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A POLICY BRIEF

Strengthening the Role of African Science Granting Councils in Promoting Ethics and Integrity in Research and Innovation

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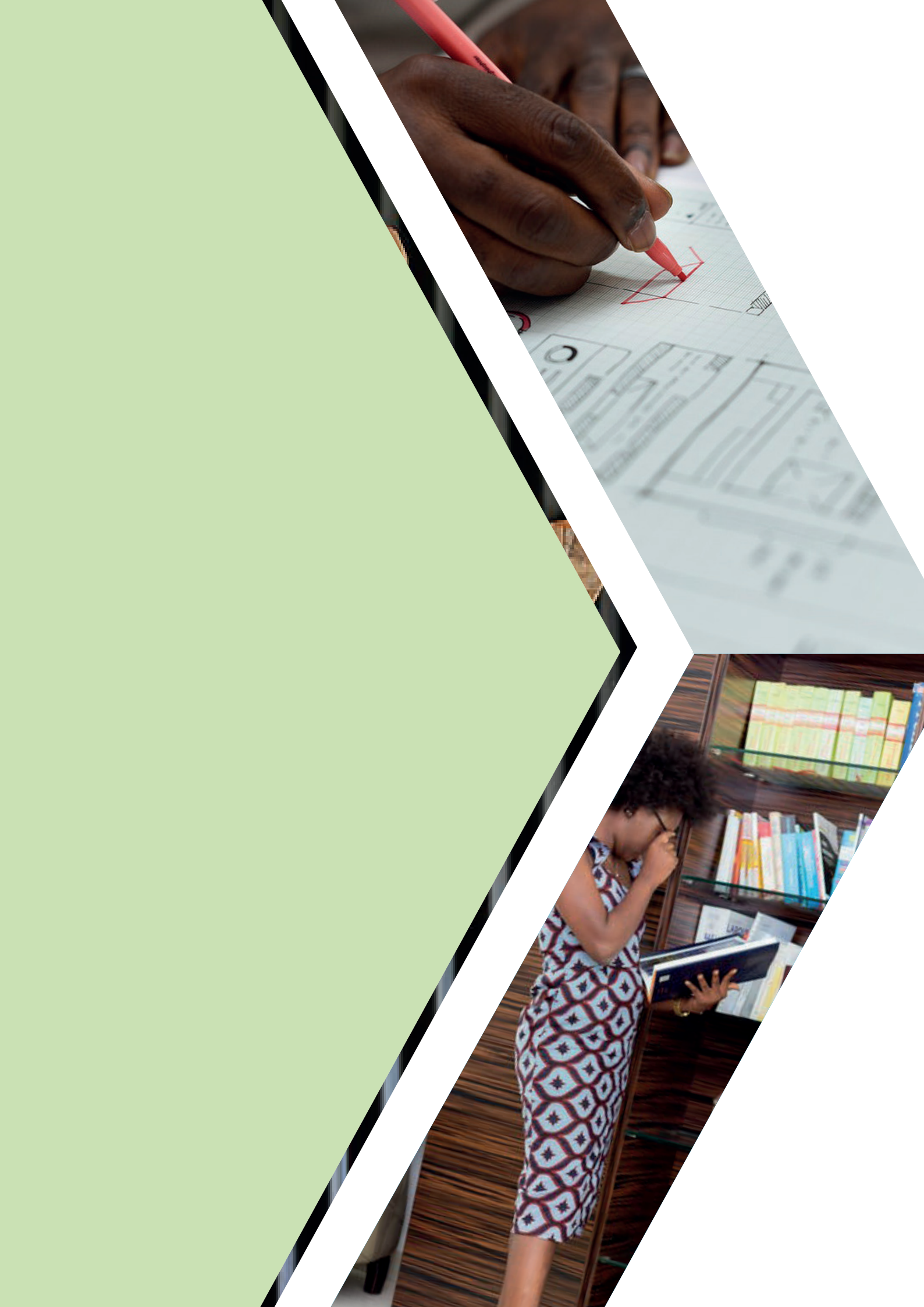

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ABOUT SCIENCE GRANTING COUNCILS INITIATIVE

The Science Granting Councils Initiative in Sub-Saharan Africa (SGCI) was established in 2015 with the aim of strengthening the research coordination and promotion capacities of Science Granting Councils (SGCs) in Eastern, Southern, Central and West Africa in order to support research and evidence-based policies that contributes to economic and social development.

The SGCI is a multi-donor Initiative which aims to strengthen the capacities of Science Granting Councils (SGCs) in sub-Saharan Africa (SSA) in order to support research and evidence-based policies that will contribute to economic and social development.

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

ABOUT THE SCINNOVENT CENTRE

The Scinnovent Centre is leading the theme on Strategic Communications and Knowledge Uptake and to promote networking among Councils and with other science system actors. The Scinnovent Centre is a science, technology and innovation (STI) policy think tank registered in Kenya as a not-for-profit company. Each year, the SGCI through Scinnovent convenes a Masterclass that brings together the Initiative's participating Councils and other key stakeholders around the world to deliberate and develop interventions in strategic areas of interest to the Councils and the wider science, technology and innovation (STI) community. To facilitate sharing of lessons and good practices, the SGCI commissions a state-of-the-art paper on a topic of interest for Africa's development to inform the Masterclass. The theme selected for 2020 was "*Ethics and Integrity in Research and Innovation for Development".* This policy brief resulted from a paper that was prepared for discussion during the Masterclass.

Each year, the SGCI through Scinnovent convenes a Masterclass that brings together the Initiative's participating Councils from the 15 African countries and other key stakeholders around the world

ACKNOWLEDGEMENTS

The work leading to this policy brief was commissioned by the Scinnovent Centre under the Science Granting Councils Initiative (SGCI) for Sub-Saharan Africa. The authors and Scinnovent Centre acknowledge the funding support received from Canada's International Development Research Centre (IDRC), South Africa's National Research Foundation (NRF), the United Kingdom's Department for International Development (DFID) and the Swedish International Development Cooperation Agency (Sida). The authors and Scinnovent Centre also acknowledge the support of the 15 SGCs who cooperated and provided data upon request, as well as the following individuals who contributed towards the collection of data in the 15 SGCI countries: Awa Keita (Burkina Faso); Nicholas Phiri (Zam); Irene Tsey (Ghana); Limbanazo Matandika (Regional initiatives); Mwifadhi Mrisho (Kenya); Jean Larmarck (Kenya); Antonio Machava (Mozambique); Claude Kirimuhuzya (Uganda); Dudu Jankie (Namibia); Tiwonge Mtandwe (Malawi); Joyce Ikungura (Tanzania); Mpho Mogodi (Botswana); Samba Corr (Senegal); Solomon Abay (Ethiopia); Betselot Yirsaw (Ethiopia) and Sithembile Ruzario (Zimbabwe).

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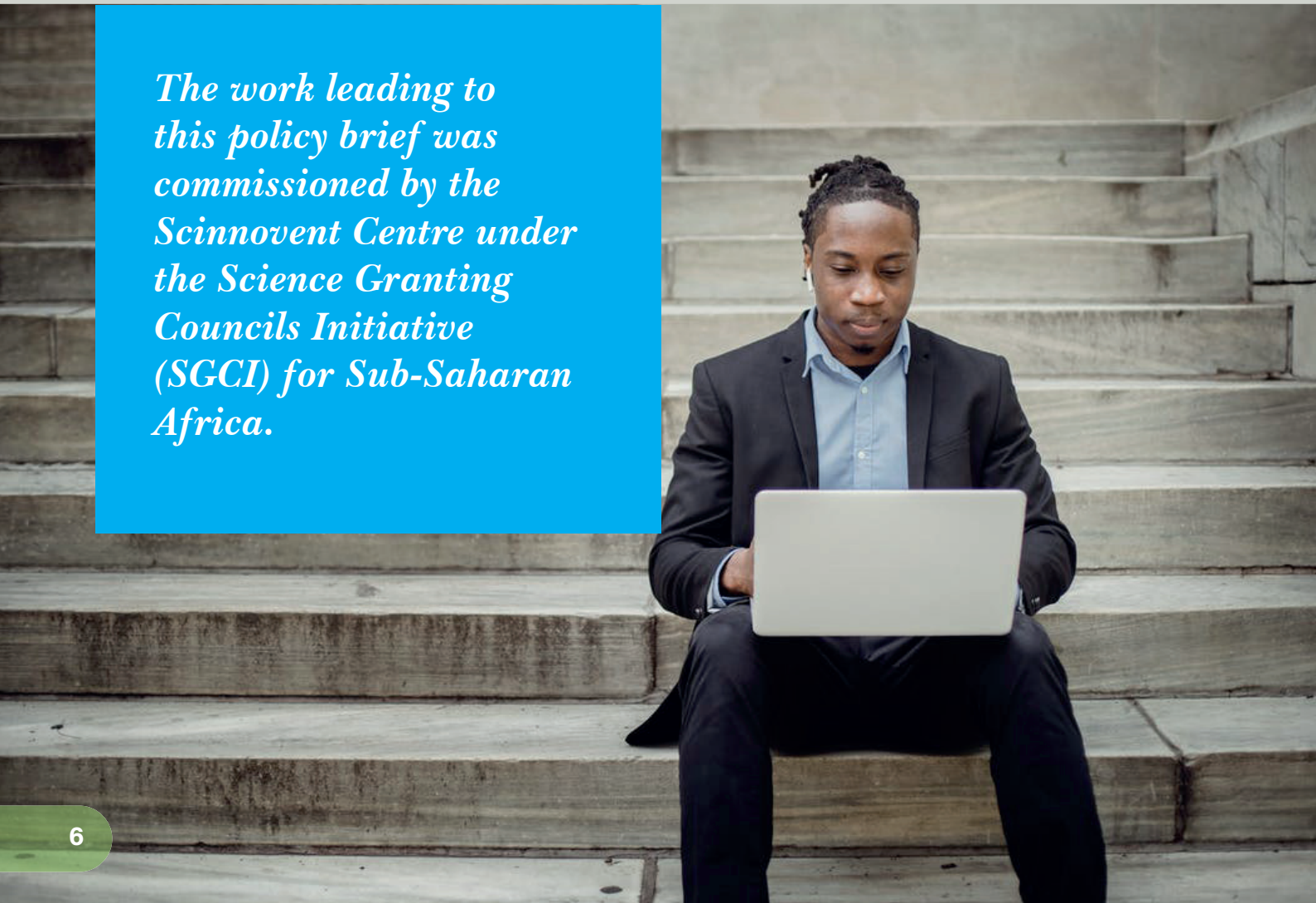
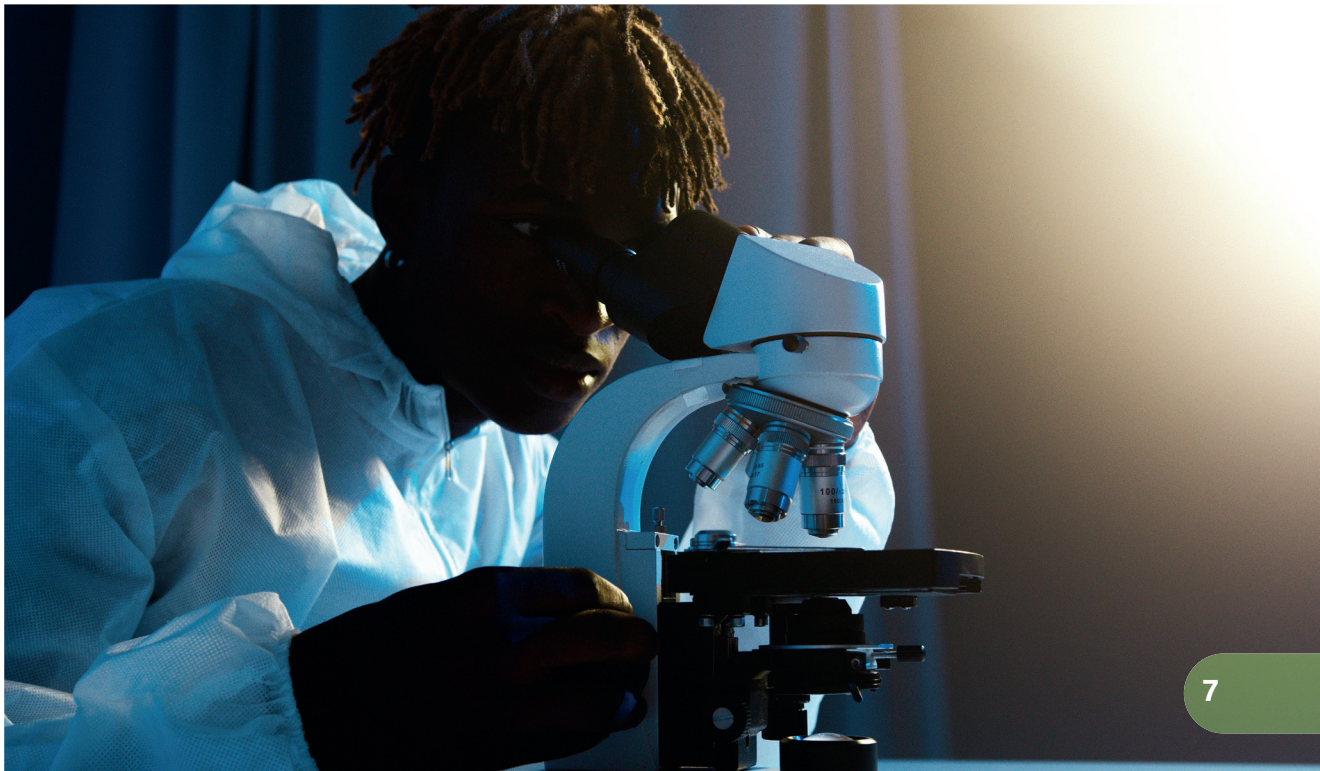


KEY MESSAGES

- African SGCs need to enhance their activities and roles as part of their responsibilities in supporting ethical conduct of research and innovation. They can do so by playing a leading role in facilitating or influencing the development and/or revision of research policies to ensure that they address ethics and integrity issues.
- All 15 African countries reviewed have operational Research Ethics Committees (RECs). However, these RECs operate in different ways and at different capacities. While some have active research oversight, others do not give adequate attention to ethics issues when awarding grants.
- SGCs need to play a catalytic or facilitative role in strengthening of integrity in beneficiary institutions.
- In collaborative research, sharing, analysis and access to data and specimen remains a key concern for African and Africa-based researchers
- In majority of countries and SGCs, research policies do not address issues of ethics and integrity.
- In the majority of African countries, the development of RECs has been greatly influenced by demands from the health/medical research sector. Research from other sectors is not required to pass through RECs in some of the countries.
- Researchers expressed concerns regarding the challenges and delays they face when planning to conduct research during emergencies and pandemics
- Only a few of the SGCs have minimal measures are aimed at promoting gender considerations in research and even fewer are actively engaged in promoting the inclusion of marginalized groups such as tribal and sexual minorities.



INTRODUCTION

This policy brief is based on the tenet that research and innovation in Africa, can only succeed in driving sustainable economic and social development if it is implemented using highest ethical and professional standards. The policy brief is a direct response to the growth in research being conducted in African countries amid growing concerns on unethical as well as unprofessional conduct. Numerous reports confirm that Africa has not been spared from questionable practices in research and innovation as evidenced by some papers that have described various cases involving unethical research in Africa (Ana et al, 2013; Kombe et al, 2014: Van Zyl et al, 2019; Okonta & Roussouw, 2014;Okonta, 2014; Ballyram & Nienaber, 2019; Horn, 2016, 2017; Kingori and Gerrets, 2016; Padayachee, 2019; Rohwer, 2018; Singh & Remenyi, 2016). Reports of questionable practices in research and innovation not only tarnish the images of the scientists involved as well as their colleagues, but negatively impacts on the images of the countries as well as the SGCs which serve as beacons of light on matters relating to research and innovation within the countries. Such practices also impact negatively on the knowledge generated from the research and public trust in research.

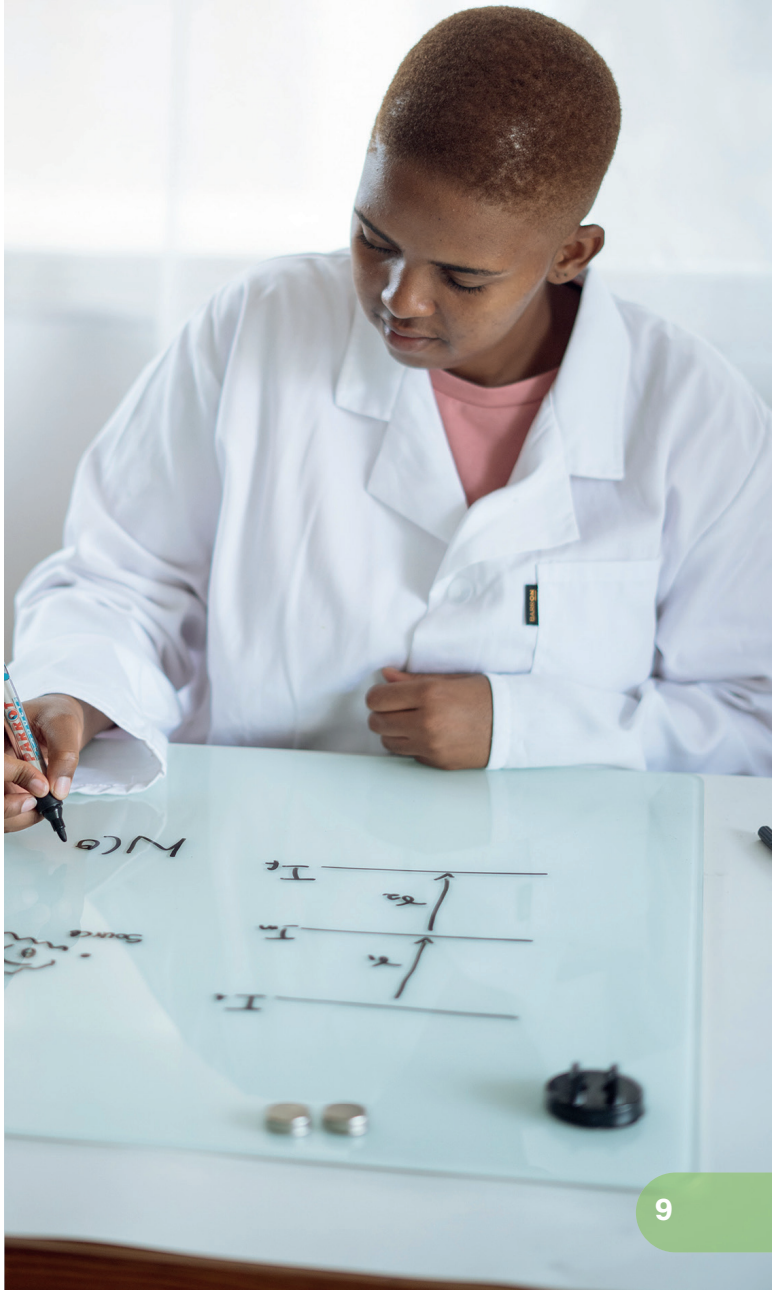
At the global scene, the past few decades have seen an increasing emphasis on ethics and integrity in research and innovation as evidenced by numerous international legal and guidance documents namely the Universal Declaration on Human Rights (UN General Assembly, 1948), the Declaration of Helsinki (2013), the CIOMS Guidelines (2016), the Good Clinical Practice Guidelines (GCP) (1996), the Singapore Statement on Research Integrity (World Conference on Research Integrity, 2010) among others. The first three documents were a response to abuses of human beings in medical research during the Second World War and GCP guidelines were established as a way of creating a basic universal standard aimed at ensuring credibility of research data as well as protection of research participants (ICH, 1996). The Singapore Statement on Research Integrity which is a recent development was established as an important step towards promoting ethical conduct among scientists around the world. The crafters of the statement included scientists, journal editors, academic and industry leaders, and representatives from government funding agencies and publishers from over 51 countries (Kleinert, 2010; Resnik & Shamoo, 2011). Some of these international documents such as Declaration of Helsinki or ICH GCP have been translated into national regulations, policies and codes in some of the African countries that address either research ethics or research integrity issues.

With the internationalization of research through international collaborative research, reliance on external funding sources as well as improved research dissemination using electronic media and other modern means, African countries need to take steps to ensure that ethics and integrity in research and innovation take centre stage. Internationally, the ethics and integrity landscape has continued to evolve and African

SGCs are expected to take continuous steps towards best global standards and practices. The African science enterprise through the SGCs, needs to adapt to the growing concerns and realities if it is to remain relevant. The Science Granting Initiative (SGCI), by bringing together selected science granting councils from across Africa and other parts of the world, has presented an opportunity for collaboration among SGCs worldwide and specifically for African SGCs, it presents an opportunity to learn best practices in promoting ethics and integrity in research and innovation.

Science granting councils by their nature are supposed to contribute towards social and economic development by playing a critical role in supporting countries' national research and innovation systems. They play this role through their coordination of research funding, which is aimed at increasing research and innovation. While SGCs are government agencies, they also represent the interests of the public and the scientific community as they play an important role in both prioritizing research as well as in mobilizing financial resources that can be directed into areas of national priorities. They also coordinate research capacity building through various activities and initiatives including stimulating the establishment of training institutions and programs, coordinating training programs and directly supporting training of manpower in areas of need. As the main coordinating units on science, technology and innovation (STI), SGCs also coordinate the development

The Singapore Statement on Research Integrity which is a recent development was established as an important step towards promoting ethical conduct among scientists around the world.



of policies and legislations that support research and innovation and additionally manage bilateral and multilateral science and technology initiatives including agreements with international and technical partners. As part of their research and innovation activities, they also promote both the dissemination and utilization of findings from research that is funded using public funds (Steneck, 2007).

Research and innovation mainly rely on public funding, and society expects responsible conduct on the part of both researchers as well as organizations that coordinate, manage and promote research (Shamoo & Resnik, 2009; Steneck, 2006, 2007). The responsibility for ensuring that the funds and research facilities and resources are utilized optimally without any unethical practice or research misconduct rests primarily with the SGCs that serve as funding organizations. For appropriate utilization of public funds, there is need for the development of policies, procedures and strategies that address the ethical conduct of research. It is therefore important that every SGC should have research policies which set down the broad principles of responsible and accountable research practice addressing both ethics and integrity issues. The policies should clearly identify the responsibilities of the main parties involved in the research process, namely SGCs, research institutions and researchers. Policies need to address areas such as research misconduct, unethical and unacceptable practices, data and record management, publication of findings, authorship, conflict of interest, supervision of students and research trainees and the handling of utilization of funds (Mandal et al, 2012). Of late there have also been discussions around the issue of benefit sharing from research and innovations (Dauda & Dierickx, 2013; Schroeder, 2007; Lairumbi et al., 2011,2012).

In order to enhance the role of the SGCs in ethics and integrity in research and innovation, and in support of the African Union Science, Technology and Innovation Strategy for Africa 2024 (STISA 2024), the Science Granting Councils Initiative commissioned a study to explore issues related to ethics and integrity in research and innovation and to propose good practices from around the world.

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CONTEXT OF THE POLICY ISSUE

The policy issue tackled in this brief is that of ethics and integrity in research and innovation. The advancements in knowledge and technology are a direct result of growth in research and innovation. Some of this research has relied on human beings and animals as participants and subjects, respectively. In the past century, society has become increasingly sensitive to ethical issues associated with research involving human subjects, and especially the risks that research participants are exposed to during the conduct of the research. Particularly, society has become very sensitive to the potential exploitation of research volunteers who make sacrifices by agreeing to participate in research and being placed at the risk of harm for the good of society (Ndebele, 2015). The use of chemicals and hazardous materials that have negative effects on human beings, animals and the environment has also led to expression of concerns. Ethical requirements have therefore been developed to minimize exploitation and harm by ensuring that research participants are not merely used as a means to an end but treated with respect while contributing to the social good. Several events in history have led to the development of ethical requirements as well as the current drive towards the conduct of ethical research in general (Boulton, 2009; Beauchamp & Childress, 2001). When one discusses the ethical requirements that have been developed by society especially during the past century in response to the abuses of fellow humans, they are delving into the area of Research Ethics (Steneck, 2007).

Research integrity is an essential quality for scientific excellence and sustaining the public's trust of the research enterprise and draws from international guidelines, government regulations, institutional policies, scientific standards and professional codes. In general, it is recognised that there are different cultural and national standards for scientific research, and yet there are certain basic standards and principles which are universally applicable. These are articulated in four basic principles: Honesty in all stages of research; Accountability in all stages of research; Respect for fellow professionals through courtesy and fairness in working with others; and Stewardship in research (Resnik and Shamoo, 2011).

A scoping exercise implemented between 2012 and 2013 in 15 African Countries with SGCs participating in the SGCI inception phase (Kenya, Rwanda, Uganda, Tanzania, Ethiopia, Côte d'Ivoire, Botswana, Burkina Faso, Senegal, Ghana, Zambia, Mozambique, Malawi, Namibia, and Zimbabwe) to understand science granting councils individual research and capacity strengthening interests and priorities, identified Research Ethics as a high priority training need. The study also concluded that SGCs in Sub Saharan Africa are at a low level of maturity in terms of developing, implementing and enforcing research ethics practices (Mouton, Gaillard, & van Lill, 2014). This important finding is reinforced by various studies that have been conducted in Africa to understand research ethics and research oversight capabilities of sub-Saharan countries and institutions.

Kruger et al. (2014) in their contribution to a book on 'Research Ethics in Africa' mapped the status of research oversight systems and practices in Africa and reported that research initiatives in Africa had not automatically been complemented by advances in 'health research oversight systems and functional ethical review committees. Growth in research requires commensurate growth in ethics review structures and functions in the form of effective and efficient Research Ethics Committees (RECs) as well as supporting policies and regulations.

Various studies that have been conducted in Africa to look at research ethics systems capabilities in African countries have focused on the needs of research ethics committees and have identified poor resource availability and lack of capacity including the shortage of personnel trained in research ethics as some of the major challenges (Benatar, 2004; Isaakidis et al., 2002; Rugemalila & Kilama, 2001; Singer & Benatar, 2001; IJsselmuiden .et.al, 2012; Kasule at al., 2016; Kass et al, 2007; Mielke & Ndebele, 2004; Ikingura, Kruger & Zeleke, 2007; Nyika et al, 2009a, 2009b). While the majority of African countries have put in place some measures of research ethics oversight, these measures still need enhancement.

The confidence of society in and the support of research is largely based on public trust and the honesty of the individual researchers and research institutions. Researchers are accountable to society and have the responsibility for creating and fostering research environments that promote integrity in the conduct of research. This also requires the promotion of high ethical and scientific standards and commitment to the continual professional development of researchers. The topic of research integrity discusses the use of honest and verifiable methods in preparing research proposals, conducting research and handling research data. Research integrity also encourages truthfulness in reporting research results and emphasizes on adherence to rules, regulations, guidelines, and following commonly accepted professional standards. Research integrity is all about the trustworthiness of research due to its emphasis on the soundness of research methods and the honesty and accuracy of research findings. Responsible conduct of research (RCR)1 is defined as the practice of scientific research with integrity. For research institutions, integrity is about safeguarding the commitment to creating an environment that promotes responsible behaviour by embracing the standards of excellence, trustworthiness, and justice in the conduct of research by staff and all members associated with an institution.

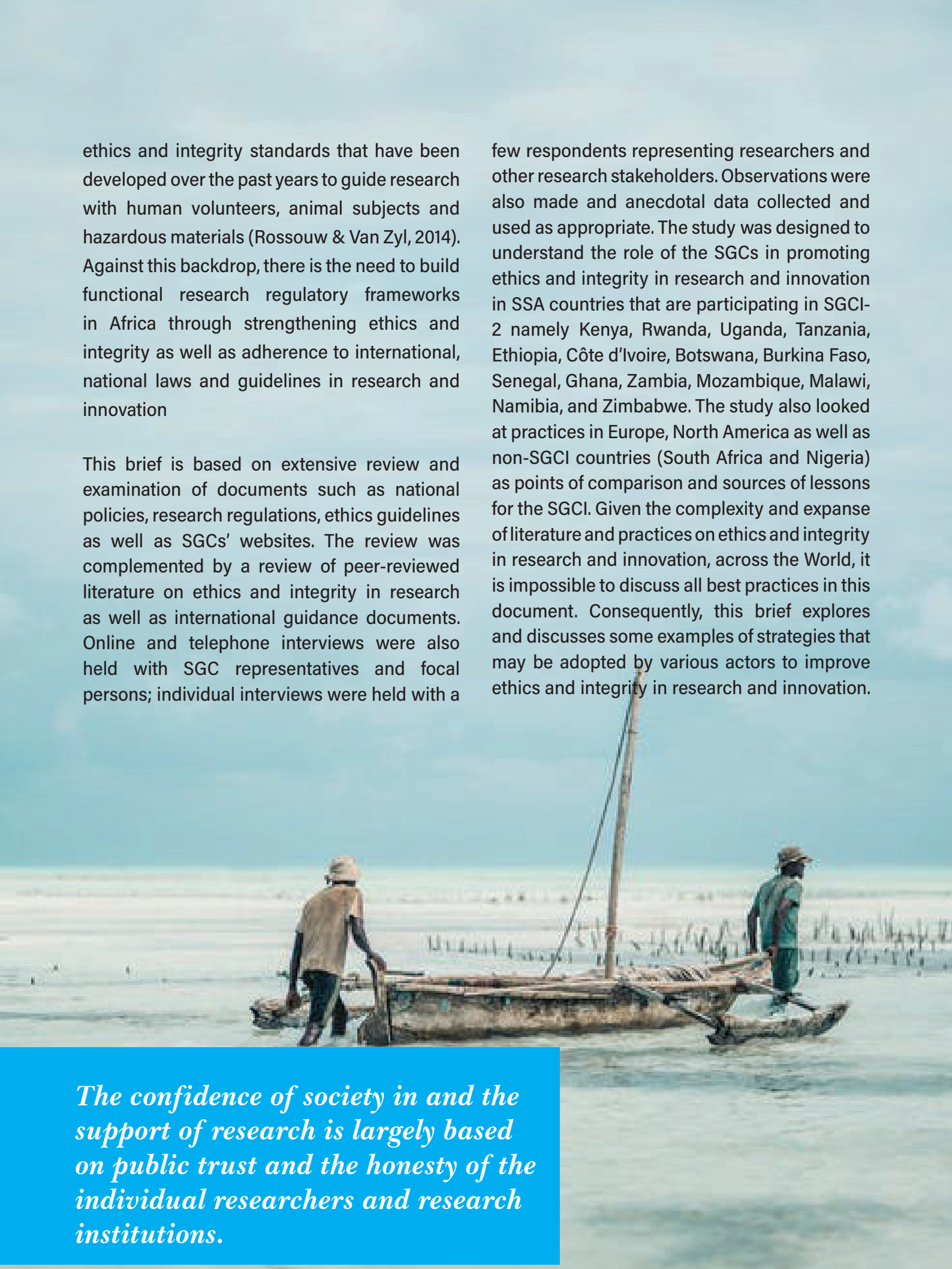
As a result of the immense growth in international collaborative research, ethics and integrity in research have taken on a global dimension over the past three decades. Furthermore, the research enterprise has become more interdisciplinary and transdisciplinary. It is common for collaborative research projects to involve investigators, laboratories, and institutions in different countries. Researchers are therefore expected to adhere to international

METHODOLOGY

1 The term 'responsible conduct of research' (RCR) is often used interchangeably with research integrity to refer to a wide range of areas of research compliance, professional conduct, and personal responsibility (Steneck, 2007).

ethics and integrity standards that have been developed over the past years to guide research with human volunteers, animal subjects and hazardous materials (Rossouw & Van Zyl, 2014). Against this backdrop, there is the need to build functional research regulatory frameworks in Africa through strengthening ethics and integrity as well as adherence to international, national laws and guidelines in research and innovation

This brief is based on extensive review and examination of documents such as national policies, research regulations, ethics guidelines as well as SGCs' websites. The review was complemented by a review of peer-reviewed literature on ethics and integrity in research as well as international guidance documents. Online and telephone interviews were also held with SGC representatives and focal persons; individual interviews were held with a few respondents representing researchers and other research stakeholders. Observations were also made and anecdotal data collected and used as appropriate. The study was designed to understand the role of the SGCs in promoting ethics and integrity in research and innovation in SSA countries that are participating in SGCI-2 namely Kenya, Rwanda, Uganda, Tanzania, Ethiopia, Côte d'Ivoire, Botswana, Burkina Faso, Senegal, Ghana, Zambia, Mozambique, Malawi, Namibia, and Zimbabwe. The study also looked at practices in Europe, North America as well as non-SGCI countries (South Africa and Nigeria) as points of comparison and sources of lessons for the SGCI. Given the complexity and expanse of literature and practices on ethics and integrity in research and innovation, across the World, it is impossible to discuss all best practices in this document. Consequently, this brief explores and discusses some examples of strategies that may be adopted by various actors to improve ethics and integrity in research and innovation.



The confidence of society in and the support of research is largely based on public trust and the honesty of the individual researchers and research institutions.

KEY FINDINGS AND RECOMMENDATIONS

ACTION AREA 1: PRIORITIZATION OF ETHICS AND INTEGRITY

Policy issue: Are SGCs giving adequate priority to ethics and integrity in research and innovation and are they actively involved in promoting ethics and integrity in research and innovation?

Key findings: Majority of SGCs are not giving adequate attention to ethics and integrity in research and innovation as evidenced by the limited range of activities related to ethics and integrity.

Recommendation 4.1.1: African SGCs need to enhance their activities and roles as part of their responsibilities for supporting ethical conduct of research and innovation. They can achieve this through various ways including establishing coordination units as well as policies and regulations that support ethics and integrity in research.

Recommendation 4.1.2: SGCs need to play a catalytic or facilitative role in strengthening of ethics and integrity in beneficiary institutions. They can achieve this by placing some requirements on beneficiary institutions for policies and structures for addressing ethics and integrity, providing financial support and training REC members as well as sensitizing all research stakeholders about ethics and research integrity.

Recommendation 4.1.3: Development Partners and the AU can play supportive roles to ensure that all SGCs in Africa have established the necessary structures and procedures for strengthening ethics and integrity.

Recommendation 4.1.4: The AU can support all African countries by requiring that all African countries have laws and structure for promoting ethics and integrity. The AU can also develop and provide model laws and policies that can be cascaded down to all African countries.

ACTION AREA 2: GUIDELINES FOR ETHICS AND INTEGRITY

Policy Issue: At the research level, how are issues of ethics and integrity captured and implemented and what are the practical experiences SGCI managers in handling ethics and integrity issues?

Key Findings: Almost all African countries have operational Research Ethics Committees (RECs) and these RECs operate in different ways and at different capacities. Some SGCs play an active roles in ensuring ethics in research for example through coordination of research oversight. There were variations in the number of ethical guidelines and what they addressed. Some African countries have legislations that support and empower RECs while some do not. In some countries there are ethical guidelines addressing various issues.

Recommendation 4.2.1: SGCs need to come up with their own ethical guidelines that guide all the research they fund. Where there are national guidelines issued by other national authorities, the SGCs should make it mandatory for grantees to follow such guidelines.

Recommendation 4.2.2: Countries that have inadequate guidelines can benefit by learning from countries that already have robust guidelines.

ACTION AREA 3: ETHICS AND INTEGRITY IN COLLABORATIVE RESEARCH

Policy issue: Are there specific ethics and integrity issues that are peculiar to collaborative research and how are these issues managed?

Key findings: In collaborative research, there were concerns that were raised around the shipment of data and specimens with the concern that African researchers may have no or restricted access to the data as well as specimens once they have left the African countries. In some countries foreign researchers need to obtain permits from relevant government Ministries or Departments before they can conduct research.

Recommendation 4.3.1: SGCs should assist in building capacity for storage and analysis of both specimens and data in-country.

Recommendation 4.3.2: SGCs should require grantees to address issues of shipment of data and specimens in research proposals.

ACTION AREA 4 : IMPLEMENTATION OF ETHICS AND INTEGRITY

Policy Issue: At the research level, how are issues of ethics and integrity captured and implemented and what are the practical experiences SGCI managers in handling ethics and integrity issues?

Key findings: Some SGCs do not give adequate attention to issues of ethics and integrity in research that they fund.

Recommendation 4.4.1: SGCs should clearly state ethics and integrity issues in calls for proposals.

Recommendation 4.4.2: SGC review checklists should address ethics and integrity issues and they should be factored into the scores when reviewing proposals.

Recommendation: SGCs should establish research ethics and integrity coordination units including appointment of officials responsible for coordination.

ACTION AREA 5: ETHICS AND INTEGRITY IN RESEARCH UPTAKE AND UTILIZATION

Policy issue: how are the institutional policies on research, innovation, commercialization and valorization facilitated or hindered by practical requirements of ethics and integrity?

Key findings: In majority of countries and SGCs, research policies do not address issues of ethics and integrity

Recommendation 4.5.1: SGCs / National governments should review research policies to ensure they address issues of ethics and integrity.

Recommendation 4.5.2: Ethics and integrity issues should be considered and addressed at all stages of the research process including commercialization of findings.

ACTION AREA 6: ETHICS AND INTEGRITY IN STAKEHOLDER EXPERIENCES

Policy issue: What are the views, perspectives and experiences of individual researchers and grantees and how do the issues affect their promotions and career opportunities; freedoms and choices on publications, innovation and networks?

Key findings: In the majority of African countries, the development of RECs has been greatly influenced by demands from the health/medical research sector. Research from other sectors is not required to pass through RECs in some of the countries. For ethics issues, researchers reported heavy bias in expectations towards health/medical research. For integrity issues, there was more attention granted to clinical trials involving drugs and biologics through the Good Clinical practice guidelines that have been issued by drug regulatory authorities.
Recommendation 4.6.1: National governments/ SGCs should ensure that issues of ethics and integrity cut across all disciplines. Guidelines and structures should be established for research involving humans, animals and harzadous materials.

ACTION AREA 7: PUBLIC PRIVATE PARTNERSHIPS

Policy issue: What are the experiences of the business community and implications for public – private partnerships (PPPs) and how do the issues affect technology transfer and knowledge exchange; participation in university programmes such as boards of management; faculty appointments; course accreditation etc.?
Key findings: For the majority of African countries, the linkage between the research institutions and the private sector; and SGCs and the private sector, are still weak.
Recommendation 4.7.1: SGCs need to come up with special programmes aimed at strengthening the collaborations between research institutions and the private sector. The SGCs also need to actively engage and involve the private sector in research promotion and coordination.

ACTION AREA 8: ETHICS AND INTEGRITY IN PANDEMICS AND EMERGENCIES

Policy issue: how are issues relating to ethics and integrity handled for rapid research and are there any lessons that can be gleaned from funding research during the covid-19 pandemic?
Key findings: Researchers continue to express concerns around the challenges and delays they face when planning to conduct research during emergencies. For example some researchers faced some delays when proposing to conduct research on covid-19.
Recommendation 4.8.1: SGCs need to work together with RECs and national drug regulatory authorities to come up with expedited processes for clearing research that addresses public health emergencies.

ACTION AREA 9: GENDER AND SOCIAL INCLUSION

Policy issue: what are perspectives of SGCs on gender and other marginalized/excluded groups and how could the councils ensure more direct and intentional approaches to gender and inclusivity in research and innovation?
Key findings: Majority of SGCs are taking some measures aimed at promoting gender considerations in research. A few however are actively engaged in promoting the inclusion of marginalized groups such as tribal and sexual minorities.
Recommendation 4.9.1: SGCs need to identify all marginalized groups/populations in their countries and come up with ways of ensuring that these groups are actively included and not unnecessarily excluded from research.
Recommendation 4.9.2: SGCs need to come up with concrete strategies for promoting and facilitating gender inclusion including creation of special programmes as well as ensuring that women are represented in all boards, committees and management.

Table 1 below, provides a summary of the main recommendations:

Table 1: Specific Policy Recommendations for Key Actors

Policy Actor	Policy Issue	Recommended Action
African Union (AU) and Regional Economic Communities	Support countries in setting laws and policies that address ethics and integrity	• There is urgent need for model legislations to be developed and cascaded down to all African countries.
		• Develop an African Research Ethics Framework.
		• Develop an African code of conduct for research integrity.
Science Granting Councils	Strengthening ethics and integrity in research and innovation at national level	• SGCs need to establish coordination units responsible for ethics and integrity.
		• SGCs need to develop policies, standards and expectations for researchers and institutions
		• SGCs need to develop training programmes that include online as well as face-to-face components for institutions and their researchers.
		• Where RECs exists, SGCs should work collaboratively and support the work of the RECs.
Research Institutions	Strengthening ethics and integrity at institutional level	• Research institutions need to establish policies for ethics and integrity.
		• Institutions need to establish structures and procedures for supporting ethics and integrity.
		• Designate research integrity officers.
Development Partners	Supporting SGCs to enhance ethics and integrity activities	• Establish special programs aimed at promoting ethics and integrity in research and innovation in Africa.

CONCLUSIONS

This brief has borrowed lessons from various SGCs and from other players. From the findings, it is evident that SGCs are implementing different activities and roles related to ethics and integrity in research. From the various lessons shared, it becomes obvious that fostering an environment, which promotes ethics and integrity in research and innovation, is part of the SGCs' accountability to the public. SGCs are responsible for promoting a culture, which is supportive of responsible conduct of research by ensuring that the standards of excellence, trustworthiness, and lawfulness are cultivated. This starts with the development of a vision for the research enterprise and a strategic plan for research that address both ethics and integrity. From the various lessons learned, it has also become obvious that SGCs can play a facilitator or catalytic role by ensuring that they adequately support research institutions and researchers to fulfil their mandate. This policy brief advances a number of recommendations on how SGCs, the African Union and regional economic communities, national governments, as well as development partners can enhance ethics and integrity in research and innovation. Strategies for promoting Ethics in Research and innovation, strategies for promoting Integrity in Research and Innovation; and strategies for promoting the inclusion of women and minority populations in research and innovation are included as appendices to this report.

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APPENDICES

Appendix 1: Strategies for promoting Ethics in Research and innovation

Strategy	Rationale	Approach
Ethics Policies and guidelines for human research	To strengthen ethics in human research at national level.	Facilitate law on research ethics Facilitate the strengthening of REC system in country. Develop policy that addresses ethics of human research Establish SOPs that address ethics issues. Strengthen cooperation between the SGCs and the RECs
Ethics of animal research	To ensure there is oversight for research involving animals	Facilitate development of policy that addresses ethics of human research Facilitate establishment of animal research ethics committees
Research involving hazardous materials	To ensure there is oversight for research involving hazardous materials	Develop/facilitate policy that addresses ethics of human research. Assist in strengthening National Biosafety Boards/ Committees
Training programmes	To build capacity in ethics	Establish research ethics training programmes Make the training mandatory for all grantees
Ethics and Integrity Coordination Unit	To ensure capacity for coordinating and promoting ethics	Establish a coordination unit within the SGC Require that all grantee institutions establish ethics coordination units Every SGC to establish a committee that looks into ethics and integrity issues. Grantee institutions to designate persons responsible for coordination. They must be trained in Research Ethics.
International collaborative research	To ensure issues of justice are addressed and to ensure avoidance of exploitation of African countries.	Strengthen oversight of international collaborative research Support capacity building in storage and analysis of specimens and data
Private sector involvement	To ensure the private sector is actively involved in research and innovation	Inclusion of private sector reps on Boards Establish programmes for promoting private sector involvement in research/academic institutions

Calls for proposals	To ensure ethics issues are addressed at proposal stage	Clearly state in the calls that REC approval is required before release of funds. For clinical trials, clearly state that approval of drug regulatory authorities and adherence to GCP are a prerequisite that should be met before award release. Clearly state expectations to address ethical considerations in proposals and adherence to national laws and guidelines. Clearly state expectations of the dissemination of findings and commercialisation
Special programmes	To ensure some research that focuses on ethics issues	Establish a programme that funds research on ethics or ethical issues
Reviewer checklists	To ensure ethics issues are captures during grant reviews	Include ethics issues as part of checklists Award scores for addressing ethical issues
Periodic progress reports	To ensure continued monitoring for ethics issues	In award letters clearly state that ethical issues to be included in reports Ethical issues to be included in report template
Reporting requirements	To ensure ethical issues are addressed at all stages during the implementation of the projects	In award letters to clearly state expectations on reporting ethical issues as and when they occur.

Appendix 2: Strategies for promoting Integrity in Research and Innovation

Strategy	Rationale	Approach
Integrity policy and guidelines	To promote integrity in research	Facilitate law on research integrity Develop policy that addresses integrity in research Establish SOPs that address integrity issues. Reviewer should be required to sign confidentiality agreements and conflict of interest disclosures before reviewing proposals.
Training Programmes	To improve awareness on integrity issues	Establish short term and long term training programmes addressing integrity topics for example Responsible conduct of research.
Research Integrity Officers	To strengthen the promotion of integrity issues including reporting to SGCs.	Appoint/designate research integrity officers in all grantee institutions. They must be knowledgeable about Integrity issues including research misconduct and conflict of interest issues.
Calls for proposals	To ensure integrity issues are addressed at proposal stage	Clearly state expectations to address integrity considerations in proposals including adherence to national laws and international guidelines (E.g. Singapore Statement) Require conflict of interest disclosures at proposal stage.
Special programmes	To build capacity for addressing integrity issues	Establish a programme that funds research on integrity/compliance issues
Progress reports	To ensure continuous monitoring	In award letters clearly state that integrity issues to be included in reports Integrity issues to be included in report template
Reporting requirements	To ensure that research non- compliance is promptly reported to the SGCs	In award letters to clearly state expectations on reporting non-compliance issues as and when they occur.

Appendix 3: Strategies for promoting the inclusion of women and minority populations in research and innovation

Strategy	Rationale	Approach
Special programmes for inclusion of minorities	To ensure research that focuses on minority groups	Establish a programme that provides small grants that support research addressing issues relevant for women and minority groups.
Training programmes	To increase awareness on the need to include minorities in research	Establish short and long term training opportunities that address issues on inclusion of gender and minorities Make available financial resources for training
Call for proposals	To ensure issues of minorities are captured at proposal writing stage	Clearly state in calls for proposals that minorities and women should be included in research
Reviewers checklist	To ensure issues of minority populations are captured in review stage	Include gender and minority issues in checklist
Points awarded for inclusion of minorities	To ensure issues are captured at proposal writing and review stage	Award points for addressing gender and minority issues in the proposal
Inclusion of minorities in committees/boards	To ensure views/voices of minorities are represented	Include representatives of minority groups and women in research committees Ensure that women and minority experts serve as reviewers for proposals

Foreign, Commonwealth & Development Office

IDRC · CRDI

Canada

NRF National Research Foundation

Sida

DFG Deutsche Forschungsgemeinschaft
German Research Foundation