determining the direction of funding and investment. However, national SGC decision makers also express the view that science should reflect capacity building agendas and national priorities. It is unclear how actual funding mechanisms and decision-making will reflect these inconsistencies and other considerations, such as ease of collaboration. In the Partnership for Skills in Applied Sciences, Engineering and Technology (PASET) model, which focuses more explicitly on national priorities in programme design, there is potential for a reduction in conflicting aims, ambitions and tensions, although the initiative is at an early stage.

National and regional funding relations

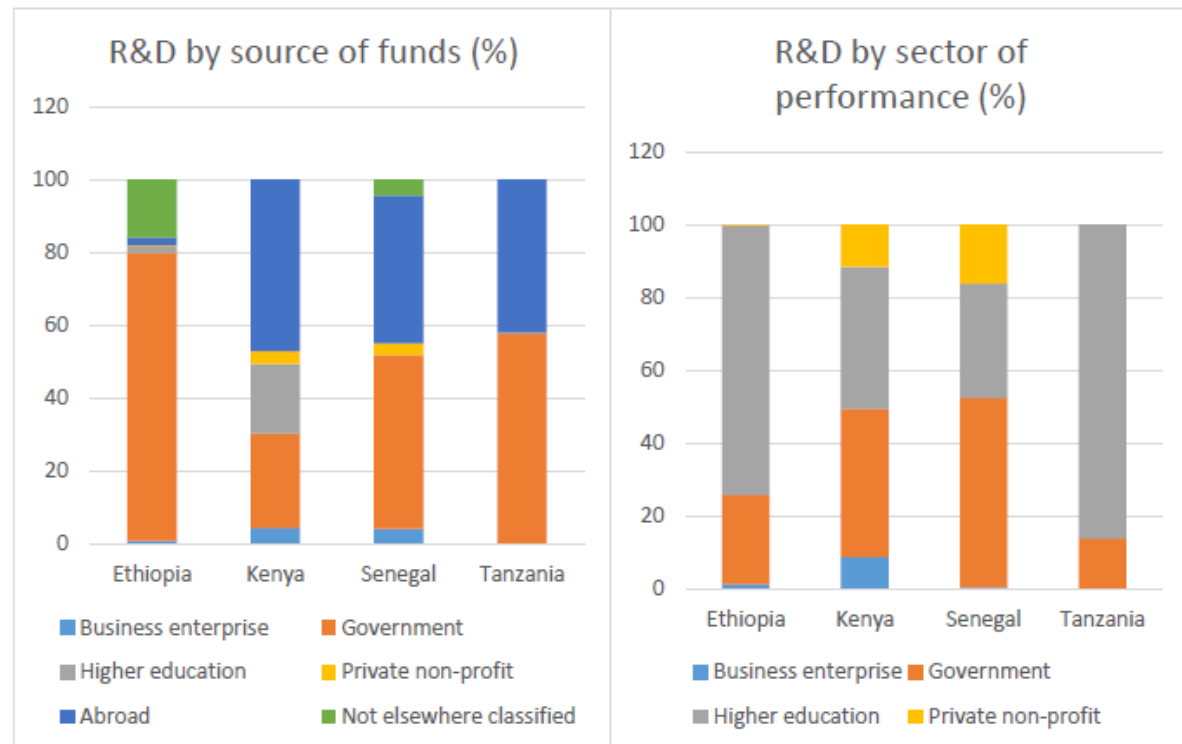
In the longer term, all regional initiatives will depend, at least partly, on resources from national funders. Success in securing funding might be considered as an indicator of the relative strength of different narratives or it may be that those actors who commit resources will "own" agendas and narratives. This may be difficult for resource-poor national SGCs although much depends on what sort of funding requirements are needed by regional funders. National-level SGCs may need to seek partnerships with international funders to help pursue their aims.

Weak private sector engagement

Levels of private sector engagement are currently low. Getting private sector investment means making convincing evidence-based arguments that investment in national resources will have payback and requires extensive consultation and involvement with the private sector in setting agendas. This may have consequences for the way in which SGCs make decisions and may mean that alignment with other national and regional actors will need careful thought and negotiation. It may be important to gain a clearer understanding of factors that have influenced the private sector in other similar contexts to engage more significantly with the funding of science and with SGCs. There are many ways in which interaction can happen and in many cases industry associations and civil society organisations play important roles in enabling greater engagement.

HOW DO POLITICAL ECONOMY FACTORS INFLUENCE THE EVOLUTION OF SCIENCE FUNDING IN SUB-SAHARAN AFRICA?

Figure 1 R&D by source of funds and sector of performance in four countries



Challenges for international donors

The diversity of models for regional and national funding of science means that international donors have an increasingly complex environment to navigate. Funding science and innovation in sub-Saharan Africa may become more attractive as partnership and impact possibilities multiply. But decision-making about how to fund science in SSA may become more complex as different options emerge. Different types of perspectives and interventions can complement each other but this will not always be the automatic outcome. The way in which international donors align themselves to different regional and national funders, and the consequences of multiple interventions, will be important to track over the coming years. Building capacity and capabilities is naturally core to national level SGC concerns, and of some international funders and regional initiatives. How regional and national funders construct their interactions, understandings and networks on the basis of this tension can be traced as national SGCs evolve.

Academic priorities

In some contexts SGCs can find it difficult to get uptake for calls for funding. How SGCs influence and build constructive engagement with researchers and universities will be an important area for monitoring and research in future years. This issue is complex and involves at least two important arenas of interaction for SGCs. The first is with universities individually and as institutions, through collective agreements and understandings, and the second is with researchers directly. Important issues will include the priority that universities give to research and to enabling their staff to develop as researchers. Researcher preference for bidding for certain types of research and research funding over others will also be important to understand. In this way, university and researcher decision-making may also emerge as factors which impinge on SGC autonomy.

ADDRESSING THE CHALLENGES

The SGCI aims to strengthen the capacities of science granting councils in SSA to support research and evidence-based policies that will contribute to the continent's economic and social development. While all the challenges are beyond the direct control of SGCI, the initiative can play an important role in progressing constructive discussion.

1. It can facilitate evidence collection and dialogue around the issues
2. Given the SGCI's deep links with national policy and funding bodies it could find ways to articulate and promote national level successes in funding science and build partnerships that meet critical social and economic need.

CASE STUDIES: KEY CROSS-CUTTING THEMES

Case studies were conducted to understand the STI landscape and science funding situation in Ethiopia, Kenya, Rwanda, Tanzania and Senegal. All five countries (with the exception of Ethiopia) have rising investment in R&D, growing numbers of scientists and researchers and all have reoriented efforts in STI and science funding at a policy level in the last ten years. Key themes and issues recurring across the case studies are outlined below.

Governments, political cycles and development strategies`

Both the promotion and direction of STI is highly influenced by national political structures and policy direction. Furthermore, the importance placed on the promotion of STI is related to the position of the organisation responsible for science granting within the government structure and political cycles influence government STI policy. Also, national development strategies, as well as international ones, orient funding towards specific activities or focus areas. Furthermore, efficiency is a key issue, with the management, promotion and funding of STI activities in-country when other actors have a similar mandate (e.g. when research centres are housed in other ministries) hampered by a lack of coordination across ministries, leading to both duplication and gaps.

Other actors' influence: donors, foreign universities and the private sector

Donors and foreign universities influence research agendas and, at times, this means that research activities are not always aligned with where research is needed in terms of a government's development priorities. There is little private sector engagement in science funding in the case study countries; in the case of Ethiopia and Rwanda, the private sector does not feature at all.

Impact and priority setting

Importance is given to focussing science funding on societal impact. This relates to the discussion about how science funding should map onto country development priorities and strategies. There is, however, a debate as to whether funding should be for basic or applied research, but limited focus on user engagement for defining priority areas for research.

Human Resources

There is a capacity issue with regard to the quantity and quality of researchers in the case study countries. This is linked to a lack of incentives in universities and the education system for research (rather than teaching), for example, and the need for more appropriate incentive mechanisms.

IMPLICATIONS FOR THE SGCI

Funding

- Track funding for SGCs and the cost and effectiveness implications of different institutional configurations as well as monitor SGC governance arrangements and spending on administration to enable analysis and comparison.
- There is significant potential to leverage funding from international funders alongside national funding as local ownership is a persuasive narrative for international funders. Careful thought should be given to which international funders to prioritise in seeking to leverage these funds, and to possible effects on the level of local ownership.
- Promote a discussion of the impact of various regional funder agendas on national SGCs.
- Build capacity to fund science over a wide variety of areas (moving away from agriculture and health) and explore how to build capacity across sectors to ensure their relevance.

Role of the private sector

- Greater involvement and improved communication with the private sector could encourage funding and engagement with public sector and joint funding initiatives. Aspects of research that may have relevance and use to the sector will be of most interest and although actual private sector spend may remain limited, greater involvement will lay the basis for sustained and growing collaboration.
- Consider whether greater resource needs to be allocated to private sector engagement activities.
- The role of other civil society actors, such as charities and non-governmental organisations, could also be explored.

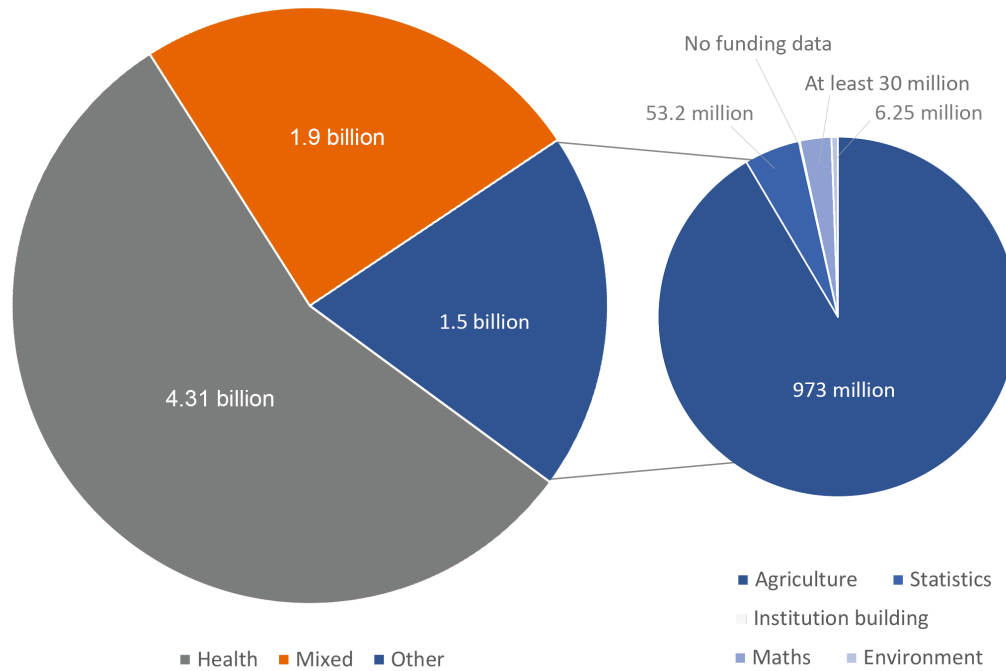
IMPLICATIONS FOR REGIONAL AND SUB-REGIONAL FUNDERS

Funding

- Major regional funders should discuss between themselves and with national SGCs how best to reduce the overlap in funding initiatives and/or conflicting goals of funding activity between regional and national efforts.
- Sub-regional bodies can help to gain agenda alignment and a common understanding of 'excellence' so as to limit duplication or conflicting programmes.

Figure 2 Amount of research funding broken down by research area

Amount of research funding broken down by research area (USD)



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FURTHER INFORMATION

Read the full report: www.sgciAfrica.org/en-za/resources/Resources/PoliticalEconomy.pdf

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