SCIENCE GRANTING COUNCILS INITIATIVE SGCI IOSRS INITIATIVE DES ORGANISMES SUBVENTIONNAIRES DE LA RECHERCHE SCIENTIFIQUE

ETHICS IN RESEARCH AND INNOVATION

A GUIDED FRAMEWORK FOR SCIENCE GRANTING COUNCILS

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EXECUTIVE SUMMARY

1.1 Purpose

The purpose of the document is to provide a succinct set of guidelines and governance structures to inform the development and adoption of best ethical practices within science granting councils (SGCs). The framework was informed by a comprehensive literature review and qualitative surveys with science grants councils initiative (SGCI) stakeholders. Surveys were circulated to key SGCI stakeholders including a select sample of active SGCI-participating institutions in southern, eastern and western Africa. Annex 1 gives a detailed representation of the survey participants.

1.2 Context

As key actors in the research and innovation (R&I) ecosystem, SGCI members should adhere to international ethical norms and practices when funding and conducting research. SGCs should apply the values of equity, participation, transparency, service, tolerance and mutual respect, dedication, and responsibility, during the pre- and post-awarding phases of the grants management lifecycle.

Based on the survey conducted, 38% of respondents indicated that their employer had developed ethical policies, while 35% of the respondents were uncertain. About 46% of respondents indicated that their institution prioritised ethical considerations in the strategic priority areas. Approximately 42% of respondents indicated that they had systems in place within the organisation to identify risks and 69% indicated that there were mitigation measures in place to manage risks. Thirty-nine per cent (39%) of respondents indicated that their institutions conducted training on ethical principles and about 46% stated that ethics was incorporated into the grants management lifecycle.

This highlights the need for SGCI member countries to increase the development and application of ethical practices, policies and guidelines that reflect both internationally accepted norms and locally relevant cultural values. SGCs apply ethical practices and policies during the design of calls, peer reviewing process, awarding process and at the post-award stage.

1.3 Guidelines for developing ethics principles and processes in SGCI

Several principles and practices that SGCI partners could adopt to effectively apply ethical principles and practices in their institutions or systems are presented. These include:

i. Establish norms and cultures: SGCI partners must collaboratively establish norms and cultures that support individual and collective ethical research practices.
ii. Integrity: In partnership with stakeholders, SGCs should describe how honesty, accountability, professional courtesy, fairness, equity and inclusion, and good stewardship are reflected across all aspects of the scientific process, from proposal to funding and dissemination of outcomes.
iii. Mitigate Conflicts: SGCs should fully and transparently disclose all relevant activities and information that bear on potential conflicts of interest. The commitment is part of the broader set of researchers' responsibilities to ensure research integrity.
iv. Collaboration: SGC should promote a wide variety of collaborations – across institutions, between public and private entities, and across international borders.
v. Training: SCGs, in collaboration with partner institutions, must develop standards for training related to the responsible and ethical conduct of research.

vi. **Leadership:** SGCs in the SGCI must lead by example in the responsible management of research programmes. Ethical leadership promotes employee engagement, increases productivity, and enhances the council's reputation. SGCs should consider establishing an Ethics Unit in its governance department. Such a unit reflects the SGC's commitment to conducting its administration and activities to the highest ethical, moral, and legal standards.

vii. **Strategic funding instruments**: SGCs should design and implement funding programmes that promote understanding of ethical norms or promote increased representation of disadvantaged communities in R&I ecosystem

viii. **Digitisation:** Adopting a digital grants management system (DGMS) across SGCs presents both opportunities and challenges with regard to effectively streamlining ethics practices across the grant lifecycle.

1.4 Conclusion

The SGCI is well positioned to support the advancement and application of good principles and practices on ethics. SGCs serve a much larger ethical obligation role across the sector and society at large. The future success of SGCs depends on how they are perceived in terms of their adherence to ethical practices, by those outside the sector, which includes government leaders, corporate leaders, the media, and citizens as well as the international community. To increase development and adoption of ethical principles, SGC could, among other recommendations presented in this framework, consider the following options:

i. establishing a solid foundation of ethical policies, implement training initiatives, an ethics support desk for allegations of ethical misconduct, as well as have a defined system to discipline violators.

ii. adopting a "values focus" that is embedded in a "living the values" framework. All marketing material, communication strategy on media platforms (including social media) then ensures that the SGC embraces these values propositions.

iii. building a culture of integrity from top down: *Leaders must walk the talk* and promote a strong ethics culture by talking about the importance of ethics, have an open communication with staff, uphold promises and commitments as well as acknowledge and reward ethical conduct; whilst also holding violators accountable.

iv. SGCs should consider ways to share information with one another to support accelerated application of ethics practices; and

v. SGCs should consider ways to enhance training on ethics within the national system.

ACRONYMS & DEFINITIONS

AOSP	African open science platform
CoG	Conditions of grant
CoI	Conflict of interest
DGMS	digital grants management system
FAIR	Findability, Accessibility, Interoperability, and Reusability
FFP	Falsification, fabrication and plagiarism
GRC	Global Research Council
IDRC	International Development Research Centre
IP	Intellectual property
MRC	Medical research council
NRF	National Research Foundation
OS	Open science
R&D	Research and development
R&I	Research and innovation
REF	Research excellence framework
RI	Research infrastructure
SGC	Science granting council
SGCI	Science Granting Councils Initiative

PURPOSE

This framework guides SGCI members in their understanding and application of ethics within the grants management ecosystem. The document provides a succinct set of guidelines, policy imperatives and governance structures as well as a framework to develop best practices within SGCs. The framework was informed by a comprehensive literature review and qualitative surveys with SGCI stakeholders. Surveys were circulated to key SGCI stakeholders including a select sample of active SGCI-participating institutions in southern, eastern, and western Africa. Annex 1 gives a detailed representation of the survey participants.

2

INTRODUCTION

2.1 Background

Ethics and integrity are often interrelated concepts. Broadly, ethics are rules and regulations that guide individuals, processes, or systems to work according to agreed moral principles, while integrity is aligned with principle of being honest and fair. Effective ethical practices in the R&I ecosystem are crucial, especially with the rapid advancement of technology. The Global Research Council [1] notes that, fostering a culture that sustains and protects the highest ethical standards is critical to both the scientific enterprise and the public trust in science. As catalysts of R&I, SGCs are responsible for supporting good ethical practices aligned with international best practices. Despite the increasing importance of fostering a culture of good ethical standards, the SGCI partner countries do not have consensus or a common understanding on the application of ethical practices at institutional, national, and regional levels. This ambiguity has led to a differentiated approach of applying ethical norms by different organisations; and in some cases, a failure to clearly de-lineate ethics from competencies.

In 2010, the Singapore Statement on Research Integrity was released [2] which represents the first international effort to encourage the development of unified policies, guidelines and codes of conduct, with the long-range goal of fostering greater integrity in research worldwide.

The Singapore Statement on Research Integrity is anchored on the following principles:

1. Honesty in all aspects of research;
2. Accountability in the conduct of research;
3. Professional courtesy and fairness in working with others; and
4. Good stewardship of research on behalf of others.

Since the global adoption of the Singapore Statement on Research Integrity [2] several approaches and principles for adopting good ethical conduct have been developed in different fields of R&I at a global, regional, national and institutional level. The Economic and Social Research Council's Framework for Research Ethics [3] interprets ethics as: "the moral principles guiding research, from its inception through to completion and the publication of results and beyond". The Australasian Evaluation Society's [4] definition is more succinct, if a little simplistic: "Ethics refers to right and wrong in conduct". The European Commission advocates for responsible research and innovation practices which focuses on the approach that "implies that societal actors (researchers, citizens, policy makers, businesses, third sector organisations, etc.), work together during the whole research and innovation process in order to better align both the process and its outcomes with the values, needs and expectations of society" [5].

To ensure quality research of high integrity, research communities must adhere to the fundamental principles of scholarly research and publishing. Further, they must appeal to the research community to act demonstrably in advancing research ethics and integrity, given that research and innovation endeavours have gained traction across the African continent. To support this, a definition for research ethics is hereby proposed.

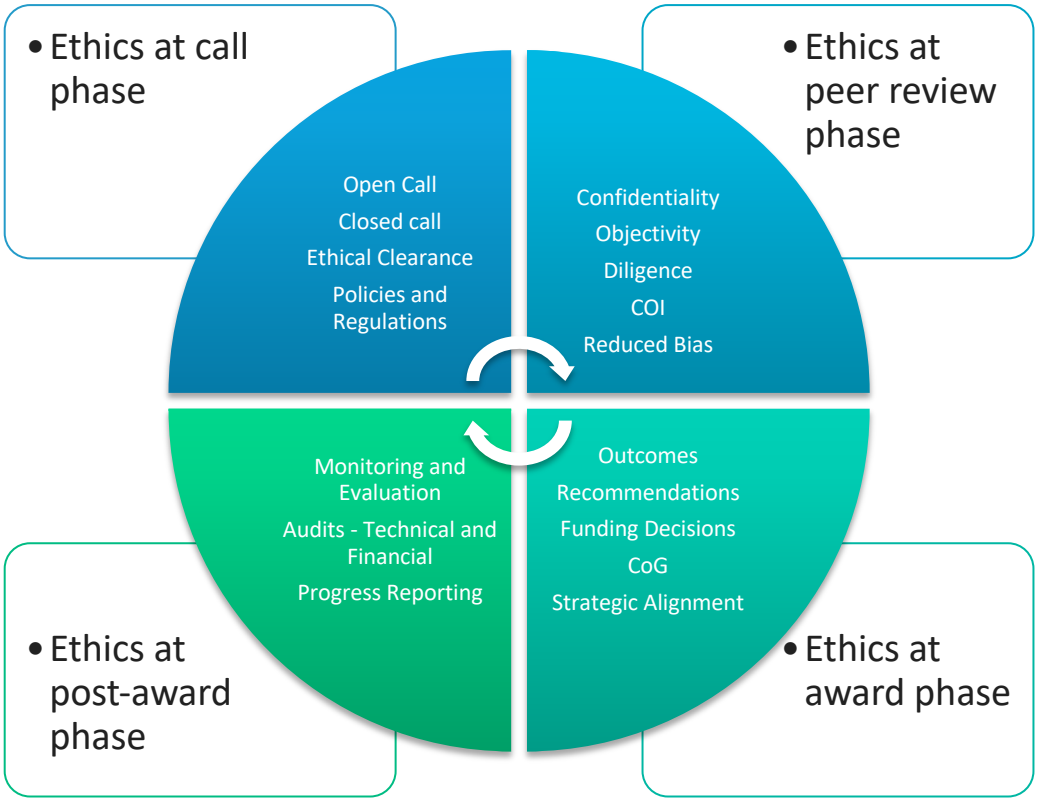
DEFINITION: Ethics is a system of moral principles, which is applied across the research lifecycle, with an emphasis on science for- and with- society. This system prioritises good governance and consequence management for the lack of adherence to safeguarding the rights of all participants as well as the integrity of the research process.

2.2 Application of ethical practices in science granting

As key actors in the R&I ecosystem, SGCI members should adhere to international ethical norms and practices when funding and conducting research. SGCs should apply the values of equity, participation, transparency, service, tolerance and mutual respect, dedication, and responsibility, pre- and post-awarding phases of the grants management lifecycle. SGCI members must therefore develop and apply ethical policies and/or guidelines that reflect both internationally accepted norms and locally relevant contexts and cultural norms.

All researchers funded through the SGC are responsible for ensuring that they obtain ethics approval for their research and are required to do so by policy, or by accepted norms and standards for ethical research. SGCI members must promote the establishment of various research ethics committees (RECs) to review, provide ethics approval and monitor research. Figure 1 summarises the guideline for developing ethics principles within the SGC context.

Figure 1: Summary of guidelines for developing ethics principles across the grants management lifecycle



2.2.1 Ethics at call design

There are two ways in which SGCs issue a call for funding:

1. Open calls, where all researchers can apply based on meeting the minimum eligibility requirements; and
2. Closed calls, where a specific cohort of researchers, which meet a specific demographic or disciplinary focus or other criteria, are invited to apply.

Ethical principles must be applied when designing calls to ensure every eligible researcher can apply for funding, without bias or discrimination. SGC's should push for fairness, transparency, diversity, inclusivity, and gender mainstreaming, which must also be emphasised in the call documents.

2.2.2 Ethics and peer review processes

Peer review processes are underpinned on scientific excellence; hence, this criterion must be described in a transparent manner and managed in a way that reduces bias, conflicts of interest (CoI) as well as disputes.

Peer review continues to ensure the integrity of the SGC's grant awarding processes. This process depends on trust and requires that everyone involved behaves responsibly and ethically. Peer reviewers play a critical part of the peer review process, but in many instances, researchers are opted to be a reviewer of research proposals by an SGC without specific instructions or training. Also, the reviewers are required to thoroughly read and review manuscripts and offer recommendations on how to address gaps in the research proposal. Therefore, reviewers need to abide by three areas of responsibilities: confidentiality, objectivity, and diligence.

It is role SGC staff to ensure that reviewers sign CoIs and confidentiality forms, as part of record-keeping and ensuring that reviewers declare all competing and conflicting interests, prior to the reviewer being granted access to a research application. If a conflict is noted, this must be recorded, and the reviewer must recuse themselves from the process. If there are any suspected ethical violations, then this must be investigated by the SGC and the necessary disciplinary processes undertaken.

The review processes ensure that all research applications adhere to the best ethical practices across the research lifecycle. In many instances, reviewers seek ethical clearance for the research proposed in the application, which must be attached as an annexure, as part of the evidence accompanying the research application.

2.2.3 Ethics at award stage

The award process should clearly be communicated to all stakeholders. The first stage of funding decisions must be informed by the outcomes and recommendations of an expert review committee. All key recommendations and comments from expert review committee must be documented. In the second stage, the SGC may apply another layer of criteria on the shortlisted applicants to factor other dimensions (e.g. gender representativity, available funds), prior to finalising the funding decision.

2.2.4 Ethics at post-award stage

At the post-award level, funded researchers must report on project financials as well as performance in adherence to the terms and conditions of the grant award. The expenditure of grants and the undertaking of research must comply with the highest level of ethical considerations and proof of this in terms of audit reports, must accompany the statutory reports to the SGC.

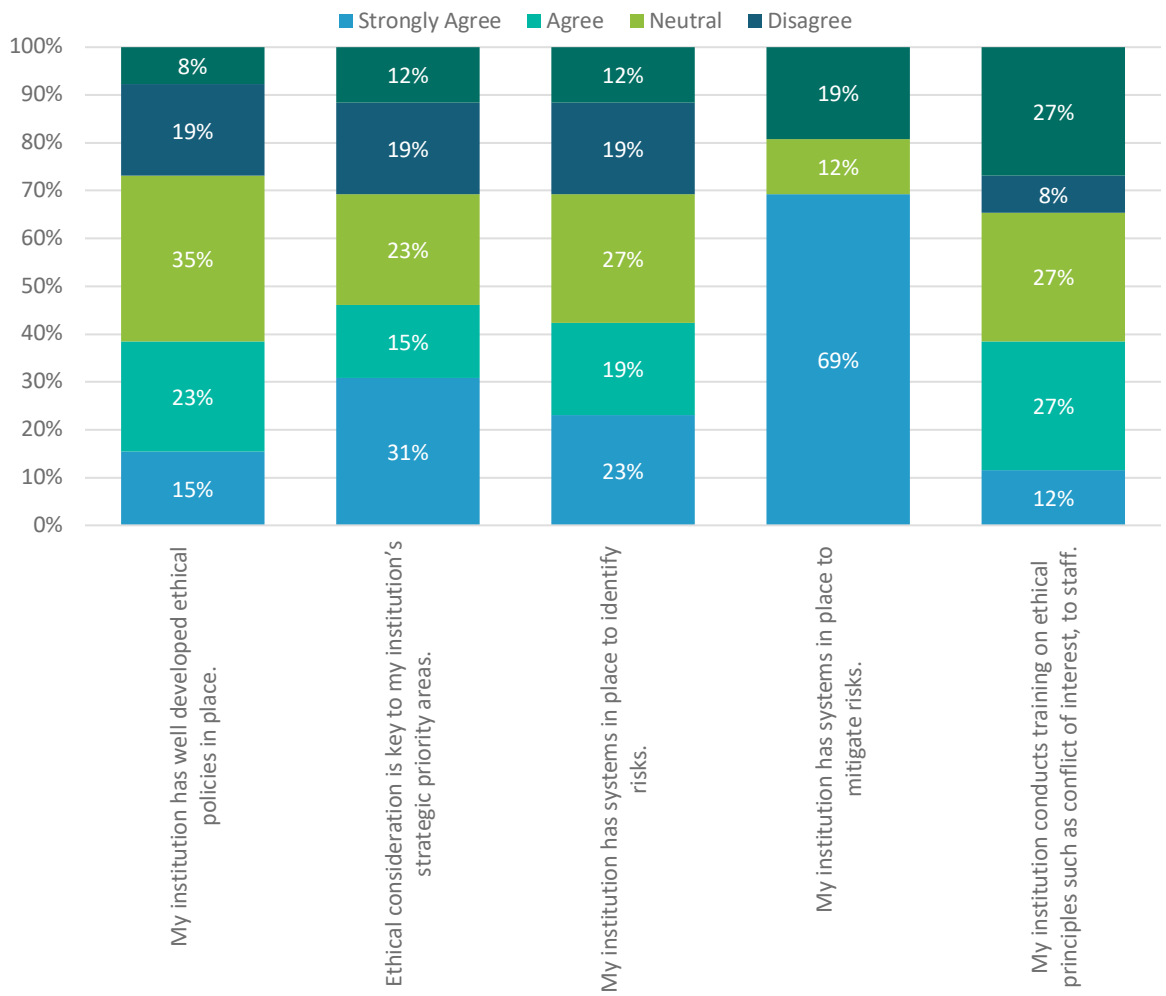
2.3 Overview of ethics practices among SGCI partners

Despite the rapid awareness and adoption of ethical principles and practices within the SGCI, there is still challenges relating to consistent adherence of ethical practices in several SGCs and other research performing institutions. Challenges that have contributed to a lack of effective ethical adoption among national and regional science players, include:

- Patchy ethics training for programming managers, instructors, and researchers;
- Absent or incomplete data regulation and ethical guidelines;
- Conflicting or incomplete institutional, funder and national data sharing strategies; and
- Limited engagement of academia in national policy and governance structures.

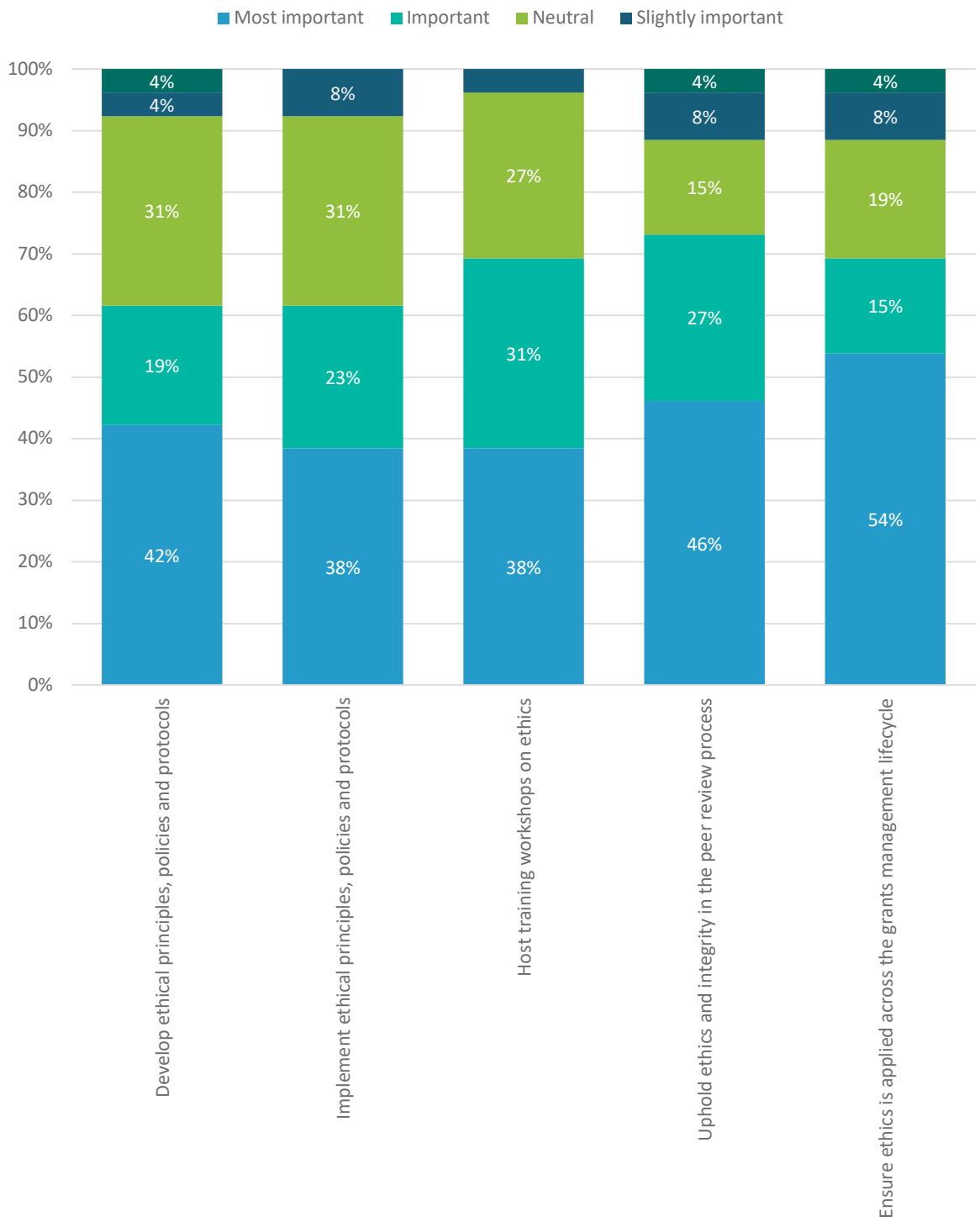
To obtain a glimpse on the status of ethics within SGCI countries, the study conducted a survey in selected SGCI-participating countries (see Annex 1). As Figure 2 highlights, 38% of respondents indicated that their employer had developed ethical policies, while 35% of the respondents were uncertain. About 46% of respondents indicated that their institution prioritised ethical considerations in their strategic priority areas. Approximately 42% of respondents indicated that they had systems in place within the organisation to identify risks and 69% indicated that there were mitigation measures in place to manage risks. Thirty-nine per cent (39%) of respondents indicated that their institutions conducted training on ethical principles and about 46% stated that ethics was incorporated into the grants management lifecycle.

Figure 2: Status Quo of Ethics within Workplaces



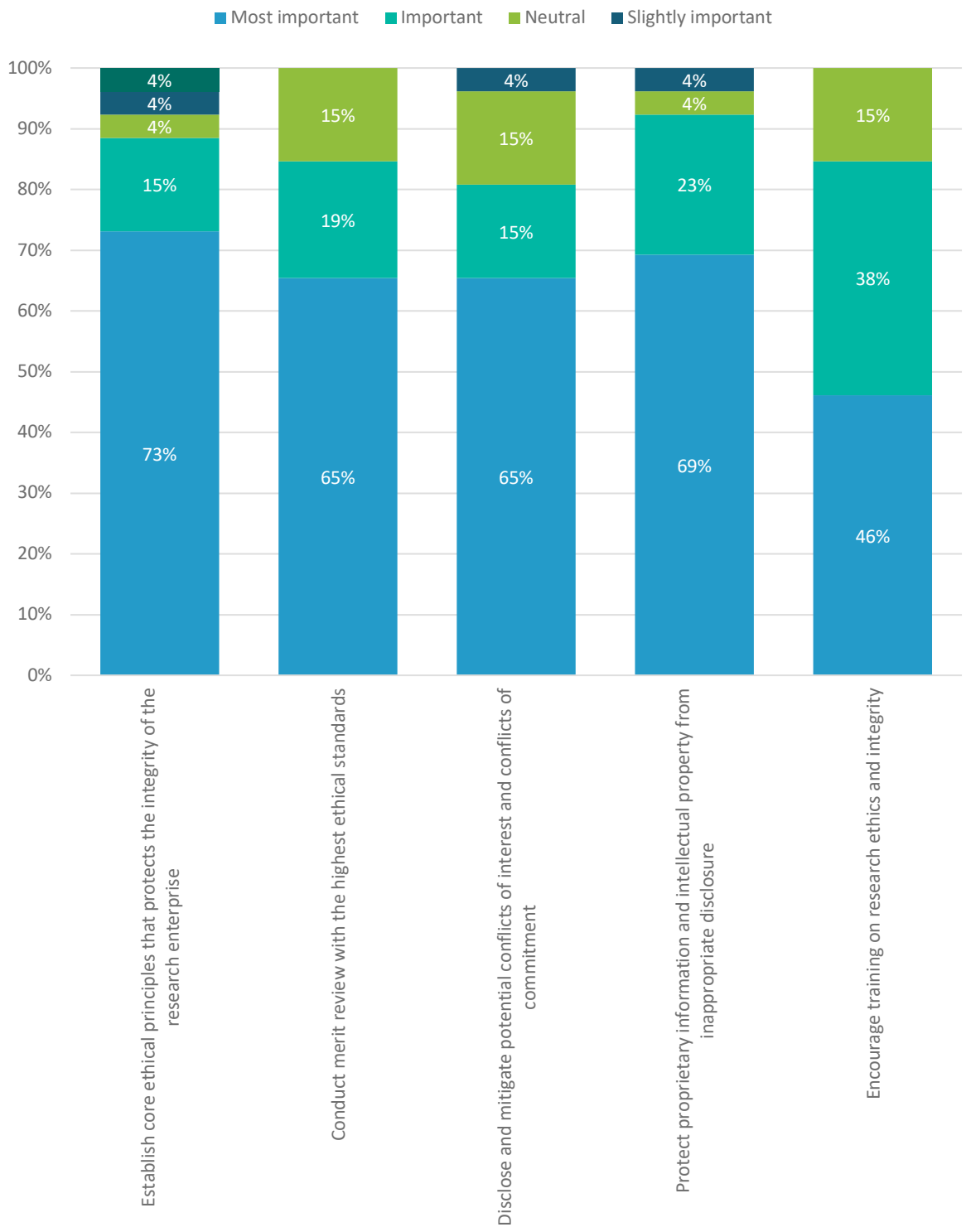
Based on the survey, the top key factors needed by SGCs to improve their capacity to adopt ethics policies and principles are presented in Figure 3. Most of the respondents (73%) indicated that ethics must be upheld in the peer review processes. About 69% of respondents believed ethics training workshops to be important and that ethics must be applied across the grants management lifecycle. About 61% of the respondents indicated that ethical principles, policies, and protocols needed to be developed; and implemented.

Figure 3: *Identifying Factors Needed to Improve the Capacity of Organisations to Adopt Ethics Policies and Principles*



As Figure 4 indicates, in response to successfully adopt general ethics principles, 92% of respondents indicated that proprietary information and IP must be protected and appropriately disclosed while 88% indicated that core ethical principles must be established to protect the integrity of the research enterprise. Most respondents (84%) indicated that merit review processes must be conducted with the highest ethical standards; and that training on ethics and integrity must be encouraged while 80% indicated that conflicts of interests and commitments must be disclosed.

Figure 4: *Identifying Ethics Principles Needed for SGCs*



3

GUIDELINES FOR DEVELOPING ETHICS PRINCIPLES AND PROCESSES IN SGCI

The principles presented below are informed by global best practices and outcomes of the survey conducted by this study. Ethical principles provide SGCs with a framework to support informed decision-making behaviour. The following section presents several recommendations that SGCI partners could adopt to effectively apply ethical principles and practices in their institutions or systems.

3.1 Ethics practices and principles

The following eight practices and principles are adopted from the GRC's (2021) "*Discussion paper on ethics*" and anchored is on openness, transparency, merit-based competition, and reciprocity.

3.1.1 Establish norms and cultures

SGCI partners must collaboratively establish norms and cultures that support individual and collective ethical research practice. This includes describing expectations for ethical individual conduct, promoting cultures and norms for ethical conduct within institutions, and contextualising these norms and cultures across all types and facets of scientific research. Policies should: (i) incentivise and promote the adoption of positive norms and cultures; (ii) describe practices that reside outside the boundaries of such norms; and (iii) define procedures for addressing actions inconsistent with them.

3.1.2 Integrity

SGCs should describe the ways in which research integrity is operationalised. In partnership with institutions and researchers, SGCs should describe how honesty, accountability, professional courtesy, fairness, equity, inclusion, and good stewardship are reflected across all aspects of the scientific process, from proposal development to funding and dissemination. While the pace of these operations may shift in the context of rapid-results research as seen with the global COVID-19 pandemic, these facets of integrity must be maintained.

3.1.3 Merit reviews

The GRC's [6] *Statement of principles on peer/merit review* is recommended for establishing the foundation of a merit review process by SGCs. The seven principles are: (i) expert assessment; (ii) transparency; (iii) impartiality; (iv) appropriateness; (v) confidentiality; (vi) integrity and ethical considerations; as well as (vii) gender, equality and diversity. It is further recommended that SGCs establish guidelines that govern merit review processes for rapid-results research programs and consider ways to innovate processes to accelerate review turnaround times, during times of urgent need. As part of the merit review process, applicants should receive substantive feedback on their proposed work irrespective of whether the proposal is funded or not. This promotes transparency and trustworthiness of the merit review process among the key role-players within the research enterprise.

3.1.4 Mitigate Conflicts

SGCs should put in place the mechanisms that require, applying institutions to have: (i) policies that clearly define conflicts of interest and commitment for researchers and professional staff, (ii) disclose information to determine whether potential conflicts of interest exist, (iii) create systems that facilitate the reporting and documentation of such conflicts and (iv) foster a culture that promotes and incentivises the reporting of conflicts across the research lifecycle. For researchers to fulfil their responsibility to disclose, SGCs and institutions must make clear what information should be disclosed and how. Rapid-results research programs can increase the need for multilateral collaboration(s), which in turn can require additional attention to disclosing, understanding, and mitigating potential conflicts. Clarity and consistency on the part of SGCs regarding disclosure requirements for rapid-results programs is therefore essential.

3.1.5 Intellectual Property

SGCs should implement policies that protect the privacy of the proprietary; the personal information and intellectual property (IP) contained in research proposals, review data, and post-award data to prevent inappropriate disclosures of non-public results or research misappropriation. Specific risks related to the disclosures in rapid-results research programs, include, but is not limited to: pressure to disseminate research findings, produce tangible products to address emergent time-sensitive threats, and the need for public-private partnerships. SGCs should therefore develop both general and specific guidelines related to information sharing and the need for robust and ethical peer review processes to ensure public trustworthiness of the SGC.

3.1.6 Collaborations and Partnerships

Successfully responding to the sustainable development goals (SDG 2030) and delivering on the imperatives of Agenda 2063 requires massive, coordinated R&D and funding efforts that transcend borders [7]. It requires new forms of research co-creation on a level playing ground and a universal set of professional ethos and principles so that ultimately no one is left behind. A wide variety of collaborations and partnerships – across institutions, between public and private entities, and across international borders – are critical to advance the frontiers of science as well as address emergent challenges in rapid-response research programs. Such collaboration is essential to the research ecosystem and should be encouraged particularly in rapid-results research contexts that frequently transcend borders. SGCs should therefore facilitate the communication of expectations and standards for such collaborations, along with establishing the boundaries of improper interference in the conduct of sound research. SGCs and researchers should collaborate to guard against pressure that would constitute improper or undue influence from governmental authorities, private entities, or societal groups in all facets of the research process, such as funding studies contingent on a particular outcome or exerting direct influence on the merit review process.

Successes in this regard, can only be sustained when there is a shared sense of integrity and compliance with national and international laws, regulations, and basic moral principles, that are grounded in ethics. Such efforts build integrity and legitimacy when there is a proactive push for including and co-designing solutions with women, minorities and/or marginalised groups. Further, partnerships provide the opportunity for advancing the application of ethical norms on the continent and facilitates an inclusive, equal, and sustainable global society.

That said, ethics must underpin all engagements in the following six key areas [7]:

- Research data: All parties must agree to the principles concerning rights, responsibilities, accountabilities, and data access in the partnership agreement;
- Research contracting: All parties must agree by means of signature, to understanding the contractual obligations linked to managing responsibilities, opportunities and risks that impact the partnership;
- Research costing: All parties must develop a full cost research budget by considering the costs for all parties involved, including indirect costs;
- Negotiation strategies: All engagements and negotiations must advance mutual benefit that embraces the idea of ethics in all its dimensions;

- Technology transfer: All parties must agree on the flow of knowledge, experience, expertise, and materials as well as commit to each party managing their affairs; and
- IP: All parties must agree to the principles relating to managing IP.

Based on this, it is recommended that SGCs develop an ethics framework that governs the international co-operation, collaboration, and partnerships that:

1. Are underpinned on the Declaration of Helsinki [8] and Council of International Organisations of Medical Sciences (CIOMS) guidelines. Although these guidelines are not legally binding globally, they do have moral validity and influence research policy of most international SGCs;
2. Facilitates communication and coordination among funders, research performing institutions and researchers is a valuable way to share information and good practices and guard against improper interference, including governmental;
3. Promotes the exchange of scientific ideas while maintaining boundaries to guard against inappropriate interference and exploitation of research endeavours and outputs; and
4. Advocates for a set of guiding principles by which organisations, laboratories and funders can agree to maintain the impartiality of research endeavours from influence by inside or outside interests.

3.1.7 Mitigate integrity risks

SGCs should establish processes that foster regular, rigorous review of their research integrity efforts and report the outcomes of such processes. In most instances, this could culminate in a need to revise policy and training requirements to address current and future risks to research integrity strategies. Such processes should be established by consulting with the research community through task teams and committees.

3.1.8 Training

SCGs, in collaboration with institutions, must develop standards for training related to the responsible and ethical conduct of research. Training content should address all aspects of the ethical principles. SGCs should promote continual training in and on the importance of ethics and integrity for all SGC staff and affiliates (reviewers, board members, government and others that have a personal stake in managing the SGC) and SGC beneficiaries (those that benefit from SGC funding or activities – universities, researchers, and students). Ethics education is considered part of the human right to education. Training content should be continually updated and revised, where necessary to reflect current needs and issues within the research enterprise and include attention to issues related to rapid response research, that tackles challenges such as the COVID-19 pandemic

The purpose of ethics education is not to simply study ethics for its own sake. Rather, it aims to mobilise this body of knowledge for two purposes:

1. To develop capacities that will enable individuals to identify ethical dimensions of problems and address ethical problems in disciplines as diverse as economics, policy, and medicine, among other; and
2. To develop critical thinking skills, particularly the ability to reflect and deliberate on one's motives, as well as the theoretical and practical consequences of individual and collective human actions.

This may increase individuals' willingness to act in accordance with their moral intentions. Thus, ethics education encourages developing moral motives and the willingness of individuals to act according to their moral reasoning and in accordance with the set of SGC ethics guidelines in decision-making processes. These are summarised in Figure 5 below.

Figure 5: *Core ethical principles and practices*

3.2 Leadership

SGCs in the SGCI must lead by example in the responsible management of research programmes. Ethical leadership promotes employee engagement, increases productivity, and enhances the council's reputation. The mechanisms in place to safeguard the SGC's reputation requires that the council's leadership promote good stewardship and leadership in the research projects funded by the SGC.

Good leadership is key in responsible management of research and ensures that the project is compliant with ethical procedures and considers whether the pledge of ethical behaviour has been implemented. Further, leadership establishes and ensures that the appropriate processes relating to ethical implementation and oversight have been observed during the process. The role of good leadership in the ethical research process includes, but is not limited to, protecting staff, participants, and relevant communities throughout the project. The leadership structure can include the researcher or principal investigator (PI), project managers, university leadership, members of the research committee and country representatives (regional directors and heads of divisions) in the research office.

3.3 Transparency

SGCs should, within the scope of their mandate, publish policies and procedures that promote research integrity and address allegations of research misconduct. Improving the transparency and quality of reporting in research is considered ethically important; and for the SGC this is largely based on facilitating robust peer review processes. Surprisingly, there has been little explicit discussion regarding the ethical obligations that underpin reporting guidelines. Poor reporting by researchers to SGCs lead to audit findings that impact the credibility and integrity of the council, who need to report to government and treasury on the impact of their investment in research grants.

The onus is placed on researchers being honest in their reporting, with evidence provided in the form of complete and accurate data on outputs and deliverables achieved [9]. Also, the principles of fairness and reciprocity require researchers to contribute to the accumulating pool of ethical and responsible scientific knowledge [10]. The SGCI should therefore promote mechanisms such as DGMS to support improved reporting from researchers, which increases the potential for appropriate review and evaluation of research programmes by SGC. This then allows researchers to meet their reporting and ethical obligations by usefully contributing to the collective knowledge upon which they draw.

3.4 SGC Ethics Unit

SGCs should consider establishing an Ethics Unit in its governance department. Such a unit reflects the SGC's commitment to conducting its administration and activities to the highest ethical, moral, and legal standards. The ethics unit would also support open communication for SGC staff, beneficiaries, and affiliates to raise concerns and report any potential misconduct, violations of policies and applicable laws, in an anonymous manner. The unit could further establish protocols, standards, and procedures to ensure that all complaints and reports are addressed timeously and thoroughly with the highest standards of confidentiality, objectivity, and fairness in line with the SGC policies and national laws and regulations.

3.5 Strategic funding instruments

SGCs should design and implement funding programmes that promote understanding of ethical norms or promote increased representation of disadvantaged communities in the research and innovation (R&I) ecosystem. For instance, the SGCs could establish programmes that address issues such as:

I. gender;
II. inclusion of minority groups;
III. ethical considerations; and
IV. research misconduct.

The rationale for the SGC investing in strategic funding instruments is that the SGC positions itself to: (i) address key societal challenges in terms of gender and minority groups; also, while (ii) adopting a consultative approach to refining its ethical framework by requesting researchers to undertake research on ethical and research misconduct themes.

3.6 Adopt digital grant management systems

Adopting a DGMS across SGCs presents both opportunities and challenges regarding effectively streamlining ethics practices across the grants lifecycle. SGCs are increasingly expected to consider ethical obligations, social responsibilities, and organisational values as a guiding framework when adopting the digital system. SGCs could also consider the following:

- Integrate the SGC ethics, code of conduct and CoI policies into the SGC's strategy.
- Transform business processes using the DGMS – these must comply with ethical codes and practices.
- Train staff on best practices that integrate the principles of fairness, ethics, and safety across the grants lifecycle (this includes confidentiality and password security).
- Build a culture of responsibility for staff to ensure accurate data is inputted into the system and information is always protected.
- Protect personal information as a non-negotiable aspect of SGC staff job descriptions. This relates to safeguarding the identity of researchers, protection of their personal information and their research endeavours.

3.7 Ethical conduct through open science

Open Science (OS) is scientific practice in which research data and processes are made freely available in a way that enables others to collaborate and contribute, reuse, redistribute and reproduce the research and its underlying data and methods. OS presents an opportunity for the SGCI partner countries to maximise the benefits of its investments through the adoption of impact accelerating OS practices. The global vision for OS is to enable scientific information, data, and outputs to be more widely accessible in a way that enables all stakeholders to actively contribute to and benefit from, scientific discourse and endeavours. South Africa's National Research Foundation (NRF) has aligned its mandate, with the following OS elements that are to be prioritised by the organisation in the next five (5) years spanning 2022 -to 2026. Also, at a regional level the SGCI is a key stakeholder in the Africa OS Platform (AOSP[1]), which aims to position African scientists at the cutting edge of data intensive science by stimulating interactivity and creating opportunity through the development of efficiencies of scale, building critical mass through shared capacities and amplifying impact through a commonality of purpose and voice. The recommendation proposed is that SGCs ensure that institutional and national policies align to the concepts of:

I. Findability, accessibility, interoperability, and reusability (FAIR) of data users and publishers; and
II. Inclusivity by promoting an integrated approach to infrastructure, human capital development and resources needed by SGCI partner countries to advance OS practices on the continent.

[1] https://aosp.org.za/

4

ETHICS AND TECHNOLOGY

The rapid advancement and adoption of technology within the research ecosystem and the SGC, presents new ethical challenges and opportunities. For instance, while digitisation is expanding our access to knowledge and information; it can limit access to opportunities of researchers who are based at locations with poor, limited or no digital infrastructure. The section below presents some ethical considerations that could be taken into account when adopting technological processes.

SGCs and professionals should develop explicit internal policies, procedures, guidelines, and best practices specifically adapted to their own activities and challenges in using technology to implement ethical practices. However, those specific codes of practice can be shaped by reflecting on broad norms and guidelines for ethical practice and these norms can include but are not limited to:

4.1 Human dynamics

For SGCs, emerging technologies, offer opportunities to enhance services to stakeholders. While artificial intelligence can expand our access to knowledge; it has been known to proliferate bias. The Internet of Things brings convenience to our everyday lives but raises issues around privacy. SGCs must be at the forefront of:

- supporting innovation while setting standards for use;
- protecting IP and the identity of its citizens;
- promoting positive outcomes; and
- realising the benefits of emerging technologies.

The SGC has a key role to play in terms of developing policies such as data management policies that protects privacy and considers social, ethics and moral consequences in a manner that manages accountability; and promotes the ethical use of technology and data.

4.2 Downstream risks

Often, there is a focus on compliance with ethical guidelines, forgetting that ethical issues also extends to the use of technology. It is essential for SGC to also plan for the disposal of devices, software, hardware, and/or data during the digital afterlife phase. This would include security and privacy violations of information that is sensitive to the SGC. SGCs need to consider how technologies can be used to ethically communicate to all key stakeholders downstream, upstream, and laterally to minimise risks.

4.3 Non-technical actors, interests, and expectations

Technical experts are highly skilled in specific areas of technical practice and accustomed to interacting with others with similar levels of technical expertise. This can lead to an insular mindset when it comes to considering the interests of ethics that extends beyond their realm of expertise. SGCI should encourage a holistic approach when training and supporting technical experts especially in the development and usage of the DGMS.

4.4 User expectations and reality

When developing digital systems, it is important to consider the diverse stakeholders' expectations of a particular system. For example, do users know enough about the systems' risks? Might certain disclosures and notifications lead to inflated expectations about the security measures in place to safeguard and protect data? Can all the promises made to SGC beneficiaries be upheld?

Therefore, it is important that service providers are cognisant of the diverse expectations from SGC stakeholders and abide by the ethical code of conduct of the SGC. This is enforced by the service provider signing the terms of references linked to contractual agreements with the SGC. Third party service providers must adhere to the expectations of the SGC in developing and deploying such DGMS.

4.5 Interests, resources, and impacts

Technological practices carry a profound risk of producing or magnifying disparate impacts, i.e., of making some people better off and others worse (whether in terms of their social share of economic well-being, political power, health, justice or other important criteria). An SGC should consider ecosystem readiness when deploying the DGMS, for example is there adequate resources, bandwidth and connectivity to all universities that are beneficiaries to an SGC? If the answer is no, then there are ethical risks linked to disparate impacts which must be anticipated, actively audited for and examined for their ethical acceptability by SGCs.

4.6 Privacy, security, and data protection

Protecting privacy in the digital age is essential to effective and good democratic governance. However, there remains a lack of legal and institutional frameworks, processes, and infrastructure to support the protection of data and privacy rights. Simultaneously, the increasing volume and use of personal data, together with emergent technologies enabling new ways of processing and using it, mean that regulating an effective data protection framework is more important than ever for SGCs. The essential element is that the values of privacy and security should remain at the forefront of the design, planning, executing and oversight of a DGMS. It must not be treated as marginal, external or 'after-the-fact' concerns. SGCs should actively play a role in developing and consulting on policies relating to data management and protection, in order to put in place much needed controls, checks and balances for promoting inclusivity, openness and transparency across for the entire national research enterprise.

4.7 Stakeholder engagement

One sure way to avoid the concept of 'groupthink' manifesting itself in the SGC context and in assessing and designing ethical risk – it is important to invite inputs from diverse stakeholders outside the SGC. It is important that stakeholder input not simply reflect the same perspectives of the SGC. Representing the population in terms of gender, race, ethnicity, age, disability, and other characteristics must be considered and included in the planning of consultative engagements. Fostering more diverse task teams can mitigate those limitations. Also, soliciting external input from a more representative body of those likely to be impacted by the SGC systems and practices is important.

A summary of the ethical principles informing the data management lifecycle is presented in Figure 6 below.

Figure 6: Summary of ethical principles informing the data management lifecycle [2]

[2] *https://ethicalboardroom.com/information-governance-achieving-data-ethics-privacy-and-trust/*

5

CODE OF ETHICS

A code of ethics underpins the integrity of the SGC. It articulates the way SGC staff and those affiliated with the SGCI (researcher, government, board member, agent or any other SGC affiliate) safeguards the council's:

I. resources, information, systems, and processes; and
II. conducts themselves with the highest level of professional behaviour.

A zero-tolerance approach to fraud and nepotism must be considered and adopted at the earliest. A breach of a code of conduct policy may result on disciplinary action, up to and including dismissal. Adopting such a policy and consequent management practice not only builds trust with funders, government, and the public, but also shapes the SGC's reputation in line with values such as integrity, accountability, and honesty. Such provisions are described in detail in this section and summarised in Figure 7.

5.1 Conflicts of Interest

A study by Beauchamp ([11] revealed that there have been heated controversies related to the funding of research. One of the biggest factors contributing to the controversy relates to the issue of CoI. This is defined as a conflict between the private interests of an individual and the official responsibilities of a person in a position of trust, in this case the SGC. Hence the conflict can relate issues such as financial, fiduciary, personal or other interests. In most instances where a conflict manifests, it relates to the interests of close or direct family members (spouses, children, and extended family); or interests in external organisations, businesses, practices or firms being favoured for support by the individual in a decision-making role (staff, researcher, government, board member, agent, or affiliate of the SGC). Conflicts can assume the form of:

I. direct or indirect financial interests;
II. non-financial or personal interests; and
III. competing loyalties between an organisation they owe a primary duty to and/or some other person or entity.

Reporting, recording, and managing potential conflicts effectively protects staff and the organisation and aids in building public and funder trust and confidence [12].

To safeguard against such conflicts, it is in the best interest of the SGC to ensure its reputation and economic management practices are protected by a CoI policy. Not only does the policy promote good governance, but also supports integrity and objectivity in the economic management and business processes of the SGC.

> According to the OECD, a CoI arises, "when a public official has private-capacity interests which could improperly influence the performance of their official duties and responsibilities". [13].

This implies that all staff; board members; reviewers; and other contracted parties must sign a declaration before the date of their appointment.

This includes disclosing any business, commercial or commercial interests undertaken for significant financial gain that may raise a conflict with government, sponsors, entities, universities and other key stakeholders. SGC executive and senior management are accountable in ensuring that every individual linked to the council adhere to these principles. This includes ensuring that all applying researchers or PIs adhere to these practices in the

development of research protocols. Also, the research contract, or grant agreement may require a new disclosure form and may require disclosure by all study participants, whether these are staff or not.

Funding agencies such as the [12] defines a CoI as: *the set of circumstances that create a risk that an individual's ability to apply judgement or act in one role is, or could be, impaired or influenced by a secondary interest*. Another funding agency, the, US National Institutes of Health (NIH) has developed free online tutorials for training of financial CoI[3] . Refer to Annex 2 for a template of a confidentiality and CoI agreement.

5.2 Confidentiality

The research applications that are submitted to an SGC, tend to be marked as: "In Confidence" or "Confidential" by SGC personnel or staff. This is intended to safeguard the content in a research application and ensure that the content is not made known more widely than is necessary for proper evaluations to transpire. Also, all documentation that is either downloaded or printed must be deleted or shredded once it has served its purpose. For SGC personnel, research proposals must be stored in a safe and secure online data warehouse or on the DGMS, which is accessible to staff only. Therefore, all employees have a duty to protect official information held in confidence and not to divulge it to unauthorised persons, inside or outside the council. Reviewers and panel members are required to disclose conflicts of interest that are either personal or institutional ahead of reviewing a research application. Finally, the identity of reviewers in turn need to be kept anonymous – the only exception being the case where a face-to-face review is undertaken for the panel to interview the researcher or PI [12].

Refer to Annex 2 for a template of a confidentiality and CoI agreement.

5.3 Professionalism

SGCs are publicly funded organisations dedicated to funding R&I activities that focus on scientific excellence with impact. Therefore, there is a need to ensure that the best interests of the public are served. Personnel or staff, as well as those affiliated with the SGC, are expected to conduct themselves in a manner that adheres to the highest standards of professional and ethical practices. This warrants the development and implementation of a code of conduct policy for the SGC. Therefore, personnel and staff are required to act in accordance with the code of conduct policy and work with integrity, objectivity, and honesty. Professional conduct must extend to include staff and those affiliated with the SGC, with the aim of treating all stakeholders, both internal and external with fairness and equity in compliance with equality, inclusion, diversity, and equity [14]. Disruptive, discriminatory, unethical, or illegal conduct as well as allegations of such conduct must be investigated thoroughly and addressed appropriately in line with relevant policies and national laws, such as the labour law. This includes the unacceptable usage of computers and the unauthorised passing of privileged or confidential information to third parties, including media.

5.4 Mitigating potential CoIs - disclosures

If there is a breach of ethical practices, or if conflicts arise, these must be recognised and controlled by the SGC in a timely manner, or else these can undermine the integrity of officials, decisions, agencies and government [13]. To resolve a specific conflict, it is necessary to establish relevant facts, apply the relevant law and policy and distinguish between "actual", "apparent' "real" and "potential" conflict situations. This requires committees to be constituted with a panel of experts that investigates such matters.

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[3] *https://nexus.od.nih.gov/all/2018/12/03/new-financial-conflict-of-interest-training-module-available/*

A disclosure process entails that the SGC establish an annual disclosure process with the stipulation that employees must disclose and interests within 30 days. This process can be managed through the human resources department for staff and automated using the DGMS for reviewers, SGC beneficiaries and affiliates. Disclosing outside interests entails completing a form that has been approved by the governance office. The general template includes the SGC staff or those affiliated with the SGC to specify their full names, details, identity numbers (or passport numbers) and contact information. Also, the forms will require the individual to:

> The Indian Council of Medical Research recommends that eligible institutes set up a committee to monitor the sources of sponsorship and funding [15].

I. define the type of conflict (financial or other); and
II. specify details of any relationship(s) that apply.

After completing the form, the disclosure is reviewed by a committee within the governance office that then assesses the merit of the disclosure in terms of the size, nature, and duration of the relationships, among other factors. A vast majority of disclosures are "negative disclosures" where the relationship does not constitute a CoI. In instances where there is a "positive disclosure", then the committee will define the terms for how to manage the disclosure(s). These may include:

I. reducing or eliminating the relationship;
II. changing the role of the individual; or
III. recusing the individual from the entire process, especially in the decision-making process.

Hence, it is important and should be made mandatory that every eligible research institute should have a code of ethics which will define the broad principles of responsible and accountable research practice. In addition, the responsibilities of institutions and researchers must be clearly defined in areas such as data and record management, publication of findings, authorship, CoI, supervision of students and training research trainees and using funds.

A concern lies with the ethical issues that arise in the science community. Although the guidelines apply specifically to research projects funded by SGCs, the researcher will eventually have to show that they have met the requirements set out in the framework to receive funding. In worst case scenarios, conflicts of interest that cannot be managed, will result in the termination of a research project. In all areas of scientific study, it is recognised that the SGC, have the potential to influence the way that funded research is conducted and findings presented.

Hence a succinct approach to mitigating any conflicts:

- **For SGC:**
  - Develop a code of conduct, CoI and ethics policies with defined steps for disclosures, disputes, and breaches.
  - Staff and those affiliated to the SGC who do not abide by the terms and conditions specified in the set of policies will be subjected to an inquiry and/or investigation. Potential outcomes from such a process may result in dismissal.
  - Review all annual reports from researchers to ensure compliance. Failure of researchers, universities, SGC beneficiaries and affiliates, to adhere to the highest ethical standards, will constitute a breach, which will result in the current grants being cancelled and all future grants being suspended, until the SGC is satisfied that adequate remedial actions have been taken.
- **For researchers:**
  - Adhere to the university's or research performing institution's code of conduct, CoI and ethics policies. This should form part of the terms and conditions of the grant award, as stipulated in the Conditions of Grant.

- Compliance monitoring and reporting where researchers attach evidence to their online grant reports to the SGC, must also demonstrate efforts to ensure the protection of IP, accuracy, and ethical considerations. This must be signed off by the responsible authority at the university.
- Failure to adhere to the terms and conditions of the said policies will result in reputational damage to both the researcher and the university or research performing institution; and an inquiry and/or investigation, with the potential outcome of dismissal for the researcher.

5.5 Privacy

Within the SGC, protecting the privacy of the proprietary, personal information and IP contained in research proposals, review data and post-award data is crucial for the prevention of inappropriate disclosures . Research Ethics Committees (REC) could provide oversight on the implementation policies for reporting and investigating such inappropriate disclosure(s), including appropriate sanctions for individuals found to have violated such policies.

Personal information collected during research must be considered confidential and protected accordingly. For this reason, the data should be stripped of identifiers, as much as possible and as soon as possible. The applicants must justify the nature and degree of identifiability and the corresponding protective measures to the REC. If identifiable data are to be used, the participants must be informed about the extent of identifiability and who will have access to identifiers and provide consent to the use of their identifiable data. If the researcher plans to use unlinked anonymised data, the method of anonymisation should be approved by a competent institution and the information presented to the REC. Participants must be informed how their data is anonymised; they should understand that the process of anonymising data involves stripping the data of all identifiers meaning that being identified in future is no longer possible. Since it would be impossible for them to be told about any research-related results pertaining to an individual that might have a bearing on their health, participants should be asked whether they agree to the unlinked anonymisation proposed.

CASE STUDY: The IDRC regulates how personal information is managed and protected. The agency controls the collection, usage, storage, disclosure, and disposal of personal information in line with the Canadian Privacy Act [16].

Figure 7: Summary of the principles of code of ethics

6

GOVERNANCE AND MANAGEMENT

Governance structures delineate power between the governing or managing roles of an organisation. While the board is accountable for oversight of the governance process, management is responsible for implementing the policies and procedures through which governance occurs within the SGC. The governance structures define:

I. the set of policies, rules, and procedures; and
II. provides support and enforcement for these.

Such policy frameworks are shaped by the goals, strategic mandates, financial incentives and established power structures and processes of the SGC. The governance structure is important for the success of the SGC meeting its goals and ensuring that compliance with the highest ethical standards.

6.1 Governance

It is critical that ethical considerations are embedded from the top to the bottom of the SGC. Thus, every level of the council's organogram from the board to the cleaner, needs to strictly adhere to the ethical code of conduct. The theoretical explanation and integration of codes of ethics, ethics management systems and other organisational measures for the implementation of moral claims in organisational contexts requires a conceptual distinction between the moral values of an individual, the values of an individual person in each function or role (management ethics) and the moral values of an organisation (governance ethics). Governance structures differ about their efficient execution of a given process. Since structures usually consist of formal and informal codes of practice, moral ambitions, and values, can without too much difficulty, be interpreted as elements of the governance of research ethics. It is recommended that a decentralised, yet well linked approach is used to support ethical processes at national level. For instance, research funders and relevant government ministries set high level policies while universities and research performing institutions implement and monitor the different ethical committees.

6.2 Management

Knowing what constitutes ethical research is important for all people who apply for funding, manage research projects, or use and apply the results from research findings. All researchers should be familiar with the basic ethical principles and have up-to-date knowledge about policies and procedures designed to ensure the safety of research subjects and to prevent sloppy or irresponsible research. Ignorance of policies designed to protect research subjects is not considered a viable excuse for ethically questionable projects. Therefore, the duty lies with the researcher to seek out and fully understand the policies and theories designed to guarantee upstanding research practices. All parts of a research project – from the project design to submission of the results for peer review – must adhere to ethical principles. When one part of a research project is questionable or conducted unethically, the integrity of the entire project is called into question. The role of university or research performing institution leadership is critical in the support and guidance of researchers in adhering to the principles of ethical research. The consequences of reputational damage can be dire for not only the researcher, but also the university or research performing institution and the SGC, as the funder.

6.3 Ethics committees

6.3.1 Role of Research Ethics

RECs can be described as multidisciplinary, independent groups of individuals appointed to consider ethical issues in research. RECs were initially instituted to deal with pressing ethical issues related to biomedical and behavioural research involving human research subjects. Today there are RECs assessing a wider range of ethical issues. Also, ethical assessment by RECs covers research and experimentation on animals, the assessment of the environmental and social impact of research and scientific and professional integrity.

RECs review proposed studies with human participants to ensure that they conform to internationally and locally accepted ethical guidelines, monitor studies once they have begun and, where relevant, take part in follow-up action and surveillance after the end of the research.

Committees have the authority to approve, reject, or stop studies or require modifications to research protocols. Also, they may perform other functions, such as setting policies or offering opinions on ongoing ethical issues in research. Oftentimes, research performing entities such as universities establish RECs to support good governance practices across the entity. Hence the main responsibility of a REC is to protect potential participants in the research, but also it must consider potential risks and benefits for the community in which the research will be carried out. Its goal is to promote the high ethical standards in research for health.

The oldest committee in Africa, was from South Africa, which was established in 1967. The REC of the Medical Research Council of Zimbabwe was formed in 1974 but had intermittent functioning until 1992, when it became more formally established. Two RECs began in the 1980s; eight were started within the last five years, including two from Kenya and Democratic Republic of the Congo.

Annex 3 provides a guideline for REC to be established within the SGC context.

6.3.2 Appointment of REC members

The appointment mechanism should ensure that potential REC members provide an appropriate balance of scientific expertise, philosophical, legal or ethical backgrounds and lay views. All REC members, whether professional or lay members, should have an equal standing. This may pose a special challenge in societies with a long tradition of strong respect for authority or social hierarchy. It is accepted that professional members of RECs include civil society representatives, scientists, health care professionals, lawyers, and persons with specific expertise in ethics. REC members should have a basic understanding of the importance of research and how it can benefit human health and welfare. They should be able to understand the principles of research and research methods, the research context, and the practicalities of carrying out research. They must be able to make their own independent judgements when considering the ethical issues involved in the research proposals placed before them.

Thus, RECs should be multidisciplinary and reflect an appropriate range of professional and lay views; also, they should consider gender balance. Depending on specific projects under review, there should be a satisfactory mechanism for seeking additional advice which may include inviting external experts. In gaining and sustaining recognition of their moral authority, the composition of RECs' should reflect the prevailing cultural tradition. They should be able to demonstrate their impartiality, transparency, good will and ability to foster and use dialogue when communicating with other parties.

The process of setting up REC involves the following.

I. SECURE LEADERSHIP BUY-IN - Appoint a Chair who will take responsibility for demonstrating to leadership, other staff, and key community stakeholders the value of establishing a systematic, deliberate approach to addressing ethical issues as part of the decision-making process. The ethics champion could be a leadership level staff member and/or the department director.
II. APPOINT A SECRETARIAT- A committee secretariat should be made available to the REC on a full or part time basis, backed by appropriate administrative support.
III. CHOOSE COMMITTEE MEMBERS - The exact size and composition of your ethics committee may depend on your agency's size, the array of interests represented in your community, or the nature of the issue being addressed. The committee may include members who rotate in and out depending on the issue but should include some core standing members to ensure continuity.
IV. TRAIN COMMITTEE MEMBERS - It is essential that committee members have a good foundational understanding of ethics. To ensure this level of understanding, in addition to the other background materials, the secretariat with the assistance of the Chairperson should identify one or two other training opportunities for committee members to obtain in-depth exposure to the ethical decision-making process.
V. IDENTIFY GUIDING PRINCIPLES – Once the members have been identified, the Chair, secretariat and the committee members should identify guiding principles and an ethics analysis framework to inform the committee's deliberations. Ethical analysis frameworks provide a process for identifying, analysing and resolving ethical and values dilemmas.
VI. DEVELOP COMMITTEE CHARTER – The committee charter describes the purpose, processes and committee structure. The document should explain the rationale for the committee and highlight the key components of the deliberative process. Adhering to a charter will assure quality and consistency for the committee.
VII. ESTABLISH COMMITTEE PROCESSES - Given the level of trust and responsibility granted to the committee, it is important to set up a clear, consistent process that the committee will follow for each case. The process should encompass all aspects of the decision-making mechanism from the submission of a specific ethics dilemma for review to the transparent documentation of the committee's review and recommendations.
VIII. PILOT PROCESS AND DELIBERATE - Once all policies, procedures and paperwork for the REC is completed, the best way to test the effectiveness of the committee is to start deliberating cases and define a process for refining the methodologies employed by the REC.

6.3.3 Accrediting RECs

Accreditation for REC is a process in which the REC is assessed if it meets the set of requirements or standards put by a country's national human rights commission to improve the quality of the review process of research that involves human subjects. These standards are optimal and achievable. Accreditation provides a continuous visible commitment to improve its quality and to define the gaps it has so that it becomes able to seek help to bridge them. Indeed, accreditation is globally acknowledged as an effective quality evaluation and management tool. Only accredited committees would have their ethical clearances accepted by institutional councils. Researchers who deviate have their proposals reviewed by other committees that are not accredited, will need to re-submit their work to obtain the national clearance from an accredited REC. The World Health Organization (WHO) and other funders should be notified formally with a regularly updated list of accredited research ethics committees within their countries and regions [8]. This is a role that SGCs can fulfil by compiling and managing a database of RECs within the country and assess its state of compliance with national and international ethical guidelines.

7

MONITORING, EVALUATING, AND REPORTING

Ethical dilemmas are inherent to evaluation. During evaluations, particularly when in the field, complex judgements may need to be made instantaneously, in unique and dynamic circumstances. It is essential that principles of ethics be provided to support the decision-making of SGCs around what broadly constitutes "right" behaviour at every step of the monitoring and evaluation cycle. Systematic and on-going ethical thinking will ensure regular reflection, questioning of assumptions and behaviours as well as enabling appropriate adaptation and response to emerging situations and crises. This will better enable all those involved in evaluation to hold themselves and others accountable for expected standards of behaviour and to deliver ethical evaluation in the ever changing and complex contexts.

7.1 Assessing ethics risk

Risk management is the process of planning, organising, directing, and controlling resources and operations to achieve set aims and objectives, despite the uncertainty of events. Effective risk management enables an organisation to manage the probability of any unforeseen events that may arise and to limit the effect of the consequences, along with responding proactively to opportunities. For SGCs, the recommendation is to focus on three approaches:

I. clarifying the value dependence of risk assessments;
II. analysing risks and risk decisions from an ethical point of view; and
III. developing moral theory so that it can deal with issues of risk.

Any assessment of risks requires a decision of what level of risk is acceptable. This is a significant ethical issue. Risks that are regarded as being too insignificant are called *de minimis* risks. This can be regarded as a 'limit of concern' or a threshold that decides whether potential risks should influence judgment. It is important to recognise that the level of acceptable risk is not based solely on scientific evidence and will reflect political, social, and ethical beliefs about risk. There are important moral differences between risk taking (where someone voluntarily chooses to take a risk) and risk exposure (where others are placed at greater risk of harm through another's actions).

SGCs, must be able to distinguish between the various aspects of risk, which are summarised as follows:

- Intentional risk exposure: Intentional or deliberate risk exposure to oneself or others.
- Unintentional risk exposure: Unintentional or unplanned risk exposure to oneself or others. This may be due to ignorance of the risks involved with an act or imperfect knowledge of additional factors that affect the risks.
- Voluntary risk-taking: One is aware of and accepts the risks associated and continues to pursue the set of actions.
- Accepted imposed risks: One is aware of and accepts the risks and impact associated with a set of actions performed by another.
- Unaccepted imposed risks: One does not accept the risks and impact associated with a set of actions performed by another.

The RECs and risk assessment tools and methods themselves are developed by research performing entities such as universities, research performing institutes and private companies. There are standardisation bodies such as ISO, CEN, CENELEG and API, to name a few, which facilitate standards on risk, risk assessment and safety. Also, safety has encouraged voluntary actions and different associations work for safety on national and international levels. Some examples of international frameworks and protocols concerning risk, risk assessment and risk management include:

- Various EU and Federal Government Directives;
- Precautionary principle;
- Responsible research and innovation policies and guidelines (refer to Annex 4);
- Corporate social responsibility (CSR);
- Research ideas and outcomes declaration; and
- Responsible Care.

7.2 Indicators to monitor ethics compliance

Every day, business leaders in organisations and government around the world dedicate themselves to ensuring that their organisations and companies operate with a high standard of integrity. There are many regulatory and enforcement expectations to help them get started and in their early days many ethics and compliance programs reflected those standards. But few, if any, frameworks exist to help guide ethics and compliance professionals as programs persist and hopefully matures over time. It must be born in mind that indicators used to monitor ethics practices must reflect an organisation's culture, industry, and context in which it operates.

There are four interrelated principles that can used to align and monitor ethics practices among SGCs, and are based on [17].

- Principle 1: Ethics and Compliance of the strategy - is found as a function on all organisational charts but is not considered an essential element within SGC operations and exists as a resource to help leaders across the council understand the SGC's standard for integrity. There is no identified resource and advocate to help leaders across the organisation understand their critical role in setting the standard for integrity. If a code of conduct exists, it is rules based.
- Principle 2: Managing Risk - Targeted risk management training is provided based on perceived SGC risks but is not always targeted to an individual employee's exposure to a specific ethics and compliance risk. Risk assessment and mitigation plans include quantitative and qualitative measures and are assigned proper ownership within the SGC. Guidance and support for handling key risks are provided to employees according to their role. The SGC may solicit rigorous third-party due diligence processes that screen for integrity.
- Principle 3: Culture - Policies exist but tend to be rather abstract and unclear; whilst code of conduct guidelines are perceived as rules or compliance-based procedures that are not translated for the SGC context. Ethics and compliance training is therefore a critical enabler for "living the values". Formal processes also need to be established that allows employees or individuals (either internal or external to the SGC) to anonymously raise and resolve concerns or suspected wrongdoings without fear of victimisation.
- Principle 4: Speaking Up – the SGC protects and values the reporting of concerns and suspected wrongdoing. A supportive "speak-up" or "whistleblowing" culture and environment that encourages employees to proactively ask questions and raise concerns must be well defined or understood. Unfortunately, in most SGCs this is largely lacking. Limited resources and controls that ensure matters are resolved timely and effectively and that employees who raise concerns are treated fairly and consistently across the SGC need to be strengthened.
- Principle 5: Taking Action – the SGC can demonstrate accountability through fast and responsible action, when a concern of suspected wrongdoing has been reported. Investigation of alleged misdeeds should be thorough, fair, and appropriate, regardless of who violated the ethics and compliance standards. In such instances, the SGC should use the incident as a learning opportunity for employees.

7.3 Reporting and investigating allegations of research misconduct

Reporting misconduct can be stressful for the individual preparing the report and hence specific guidelines and processes must be defined in the set of ethics policies. Also, providing individuals (staff, beneficiaries or affiliates) with the correct channels to report misconduct creates a safe environment for individuals to cooperate with audits and investigations without fear of victimisation. Presented in this section are several case studies and recommended processes for reporting and investigating allegations of misconduct.

7.3.1 Case studies

The research community and the community at large expect intellectual honesty in the formulation, conduct and reporting of scientific research. Allegations of research misconduct are taken seriously across the national and international research communities. The process of reviewing allegations must be balanced by equal concern for protecting the integrity of the research as well as the careers and reputations of the researchers and their institutions of employment. This section of the document provides guidance for the SGC in the handling of allegations of research misconduct. The information presented in this section refers to the policies and guidelines from the Research Council UK[4] (RCUK) and the Medical Research Council (MRC)'s[5] for managing allegations of research misconduct.

Unacceptable conduct includes but not limited to falsification, fabrication, and plagiarism (FFP), misrepresentation, mismanagement, or inadequate preservation of data and/or primary materials and breach of duty of care. The guidelines below frame how SGCs can implement research misconduct procedures, which involves four defined stages, which is summarised in Table 1 and Figure 8 below.

- Stage 1: Preliminary action – to determine whether the allegation falls within the definition and scope of research misconduct.
- Stage 2: Screening – to determine whether the allegation warrants a formal investigation. The purpose of the screening is to determine whether there is prima facie evidence of research misconduct by gathering information and determining whether an allegation or apparent instance of misconduct warrants a formal investigation.
- Stage 3: Formal investigation – to examine and evaluate all the relevant facts to determine whether misconduct has been committed and if so, the responsible person and the seriousness of the misconduct.
- Stage 4: Appeal - against the decision and/or sanctions resulting from the completion of the investigation into the misconduct. Appeals will normally be heard by a more senior manager than the person who chaired the initial committee and made the original decision.

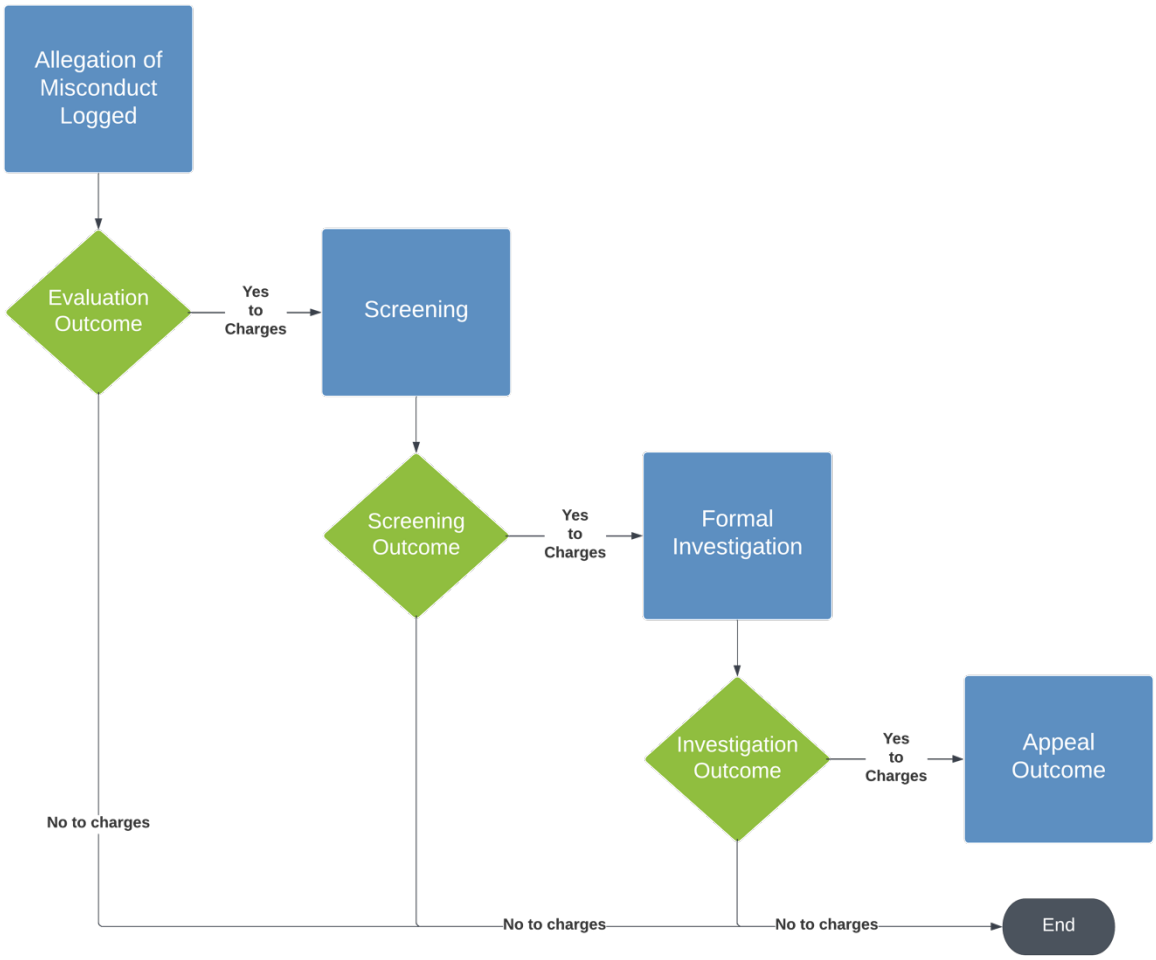
[4] *https://www.ukri.org/wp-content/uploads/2020/10/UKRI-020920-RCUKPolicyGuidelinesGovernanceOfGoodResearchConductFAQsJAN18.pdf*
[5] *https://www.samrc.ac.za/research/ethics/rmpolicy*

Table 1: *Summary of stages involved in managing an allegation of research misconduct*

Stage 1: Preliminary Action	An allegation of misconduct in research is received by the responsible person(s)	
	↓	
	The responsible person(s) will inform the respondent of the details of the allegation and allow them five working days to respond.	
	↓	
	The responsible person(s) decides whether Screening (Stage 2) is warranted	
Stage 2: Screening	↓	↓
	If yes, the Director will notify the respondent in writing.	If no, the Director will record their justification for that decision and inform the Complainant and Respondent of this decision.
	↓	
	A Screening Committee is appointed to determine whether there is prima facie evidence of misconduct in research, sufficient to warrant an investigation. The Committee will send a report and recommendations to the responsible person(s), Complainant and Respondent.	
	↓	
	The Complainant and Respondent will be informed in writing of the outcome of Screening process within five working days of the responsible person(s) making their decision.	
	↓	
	If the responsible person(s) accepts a recommendation that that the procedure should progress to a Formal Investigation (Stage 3), an Investigation Committee will be set up.	
Stage 3: Formal Investigation	↓	
	The responsible person(s) will notify the respondent in writing of the formal investigation. The Director will appoint an Investigation Committee to examine all the documentation (including the Screening Report); the Committee will interview the Respondent.	
	↓	
	The Investigating Committee will appoint a chair to facilitate the discussions and produce a Report and submit it to the responsible person(s). The Respondent has an opportunity to comment on the Report.	
	↓	
	The responsible person(s) will decide whether to dismiss the allegations or to set up a Panel to consider the allegations and decide on any appropriate sanctions. The Respondent will be invited to attend the Panel hearing.	
	↓	

Stage 4: Appeals	The Respondent may appeal against these sanctions or administrative actions within five working days of receiving the notification of the outcome of the investigation.
	↓
	The responsible person(s) will appoint an Appeal Panel who will examine the documentation called into question by the Respondent. Also, the Respondent will be invited to attend a meeting to give oral evidence and may submit any relevant additional supplementary material in support of their appeal.
	↓
	The responsible person(s) will decide whether to endorse, amend or overturn the conclusions of the investigation and the resultant sanctions. This decision is final and there is no further right of appeal.

Figure 8: Summary of the proposed workflow for managing allegations of research misconduct



8

CONCLUSION

The SGCI is well positioned to foster the advancement and application of good principles and practices on ethics. SGCs serve a much larger ethical obligation role across the sector and society at large. The future success of SGCs depends on how they are perceived in terms of their adherence to ethical practices, by those outside the sector, which includes government leaders, corporate leaders, the media, and citizens as well as the international community. To increase development and adoption of ethical principles, SGC could, among other recommendations presented in this framework:

I. Establish a solid foundation of ethical policies, that implements training initiatives, manages research misconduct, and defines a system to discipline violators.
II. Adopt a "values focus" that is embedded in a "living the values" framework. Thus, each SGC staff member is held accountable in their performance reviews for "living the values" of the SGC. Thus, all marketing material, communication strategy on media platforms (including social media) embraces the values proposition of the SGC.
III. Build a culture of integrity from top down: which means that all employees at all levels are committed to doing what is right and upholding ethical values and standards. *Leaders must walk the talk* and promote a strong ethics culture by talking about the importance of ethics, have an open communication with staff, uphold promises and commitments as well as acknowledge and reward ethical conduct; whilst also holding violators accountable.
IV. Consider ways to share information with one another to support accelerated application and implementation of ethics practices.
V. Enhance training on ethics within the sector.

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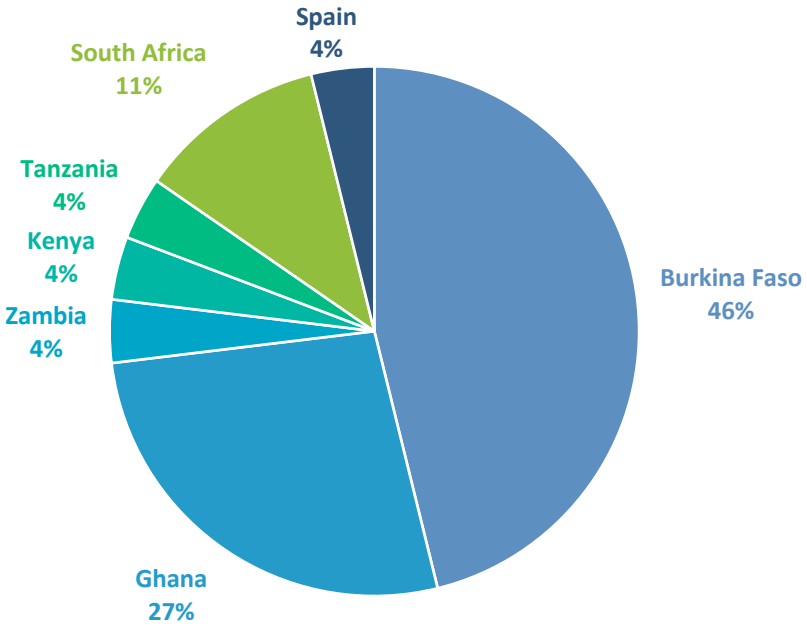
ANNEX 1: SURVEY DEMOGRAPHICS

The survey was developed using Google Forms and was opened for a month, spanning 7 April to 10 May 2022. The survey was translated in French by the AAU for French speaking participants on the continent. The survey was circulated to key SGCI stakeholders including a select sample of active SGCI participating institutions in southern, eastern and western Africa. The engagement process with SGCI was led by SA's NRF; University of Sussex in the UK; and the Association of African Universities (AAU) in Ghana. A total of 26 responses were received: 12 from French-speaking and 14 from English-speaking countries were received. A summary of the key findings is presented in this document.

1. Participation by country

Responses were received from seven countries, namely: (i) Burkina Faso (46%); (ii) Ghana (27%); SA (11%); Spain (4%); Tanzania (4%); Kenya (4%); and Zambia (4%). Figure A presents the details.

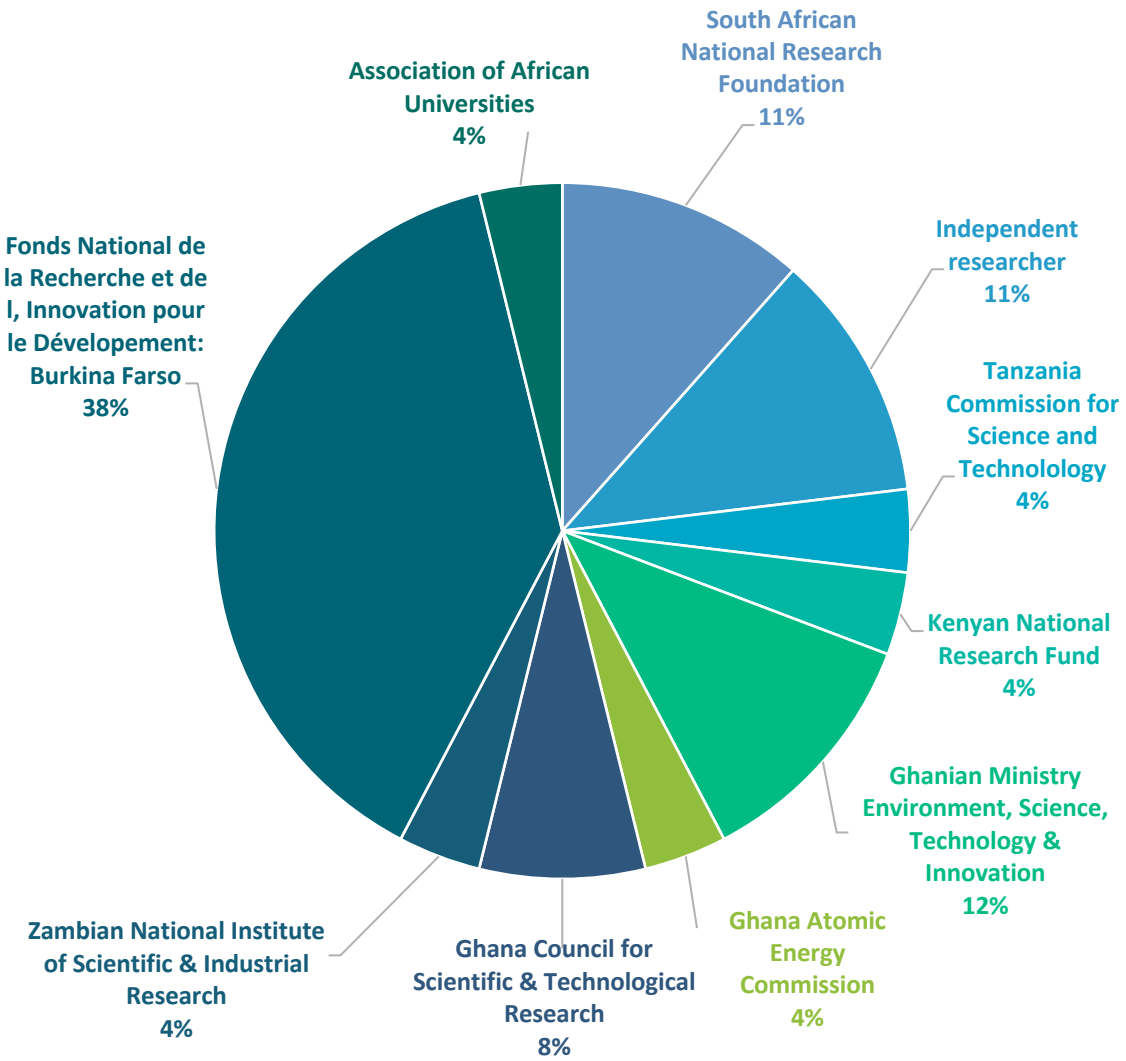
Figure A: Percentage participants per country



2. Institutional representativity across countries

Across the seven countries, the following institutions participated in the survey (see Figure B).

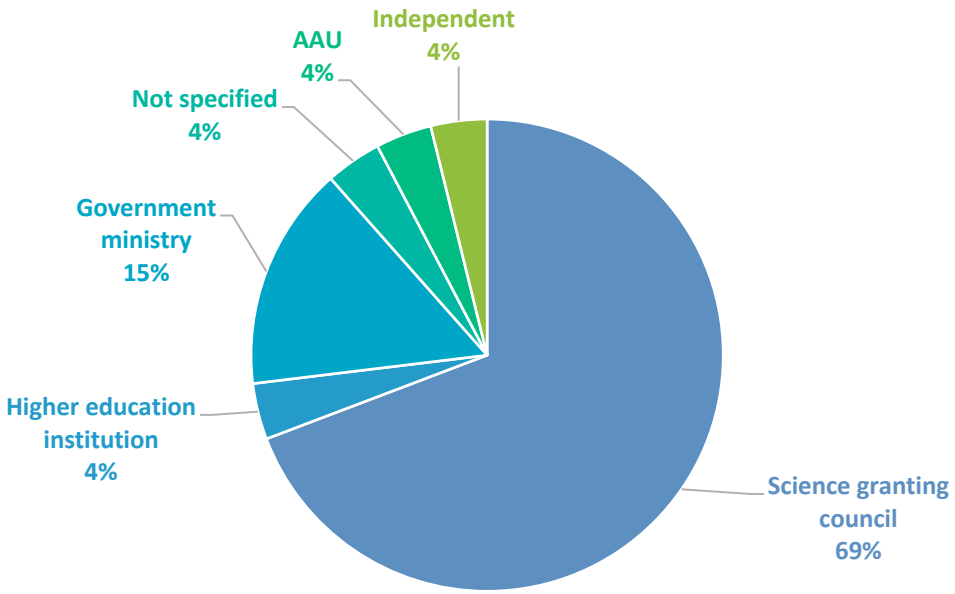
Figure B: Organisations participating in the survey



3. Organisations represented in survey

Furthermore, the survey participants represented the following six (6) types of organisations: (i) SGCs (69%); (ii) Government Ministries (15%); (iii) HEIs (4%); (iv) Association of African Universities (AAU) (4%); (v) Independent entities (4%); and (vi) Unspecified organisations (4%). Figure C depicts these.

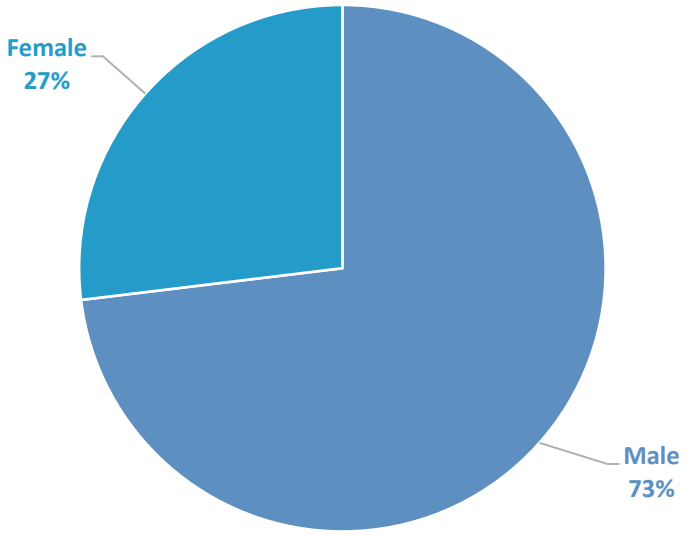
Figure C: Type of organisations represented by survey participants



4. Gender representation

There was about 73% of the participants of the survey being male and the remaining 27% female (Figure D).

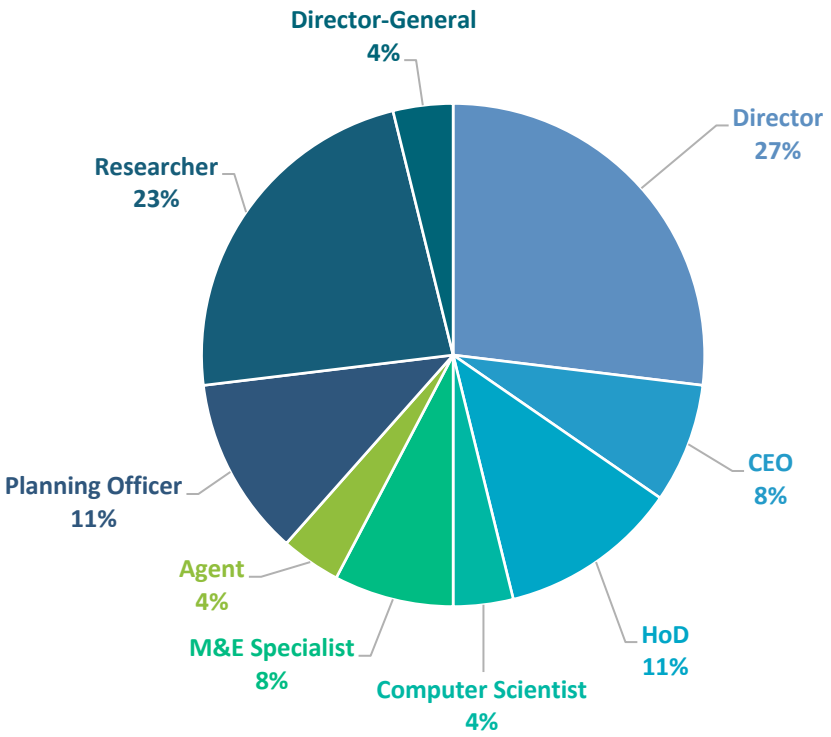
Figure D: Gender representativity



5. Survey respondents' designations

As Figure E indicates, Directors (27%) comprised the largest designation group that participated in this survey followed by researchers (23%); head of departments (11%); planning officers (11%); M&E specialists (8%); and chief executive officers (8%). Director-General, Computer scientists and agents comprised 4% of the total number of survey participants each.

Figure E: Survey participants' designations



ANNEX 2: CONFIDENTIALITY & COI AGREEMENT TEMPLATE

REVIEWER DETAILS

Surname		Title		Initials	
Institution					
Department					
Position					
Email address(es)					

CONFIDENTIALITY AGREEMENT AND COI

This will certify that in the review of all applications for evaluation:

i. I will treat all information contained in all applications for evaluation in the strictest of confidence and will not reveal that information to any third party without the prior written consent of the SGC. Please note that the review is anonymous and no correspondence with the applicant should be entered.

ii. I will not do or allow anything to be done which might compromise the interest of the SGC or any of the proposers in respect of any IP rights flowing from the confidential information.

iii. I will not use the information contained in those applications for evaluation for any reason other than for the purpose of providing a peer reviewed report or assessment for the SGC.

iv. I will not participate in a review process where a CoI exists. Should there be doubt about an apparent CoI, I will advise the SGC, who will then indicate whether participation in the review process is permissible or not.

PLEASE READ CAREFULLY BEFORE RESPONDING		Please tick if your answer is yes, otherwise cross if your answer is no.
1.	I have read the confidentiality and CoI agreements and agree to abide by it.	
2.	I declare that I am in no way conflicted as a reviewer	
3.	I declare that I shall keep the information shared with me, in the strictest confidence	
4.	My assessment and review are based on the applicant's **funding proposal** and is **NOT** a review of an application for a **job promotion** (testimonial).	
5.	My report shall focus on the **quality** and **impact** of the **research outputs** and not on the character of the applicant	

If of a CoI or a breach of confidentiality, kindly complete the following

PLEASE READ CAREFULLY BEFORE RESPONDING		Please tick if your answer is yes, otherwise cross if your answer is no.
1.	I am personally related to the applicant.	
2.	I stand to benefit from this application being funded.	
3.	I have a financial CoI, where I stand to benefit	
4.	I have a professional CoI (e.g., I am doing the same research and this could lead to authorship and IP challenges)	
5.	Other conflict (specify)	

I declare that the information presented herein, is an accurate reflection of my standing.

Signed: _____ Date: _____ Place: _____

_____

ANNEX 3: RESEARCH ETHICS FRAMEWORK

Guide for Research Ethics Committee Members

ISSUED BY (SGC NAME, COUNTRY)

SGC LOGO

1. INTRODUCTION

This Guide is designed to assist Research Ethics Committees (RECs) in fulfilling their important role when they review research proposals involving human beings. The Guide is intended to be useful in practice, succinct and readable.

Research may be conducted at local/regional, national, or, increasingly, international level. The growing international dimension has prompted the development of internationally accepted ethical principles, especially for the medical and biomedical research disciplines.

RECs therefore play a central part in the research process. In addition to their role in the protection of participants, they specifically help to ensure that research is soundly based and trustworthy, and consequently that medical interventions and treatments prescribed to patients have been assessed adequately. In this way, RECs help ultimately to improve the quality of research and the dialogue with the general public.

2. ETHICAL PRINCIPLES

All research involving human beings should be conducted according to ethical principles, which are universally recognised, in particular: (i) Autonomy; (ii) Beneficence and non-maleficence; and (iii) Justice.

These principles are interrelated and this interrelationship should be taken into account when considering their application.

In accordance with these principles, the interests and welfare of the human being participating in research must always prevail over the sole interest of science and society.

These principles can be expanded to include:

2.1 Autonomy: Respect for autonomy acknowledges a person's capacity to make personal choices. Free and informed consent also implies that potential research participants must not be coerced or unduly influenced by use of inducements or threats. It is extremely difficult to achieve a complete lack of influence, but influence that would lead individuals to accept, in particular, a higher level of risk than would otherwise be acceptable to them, would be considered undue. Undue influence may be financial in nature but would also include, for example, attempts to influence close relatives, or veiled threats to deny access to services to which individuals would otherwise be entitled. Particular attention must be paid to dependent and vulnerable people, whose proposed participation in a research project must always be justified. In general, potential research participants must include the least vulnerable necessary to achieve the goals of the research.

2.2 Beneficence and non-maleficence: The principles of beneficence and non maleficence encapsulate the moral obligation to maximise potential benefit and minimize potential harm where there are potential inherent risks linked to the research process. The balance between harms and benefits is therefore critical to the ethics of biomedical research. A research project should proceed only if its foreseeable risks and burdens are not disproportionate to its potential benefits. In practice, this means that all research projects must undergo a thorough comparative risk/benefit assessment.

2.3 Justice: The principle of justice encompasses fairness and equity. This principle has been generally defined in relation to medical and biomedical research, but also has particular relevance for all scientific disciplines of research. Distributive justice has implications especially for the selection of research participants. Selection criteria should be related to the purpose of the research and not merely based, for example, on the ease with which consent is likely to be obtained. Conversely, this principle also requires that groups of individuals who are likely to benefit from the research are not generally excluded.

2.4 Ensuring respect for ethical principles: independent scientific and ethical evaluation: The ethical principles laid down in the instruments and guidance covering research aim to protect the dignity, rights, safety and well-being of research participants. Independent examination of the scientific merit of a research project and review of its ethical acceptability are central to ensuring respect for these principles.

3. Legal Considerations

From a legal standpoint, research projects must comply with relevant national laws of the country where the research will be carried out. In turn, the national law of each country must fulfil the requirements of any international laws/treaties to which the countries concerned have subscribed. It is therefore important SGCs to establish RECs so that they are satisfied that projects conform with the applicable legal standards. REC members will need to bear in mind the relevant legal provisions in their country pertaining to biomedical research. At the world level, some of these instruments were drawn up in the framework of professional associations, others within international organisations. The best-known instrument of professional origin is the Declaration of Helsinki, drawn up by of the World Medical Association and adopted for the first time in 1964 with several subsequent amendments.

4. The Mandate of RECs

Research Ethics Committees (RECs) are multidisciplinary, independent groups of individuals appointed to review research protocols especially on projects involving human beings to help ensure in particular that the dignity, fundamental rights, safety, and well-being of research participants are duly respected and protected. RECs may be established at local, regional or national level. RECs may be established by SGCs to ensure accountability and responsibility and are guided by commonly accepted ethical principles and procedural standards set by the SGC.

4.1 Role and Responsibilities: RECs have specific roles before, during, and after a research project is authorised and conducted, and the research results are evaluated and reported. Their responsibilities and practical responsibilities therefore encompass the entire spectrum of biomedical research:

- Roles aim to fulfil the RECs' main objective: to ensure that research is conducted ethically. RECs' composition and collective expertise in ethical and scientific issues, as well as their working methods and overall functioning, should provide assurance that they are trustworthy and can carry out their responsibilities effectively and independently and in line with the SGC's ethical principles.
- Complementary activities: There is a general trend, which is to be welcomed, for RECs to take on complementary activities with the aim of improving the overall culture of ethical research and innovation practices with the aim to:
    - Enhance communication between researchers, research institutions and society, and raise awareness of ethical issues in research, which may include being involved in public dialogue about ethical issues or take on an educational role about research ethics policy and decision making; and
    - Safeguard and protect the integrity and the reputation of the SGC in terms of:
        - Reducing biases in the manner in which grants are awarded; for example, no manager or executive can change or overturn a funding decision recommendation or the grant value awarded, without due processes being in place; or
        - Ensuring whistleblowing protocols and allegations of misconduct are duly reported and actioned.
- The REC must be satisfied about the scientific quality of the research proposal and of its conformity with national law; scientific quality and conformity with law may be assessed by the REC per se or by other competent bodies.
- Where there is a concern related to any ethical matters, RECs may do a followup to ensure that the research and/or complementary activities entails a non-negligible level of risk, or where it is expected to generate relevant information which could affect – positively or negatively – the safety, health or

wellbeing of the research participants; or the reputation of the SGC respectively. The purpose of follow up is to establish whether, in the light of any new developments whether the research or complementary activity can continue unchanged; whether modifications have become necessary; or, even, if the research or complementary activities need to be discontinued.

4.2 Independence: RECs must be independent and demonstrably able to make decisions without undue political, professional, institutional or market influence. This crucial requirement should be duly reflected in the procedures for appointing REC members, in the requirements for REC membership, and in the procedures for dealing with potential conflicts of interest (members must declare potential conflicts of interests) and in the sources of funding of RECs.

4.3 Composition of RECs: In view of national legal requirements and owing to the needs and characteristics of their work in particular institutional or regional contexts, the number of members and composition (professional and other expertise represented) of RECs may vary considerably. It is generally accepted that RECs include a member of the scientists, health care professionals, lawyers, and persons with specific expertise in ethics, including civil society, who reflect the views of the public. In addition, a representative from the SGC board can be in attendance as well as the relevant department within the SGC (who fulfils the role of secretariat only and does not have voting rights).

The crucial requirement for RECs is to work independently from the researchers and funders, including the SGC, especially in terms of appointment and membership renewals, as well as in their working methods and decision making. In gaining and sustaining recognition of their moral authority, RECs' composition should reflect the prevailing cultural tradition. They should be able to demonstrate their impartiality, transparency, good will, and ability to foster and use dialogue when communicating with other parties.

4.4 Specific Roles: The RECs should appoint appropriate people to lead the committee. All RECs should have a Chair and Vice-Chair who command the respect of REC members. An administrative team from the relevant department within the SGC should be made available to the REC to assume the role of a secretariat function. Their role is to ensure that the REC has in place the appropriate statues; procedures; followup protocols; self-evaluation and regulatory mechanisms in place. The REC through the Chair, informs the SGC board chairperson of findings; and reports directly to the line government department.

Chair:

- prepares, convenes, and chairs regular and ad hoc REC meetings;
- represents the REC before the appointing authority; the chair of the SGC board; and to the public;
- elaborates the plans of REC meetings and other activities;
- ensures timely response to applications;
- signs official REC documents, especially the REC's opinions on ethical acceptability of the research proposals under its review, and other documents;
- coordinates, leads, and oversees the work and various activities of the REC and of its secretariat;
- prepares and submits the REC budget;
- oversees and proposes educational/training activities for REC members and for the REC as a whole;
- provides, on behalf of the REC, specific consultations with key stakeholders, the management of the SGC; or appointing authority; and where appropriate, takes decisions on behalf of REC, for example for emergency situations or minor actions.

Vice-Chair:

- fulfils the responsibilities of the Chair in his/her absence; and
- can be asked to perform additional specific tasks, such as overseeing a part of the REC agenda.

Administrator or Secretariat:

- provides administrative support, including preparation of documents for REC;
- prepares minutes of REC meetings for REC review work and other activities;
- prepares, with the help of the REC Chair and Vice-Chair, documents for REC meetings; and
- prepares and distributes the minutes of REC meetings.

4.5 Training: REC members should receive appropriate independent initial and continuing training relevant to their role in the REC. In addition to general training for all members, training courses should be adapted to individual members' needs and RECs specific needs.

- It may be useful to organise regular meetings or conferences of RECs to share experience; and
- It is also helpful for RECs to meet with representatives of regulatory authorities and experts in specific fields.

4.6 Confidentiality: All RECs members and staff should treat any information provided to RECs as confidential. Any external experts who are invited to give an opinion to the REC about a particular research proposal should likewise keep the information confidential. Another aspect of confidentiality concerns the need to promote free and open discussion among REC members when they review proposals and other complementary matters. Since free discussion is crucial if RECs are to fulfil their responsibilities concerning reviews, the content of such discussions should be kept confidential, as should details of the assessment process.

4.7 Accountability: RECs should be accountable to their appointing body or authority, according to the provisions given in national law or in other documents issued by national competent bodies or institutions. The appointing authority should satisfy itself that the REC functions according to the applicable rules. RECs should provide sufficient information about their work – ethics review, research follow up, and other activities – to their appointing institution or authority by means of well structured regular reports, which should not reveal confidential details of the research or its participants. Such reports, in their entirety or in the form of an executive summary, should also be made available publicly, for example on a REC, institution, or regional authority web site.

5. Independent audit of REC functioning

There is increasing national and international interest in ensuring that REC review attains the highest possible standards concerning the protection of research participants and the communities from which they are drawn. In this regard independent audit of RECs can make important contributions to the quality of the ethics review process by encouraging RECs to develop and/or improve standardised policies and procedures that help to promote the consistent application of ethical principles. Independent audit also provides a means for checking whether RECs are adhering to the policies and procedures that they claim to be following. External audits usually focus on issues such as committee membership, operating procedures, and the documentation of meetings. Auditors check that a REC has a structure and composition appropriate to the amount and nature of research being conducted in its institution/region; has appropriate management and operational procedures; reviews protocols in a timely fashion according to established procedures; adequately and effectively communicates opinions to researchers and the SGC; and has appropriate practices regarding documentation and archiving.

ANNEX 4: RESPONSIBLE RESEARCH, ETHICS & INTEGRITY POLICY & PROCEDURES

SGC LOGO

POLICY AND PROCEDURES FOR RESPONSIBLE RESEARCH, ETHICS & INTEGRITY

1. GENERAL

1.1 The (Name of SGC), has a research duty that has to be performed for the benefit of science and for the community the Science Granting Council is serving.

1.2 The (Name of SGC), and researchers supported by the Science Granting Council acknowledge that research has to take place within a particular academic value system; that should

- always be true to the ethical principles of justice and credibility; and
- have an increased research responsibility and duty when research is done involving humans, animals or the environment as subjects of the research.

1.3 To ensure that research takes place within the mentioned value system throughout the (Name of SGC), the Science Granting Council decided to lay down certain policy guidelines and procedures.

1.4 From the above it necessarily follows that the (Name of SGC), condemns and discourages research taking place outside the mentioned academic value system.

1.5 To determine whether research takes place within or outside the mentioned academic value system, the (Name of SGC), provides for a system of disclosure, pre- approval, recordkeeping, accountability and evaluation.

1.6 This policy applies to all researchers, reviewers, board members, government officials, staff, students and collaborators and individuals associated either directly or indirectly with (Name of SGC).

2. CODE OF CONDUCT FOR RESPONSIBLE RESEARCH PRACTICES

2.1 General

- All researchers, reviewers, board members, government officials, staff, students and collaborators and individuals associated either directly or indirectly with (Name of SGC):
  - are compelled to be intellectually honest at all times and always conduct themselves professionally;
  - should at all times meet the legal requirements of a specific research project or which may be affected by it;
  - should comply with the research ethical rules applicable within the University or research institution; and/or discipline;
  - should comply with the research ethical rules laid down by a particular professional body within the field supervised by that body; and
  - should at all times refrain from any action that may be considered as research misconduct.
- The above implies that researchers should not dishonour the confidence put in them by colleagues, fellow researchers, the university or research institution, staff and individuals associated either directly or indirectly with (Name of SGC) or the broad community. A single individual's misconduct has a negative impact on the good name and credibility of the (Name of SGC).
- As such, the (Name of SGC) should establish a national office for Research Ethics and Integrity that sets the standard for the manner in which research is funded and undertaken within its own ambit and that of the national science system.

2.2 Discipline-driven requirements

- The (Name of SGC) recognises and endorses some discipline-driven ethical codes with international acknowledgement and it accepts these codes and standards as guidelines and rules for research. These particular codes must be made available for perusal at relevant research institution and (Name of SGC).
- In addition to the international codes, the Ethics Committees at universities and other research institutions may prescribe requirements applicable to researchers and research projects.

2.3 Pre-approval

- Research may not be done without the prior written approval by an Ethics Committee or other constituted Committee at the university or the research institution at which the researcher is employed.
- Each university or the research institution has its own particular procedures to be followed in order to obtain the approval as mentioned above.
- If approval is required from any specific person, the approval needs to be obtained prior to the research. The person providing the approval should also be given sufficient information to be in a position to make an informed decision.
- No undue pressure may be put on a person to persuade him/her to approve a research project.

2.4 Recordkeeping

Each university or the research institution needs to keep proper records of all approved and rejected projects as well as of the status of the approved projects.

2.5 Conclusion of projects

After completion of a project researchers need to inform the relevant Ethics Committee and need to certify that the research has been completed in accordance with ethical considerations and the approved research protocol.

2.6 Confidentiality

- All research results should generally be open to evaluation by colleagues and/or peers within the research enterprise, other interested parties and the public.
- If confidentiality is required, researchers are required to honour it. An Ethics Committee should however, provide approval prior to the start of confidential research.
- Research information should not be used for any other purpose than it was required for or for which approval was given.
- The (Name of SGC) may require that research results are kept confidential for a limited period of time to enable the university or research institution to protect its intellectual property, in line with national legislation.

2.7 Consultation

Should researchers doubt their authority or responsibilities or have any doubts about the ethical implications of their work, they should look for guidance from (Name of SGC).

2.8 Safety

All researchers, reviewers, board members, government officials, staff, students and collaborators and individuals associated either directly or indirectly with (Name of SGC) have a duty to comply with the prescribed ethical and safety procedures.

3. PROCEDURES TO BE FOLLOWED WHEN RESEARCH MISCONDUCT IS ALLEGED

3.1 Definitions of Research Misconduct

- "Research misconduct" has the following meaning: The non-compliance with the prescribed rules, procedures and prescriptions of an applicable ethics committee; research outside the stipulations of an approved research protocol; failure to obtain approval prior to the start of the research (where approval is a requirement); fabrication and falsifying of research data and results; plagiarism; failing to honour confidentiality; abuse of research funds; illegal or unauthorized use of university or research institution's property when doing research; raising research funds in an improper way; transgressing the university or research institution's rules on intellectual goods and guidelines; practices that substantively deviate from generally accepted practices within the academic research community. The latter includes failure to acknowledge work done primarily by a research student/co-researcher.
- An honest difference in interpretation or judgement on data does not constitute research misconduct.

3.2 Procedures

- All cases of research misconduct are referred to the Chairpersons of the relevant Ethics Committee(s) at the university of research institution.
- The Chairpersons of the relevant Ethics Committee(s), appoints an independent Committee of at least three members to investigate the misconduct in accordance with a procedure as approved by the Committee with consideration to the rules of good administrative processes. The mentioned committee reports must in turn be circulated to the Chairman of the Ethics Committee at the university or research institution; and in accordance with the provisions of clause 3.3.
- The University or research institution will take corrective action as they consider appropriate. This includes the authority to instruct the researcher to immediately cease all research.
- If the Chairman of the Ethics Committee is of the opinion that the research misconduct is of such severity that it warrants disciplinary action, he/she should refer the matter to the Vice-Chancellor and Principal of the University or research institution.
- The Vice-Chancellor and Principal will take the corrective action he/she deems appropriate. This includes the authority to order that disciplinary action should be taken in accordance with the university or research institution's disciplinary code and procedures against the person who, according to the Committee mentioned above, has acted unlawfully.
- Nothing in the above procedures will prevent the Vice-Chancellor and Principal to use another procedure to investigate an allegation of research misconduct if he/she is of the opinion that it is desirable.
- The above procedure will apply in stances where researchers, reviewers, board members, government officials, staff, students and collaborators and individuals associated either directly or indirectly with (Name of SGC), have violated the principles of ethics. In such instances the Executive will take the corrective action he/she deems appropriate. This includes the authority to order that disciplinary action should be taken in accordance with the university or research institution's disciplinary code and procedures against the person who, according to the National Ethics Committee (Name of SGC), mentioned above, has acted unlawfully. Nothing in the above procedures will prevent the Executive to use another procedure to investigate an allegation of misconduct if he/she is of the opinion that it is desirable.

3.3 Reporting

- The Chairperson of the University or research institution's Ethics Committee reports twice annually on the activities to the (Name of SGC).
- In addition, the Chairperson compiles a report on complaints of research misconduct within the University or research institution as well as the subsequent steps taken.