

STRATEGY TO MAINSTREAM GENDER AND SOCIAL INCLUSION IN SCIENCE GRANTING COUNCILS IN SUB-SAHARA AFRICA

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Strategy to Mainstream Gender and Social Inclusion in Science Granting Councils in Sub-Saharan Africa

1. Context of Science Granting Councils (SGCs) in Sub-Saharan Africa (SSA)

A study on trends and tensions in the evolution of Science Granting Councils in Sub-Saharan Africa in terms of their political-economic systems, but also in relation to their alignment with and articulation of ideas and narratives associated with science funding was conducted by Chataway et al (2019). It revealed that although there are no clear formulas on how science funding should operate and how SGCs should constitute or govern themselves, two contesting types of relationships exist between the SGCs and their funding organizations and shape these SGCs (ibid). On the one hand of this false dichotomy is the Organisation for Economic Co-operation and Development (OECD) associated set of arguments that supports science funding that publishes in high-impact, globally competitive peer reviewed journals. On the other hand, are the Low and Medium Income Countries (LMIC)-associated strong calls for science and research funding that is more immediately aligned with social and economic agendas of the hosting country or region (ibid).

The term quality research, therefore, has diverse meanings for diverse researchers. For example, in some LMIC's, successful applied research that tackles problems and challenges specific for low- and middle-income countries (LMICs) is considered to be good quality (Tijssen & Kraemer-Mbula 2017). This is not necessarily the case in OECD countries. Research can be considered excellent if information that enables evidence-informed value judgements is available and accessible. It can also be considered excellent if it's analytical framework's indicators and criteria are sufficiently explicit and meaningful – definitions are convincing and operationalisation is widely acceptable. Other times, research and science may not meet these qualities but could be equally valuable if it has strong links to traditional knowledge systems, which are context-specific and held by local communities outside science systems. This is especially so for cases in the fields of health, agriculture, environmental sustainability and climate change adaptation that require context specific traditional knowledge (Tijssen & Kraemer-Mbula 2017).

Researchers from East African SGCs used the following criteria to describe an 'excellent' researcher: s/he trains and supports future generations of researchers; creates new knowledge in the field; produces work with great social impact and being well published (ibid). Other criteria include methodological and scientific rigor; potential for social impact and policy influence; bibliometric performance indicators of (i.e. publication output and citation impact counts); peer-review scores and credentials of the researchers' organisations. Research funders generally want to support research likely to leave a significant positive impact. Excellence, therefore, is also sought in ex-post evaluations of research outcomes; creating awareness of societal issues; direct benefits to disadvantaged communities and new technological developments.

Excellence can be hampered by insufficient funding of research projects, which results in poor research infrastructure and equipment; heavy teaching loads/ lack of incentives to research/ insufficient time for personnel in research organizations; lack of human resources/ low research capabilities and poor access to top rated journals. Research findings suggest that National science granting councils in (LMICs) are often insufficiently equipped to assess research performance in full detail (Tijssen & Kraemer-Mbula 2017).

Another factor that is likely to greatly influence the performance of SGCs is their funding. A review of literature on the average financing for research and development (R&D) in African countries is about

0.5% of GDP, which is less than the recommended target of 1% of GDP for SGC effectiveness (The African Capacity Building Foundation, 2017). More specifically, data on 12 LMICs revealed that research funding ranged between 0.2 and 0.8% of GDP, with half of these being less than 0.5%. Therefore, all the SGCs in Africa are currently underfunded, and hence likely to perform dismally. In contrast, data from 11 OECDs revealed that funding for research ranged between 1 – 4% of the GDP with six among these countries having funding of more than 2% of their GDP (Oyeyinka et al, nd). All is not lost as currently, over two-thirds of African countries have Science, Technology and Innovation (ST&I) policies and strategies (The African Capacity Building Foundation, 2017); and increase in research fund commitments from national governments; the emergence of new organizations funding STI; and increased rates of scientific production, innovation activities, and cross-regional research collaboration have merged in the last decade (African Technology Policy Studies Network (ATPS) & The Scinnovent Centre, 2017).

2. Guidelines on Gender and Social Inclusion (GeSI) Mainstreaming Strategy in SGCs in SSA

A literature review on gender and social inclusion in information societies revealed six strategies of mainstreaming or integrating gender and social inclusion in these societies. Most of the studies informing the strategies were conducted in OECD countries where SGCs are well established, adequately funded and with well-established public and private partnerships. This is not the case for Sub-Sahara Africa (SSA), but they are gradually transitioning towards the status of those in the OECD countries. Where available, adaptations for SGCs in SSA will be proposed, but it is up to each SGC to adapt and adopt combinations of the following recommended strategies according to their context. The strategies are as follows:

1. **Universal Design:** The Universal Design strategy enhances access to the widest possible diversity of people – young and old; tall and small; with and without permanent and functional disabilities to products such as buildings and physical environments that are inherently accessible to them (Lelegems and Froyen 2014). Universal design enables equitable use; flexibility in use; simple and intuitive use; perceptible information; tolerance for error; low physical effort; and size and space for approach and use (UNICEF, 2013). It is practical and affordable, even in developing countries (WHO & World Bank, 2011). The subsequent equitable benefits are appropriate to human functioning, gender, demographic group and social, economic and cultural setting (DESA, 2013). Building accessibility and the principle of universal design into the change agenda would ensure that every environment, space, product or service, whether physical or virtual, could be easily approached, reached, entered, exited, interacted with, understood or otherwise used by persons of varying capabilities (DESA, 2013). SSA SGCs, can achieve these by generating lists of attributes that could enhance inclusion in their contexts such as flexible terms of application for excluded categories of people whereby tolerance of error e.g. giving such applicants a chance to submit other components in case of incomplete submissions; extending deadlines; encouraging submissions containing “with” category of co-authors; providing editorial support for challenged presentations with promising content; accepting diverse referencing styles as long as they are consistent and accurate; allowing flexibility in the length of the abstract and paper, while providing editing assistance to shorten papers without compromising their content. Provision of a toll free telephone number for authors of submitted manuscripts living in remote areas to use during the revision of manuscripts.

2. Enhance the use of an inclusive scientific model that is balanced between the need for increased integration between scientific agendas and broader social and economic goals: This balance is proposed by Chataway et al (2019) and supported by the demonstration that excellent quality science is relative and traverses the range of terrain from abstract to applied science (Tijssen & Kraemer-Mbula (2017)). Nevertheless, what is included as good science should have a desirable impact in the SGC's host country and partner countries agendas. More specifically, elimination of unnecessary steps in the publishing process and automation of services may attract some excluded persons. Some SGCI are still receiving hard copies of publications – probably using snail mail. Digitizing such SGCI can be prioritized with remarkable benefits in time and financial savings.
3. Identify and eliminate barriers to excluded participation: For example, developing and/ or adopt with or without adaptation the following: Anti-discrimination laws; participation quotas; cost subsidies; and facilitation to enhance access to the source (Rimmerman, 2013; Fembek et al., 2013; WHO & World Bank, 2011; Mont, 2014; Mitra, 2014).
4. Conduct rigorous impact evaluations of funded programs: For the following attributes: participation by excluded people and change in attitudes among the SGC workers and other stakeholders as well as amongst people participating in the grants (Mont 2014; WHO & World Bank, 2011).
5. Enhance visibility of work by previously excluded groups by sharing it within and beyond the SGC: Noteworthy is the fact that marginalized communities are likely to be attracted to information about themselves, provided by themselves and that shares their experiences (Mont 2014). Information produced by other communities or science granting councils sharing their experiences and ideas is useful for enabling people to make decisions to generate their own information (ibid).
6. Purpose to and specify targets for narrowing inclusion gaps within and among SGCs: For example: Reducing the gap of internet usage within a stipulated period for groups at risk, such as older people, people with disabilities, and unemployed persons by making internet accessible and affordable to them; to increase broadband coverage (i.e. the availability of broadband infrastructure) in areas where not accessible (even when not economically viable) within a stipulated time frame e.g. in phases over a period of five years; ensure that all relevant websites are accessible within a stipulated period; put in place actions in the field of digital literacy and skills so as to reduce gaps for groups at risk of exclusion within a stipulated time frame; within a stipulated period, SGCs could make recommendations on accessibility standards and common approaches that could become mandatory in public procurement; and assess the necessity for legislative measures in the field of e-Accessibility, and take account of accessibility requirements in the review of the electronic communications regulatory framework (Empirica, 2006).

Technical and financial capacity to implement these strategies is a necessary prerequisite to successful implementation of the strategy. Capacity can be outsourced, built within the team or be obtained through a mixture of both.

As is the practice of the SGCI in SSA, sharing forums on lessons from efforts in gender and social inclusion should be held and culminate in a masterclass paper on GeSI in the SGCs.

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